# ACCULTURATION AND EATING DISTURBANCE AMONG ASIAN AMERICAN COLLEGE STUDENTS: THE ROLE OF SELF-OBJECTIFICATION

A Dissertation

by

ZHIQING ZHOU

Submitted to the Office of Graduate and Professional Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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| Chair of Committee, | Jeffrey Liew |
| Co-Chair of Committee, | Sara Castro-Olivo |
| Committee Members, | Wen Luo |
| | Sherecce Fields |
| Head of Department, | Fuhui Tong |

August 2021

Major Subject: School Psychology

# ABSTRACT

Eating disturbance is highly prevalent among college students and is associated with a wide range of detrimental outcomes. Previously, eating disturbance was often portrayed as a "White upper-middle-class condition." However, recent research has identified race/ethnicity and acculturation status as two risk factors of eating disturbance. Asian Americans, in particular, are at an elevated risk for eating disturbance. The present study contributes to the limited existing research on acculturation and eating disturbance among Asian American college students.

The final sample consisted of 245 Asian American college students. Rating scales included measures of acculturation status, internalization of body ideals, body surveillance, body shame, and eating disturbance. Gender differences were examined. Correlational and path analyses were conducted to test hypotheses and the hypothesized model. Results show that female participants had higher maintenance of Asian cultures of origin, body surveillance, body shame, and eating disturbance. In contrast, male participants had higher internalization and BMI. Additionally, path analysis results suggest a positive association between the maintenance of Asian cultures and eating disturbance, but no association between the adoption of American culture and eating disturbance. There was also a significant interaction effect between American and Asian cultures, with biculturalism being a risk factor for eating disturbance. Findings have implications for prevention and intervention of body image and eating disturbance among Asian American college students.

ACKNOWLEDGEMENTS

I would love to express my gratitude to my committee. A special thank you to Dr. Jeffrey Liew. I am incredibly grateful for your encouragement throughout my graduate training. Researching acculturation is a professional interest of mine and of personal significance for me as an international student. I would not have grown as a researcher in this area without your insights and expertise. I am also thankful for Drs. Sara Castro-Olivo, Wen Luo, and Sherecce Fields. Your valuable feedback and support are deeply appreciated.

I want to thank the participants of this study for being interested in this topic and willing to give me their time to complete the survey. Your time and effort made this study possible. I also want to thank the College of Education and Human Development for partially funding this study.

I am thankful for the unconditional love and support from my parents. I would not have the courage and strength to move 8241 miles away from home to pursue my dreams without your encouragement. Thank you for trusting and understanding me even when I am on a journey that is so foreign to you.

CONTRIBUTORS AND FUNDING SOURCES

## Contributors

This work was supervised by a dissertation committee consisting of Dr. Jeffrey Liew, Chair of Dissertation Committee, Dr. Sara Castro-Olivo, Co-Chair of Dissertation Committee, and Dr. Wen Luo of the Department of Educational Psychology, as well as Dr. Sherecce Fields of the Department of Psychological & Brain Sciences.

All other work conducted for the dissertation was completed by the student.

## Funding Sources

The research and compilation of the study were partially supported by the CEHD Graduate Research Grant from Texas A&M University.

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# CHAPTER I

# INTRODUCTION

Eating disturbance includes a range of conditions, from problematic eating behaviors (e.g., restrictive eating, fasting, binge eating, purging; Haines, 2006) to eating disorders (e.g., anorexia nervosa, bulimia nervosa, binge eating disorder; American Psychiatric Association, 2013). These disturbances are associated with several detrimental medical outcomes, such as heart conditions, bone density loss, and death (Mehler & Brown, 2015), as well as psychological consequences, such as depression (Stice et al., 2000), anxiety (Swinbourne et al., 2012), substance abuse (Harrop & Marlatt, 2010), and suicide (Crow et al., 2008). Eating disturbance is highly prevalent among college students. As reported in previous studies, approximately 20%-29% of college students engage in restrictive eating, fasting, and purging (Davila et al., 2014; Quick & Byrd-Bredbenner, 2013b) and 14%-25% in binge eating (Lavender et al., 2010; Quick & Byrd-Bredbenner, 2013b). Therefore, it is critical to explore the factors and processes that contribute to the onset and maintenance of such disturbances to shed light on the development of effective prevention and intervention programs during late adolescence and emerging adulthood.

Previous research has identified more than 30 variables associated with increased risk for eating disturbance, including gender, age, race/ethnicity, acculturation status, and negative body image (Jacobi et al., 2004). The risk factors of gender and age are consistently documented across studies, with females who are in their adolescence and

early adulthood years being the most at-risk population for eating disturbance (Patton et al., 1999; Stice et al., 1998; Whitaker et al., 1990; Woodside & Garfinkel, 1992).

Regarding race and ethnicity, although often portrayed as a "White upper-middle class condition," studies have debunked this myth and found that eating disturbance is prevalent among ethnic minorities as well. For example, a meta-analysis study reported that Asian Americans indicate more eating disturbance and body dissatisfaction than their White counterparts (Wildes et al., 2001). Wildes et al. (2001) concluded that Asian American females are a high-risk group for eating disturbance. Another study found that Asian American males are also more likely to practice extreme weight control strategies and appear to be at higher risk to eating disturbance than their White counterparts (Ricciardelli et al., 2007). However, ethnic minorities, in general, have a lower mental health services utilization rate and are less likely to seek treatment for eating disturbance than White Americans (Cachelin & Striegel-Moore, 2006; Lee-Winn et al., 2014). Besides, eating disturbance research has been primarily focused on White females and the comparison between White and African American females (Talleyrand, 2012), leading ethnic minorities, particularly Asian Americans, to be underrepresented and under-researched despite their high-risk status.

Acculturation is a critical factor in understanding the development of eating disturbance among ethnic minorities, especially those from immigrant backgrounds (Jacobi et al., 2004). Previous research has shown that acculturation to the U.S. mainstream culture may be associated with unhealthy behaviors, such as unhealthy eating habits (Satia-Abouta et al., 2002; Unger et al., 2004) and eating disturbance

(Cachelin et al., 2000; Gowen et al., 1999). However, some studies did not find a significant relation between acculturation and eating disturbance (Cummins et al., 2005; Jennings et al., 2006; Stark-Wroblewski et al., 2005). Some studies found that acculturation is negatively associated with eating disturbance (Jennings et al., 2005; Nouri et al., 2011). Therefore, further research about acculturation and disordered eating is still needed to understand this relation.

The present study aims to explore the relation between acculturation and eating disturbance among Asian American college students. Specifically, objectification theory, one of the influential body image models of eating disturbance, was used as the primary theoretical framework to explore the hypothesized relation between acculturation and eating disturbance in this study. The role of self-objectification was examined and discussed in Asian American emerging adults, and gender differences were also addressed.

CHAPTER II

LITERATURE REVIEW

## Body Image Models of Eating Disturbance

Longitudinal studies have found consistent relations between body image disturbance and eating disturbance, suggesting that body image disturbance might be the core of eating disturbance (Thompson et al., 1999b). Individuals with body image disturbance usually experience a sense of unhappiness with their general appearance or certain body parts, particularly when they have cognitively internalized cultural body ideals (i.e., the societal standard of attractiveness) and found their own body undesirable (Thompson & Stice, 2001). Several body image models have been proposed to explain the relation between body image and eating disturbance. Some of the well-studied models include the dual pathway model, the tripartite influence model, the objectified body consciousness framework, and objectification theory. The majority of previous research on body image and eating disturbance has focused on women due to its prevalence amongst females.

### Dual Pathway Model

The dual pathway model (Stice, 1994, 2001) aims to link sociocultural pressures to the development and maintenance of bulimic behaviors (i.e., binge eating followed by methods to avoid weight gain such as purging). Sociocultural pressures associated with body image and eating are categorized into three groups. One type of sociocultural pressure is the thin body ideal, particularly for women. The second type of pressure is

appearance as a significant component of gender identity, such as women's gender role, where the perception of women's attractiveness and femineity is primarily dependent on their appearance. The third type of sociocultural pressure is the impact of appearance on women's societal success. The physical attractiveness stereotype suggests that more attractive individuals possess more socially desirable attributes than less attractive individuals. Females may receive these sociocultural pressures from families, peers, and the media and internalize these pressures, particularly those who have lower self-esteem or experience identity confusion. The internalization of sociocultural pressures may further lead to body dissatisfaction if females perceive themselves as overweight (Stice, 1994). In a longitudinal study, pressures to be thin and thin-ideal internalization are found to positively contribute to body dissatisfaction (Stice, 2001).

Two pathways are suggested to mediate the relation between body dissatisfaction and bulimic behaviors (Stice, 1994, 2001). The first mediator is restrained eating (restraint pathway). When females are dissatisfied with their appearance, particularly their shape and weight, they may restrict dieting to lose weight. However, dieting is not an effective weight-loss strategy. On the contrary, it may cause binge eating because of carbohydrate cravings and cognitive disinhibition, thus putting females at risk for binging (Stice, 1994). A longitudinal study found that dieting is the strongest predictor of binging and compensatory behaviors (Stice & Agras, 1998). The other mediator is negative affect (affect-regulation pathway). When females are dissatisfied with their appearance, they may experience negative affects or affective problems, such as depression and anxiety. Failure to use dieting to control their body shape may also lead

to negative affect. Binging may help reduce negative feelings by providing comfort to and distracting females from the emotion. However, it is not a functional coping strategy. Females may experience more negative feelings after binging and engage in compensatory behaviors (Stice, 1994; Stice & Agras, 1998).

The dual pathway model applies to females with clinical and sub-clinical levels of bulimia (Stice et al., 1996). Later an extended model was proposed (Strien et al., 2005). It suggests that the relation between negative affect and bulimic behaviors is mediated by a lack of interoceptive awareness (i.e., difficulty recognizing and identifying emotions and sensations) and emotional eating. A longitudinal study found that both versions of the model are valid, yet the extended model fit data better (Dakanalis et al., 2014). A recent study suggests that in the long term, self-esteem, rather than negative affect, may serve as the mediator in the affect-regulation pathway (Sehm & Warschburger, 2017). Overall, despite evidence to support the dual pathway model, this model mainly focuses on bulimic behaviors, which leaves other forms of eating disturbance overlooked.

**Tripartite Influence Model**

Like the dual pathway model, the tripartite influence model (Keery et al., 2004; Thompson et al., 1999a; Van den Berg et al., 2002) also focuses on sociocultural influences on bulimic behaviors. Thompson et al. (1999a) proposed that influences from peers, parents, and media may lead to the initiation of appearance comparison processes and internalization of body ideals, which in turn causes body image disturbance. According to the tripartite influence model, body dissatisfaction is both directly related

to bulimia and indirectly related to bulimia through dietary restriction. Bulimia may cause adverse outcomes in psychological functioning, such as low self-esteem and depression (Thompson et al., 1999a). Compared to the dual pathway model, the tripartite influence model incorporates an additional variable of appearance comparison and conceptualizes negative psychological functioning as both the cause and the outcome of bulimic behaviors.

Van den Berg et al. (2002) tested the original model in a sample of college females. Their results highlight the role of appearance comparison in the development of body dissatisfaction and bulimic behaviors. They found that appearance comparison mediates the paths from family influences and media influences to body dissatisfaction. Perfectionism is also indirectly related to body dissatisfaction through appearance comparison. Peer influences are directly associated with restriction but are not related to appearance comparison or body dissatisfaction. Further, body dissatisfaction is related to dietary restriction and bulimia (Van den Berg et al., 2002). Keery et al. (2004) tested the model in a sample of adolescent girls. Their results support the applicability of the tripartite influence model among this population. In addition, they found that sociocultural influences directly and indirectly impact restriction through internalization, appearance comparison, and body dissatisfaction. Body dissatisfaction is also directly related to low self-esteem, depression, and perfectionism (Keery et al., 2004). These findings were replicated by Shroff and Thompson (2006) with similar results. In a more recent study, Johnson, Edwards, and Gidycz (2015) expanded the tripartite influence

model. They found that partner pressure is another significant source of sociocultural influences for college females.

Researchers have been trying to determine which model is more useful, but results have been inconsistent. For example, Stice (2001) found that the dual pathway model fits his data from a sample of adolescent girls better. Yet, using another sample of adolescent girls, Keery et al. (2004) found that the tripartite influence model is a better fit. These results indicate that both models are helpful to understand the development and maintenance of bulimic behaviors among females. However, one major shortcoming of both the dual pathway and the tripartite influence models is that neither of the models could be used to explain other forms of eating disturbance.

**Objectified Body Consciousness Framework**

Unlike the dual pathway model and the tripartite influence model, the objectified body consciousness framework (McKinley & Hyde, 1996) is developed based on feminist theory and aims to describe the body experiences of females. This framework stems from the perspective that the construct of the body is more than biology; the body also embeds social meanings that can ultimately shape an individual's social experiences. Through socialization, females may internalize an observer's perspective on their own body and adhere to cultural standards for the body. Therefore, attractiveness appears to be their free and voluntary choice. This experience is termed objectified body consciousness (OBC; McKinley & Hyde, 1996).

McKinley and Hyde (1996) suggested that OBC consisted of three components. The first component is body surveillance, which refers to the situation where females see

themselves the way others see them. The relation between females and their own body become outside observers and objects. Also, females are socialized to equate body surveillance to self-care, health, and achievement, despite that it may lead to psychological distress. The second component is internalizing cultural body ideals and body shame, which is a similar concept to the internalization of sociocultural pressures and body dissatisfaction in the previous models. However, body dissatisfaction is a negative feeling towards the body, but body shame is an intense negative feeling towards the self, which may have a more substantial impact on an individual's identity and psychological functioning. The third component is the control belief. The third component is the control belief. It is the assumption that females are responsible for their appearance. They can control their body when they put in enough effort to comply with body ideals. The sense of control may encourage females to be persistent in their pursuit of an ideal body. However, since body ideals are almost impossible to achieve, the control belief may put females at risk for pathologic weight management strategies, such as restrictive eating (McKinley & Hyde, 1996).

While most research on body image and eating disturbance has focused on females, the concept of OBC applies to both males and females. McKinley (1998) recruited a sample of college males and females and tested the relation between OBC and body esteem in both genders. The results indicate that although both males and females experience body surveillance, body shame, and the control belief, the relations between these variables and body esteem are more substantial for females than males. Besides, OBC mediates the association between gender and body esteem (McKinley,

1998). McKinley (2006) later did a 10-year follow-up and examined the longitudinal relation between OBC and weight-related behaviors among males and females. It appears that the results regarding gender differences are similar after ten years, which suggests that gender differences in the social construct of the body continue to be true past young adulthood. Over time, body surveillance and body shame decrease, whereas body esteem increases. These changes may reflect the decreased importance of appearance in gender roles. Males are less likely to engaging in dieting than females to control weight (McKinley, 2006). Another study found that the OBC framework is relevant to adolescents. Girls demonstrate more body surveillance and body shame than boys (Knauss et al., 2008).

There is some evidence to support the relation between OBC and eating disturbance. For example, a recent study found that all OBC components are positively associated with eating disorder symptoms and psychopathology (Dakanalis et al., 2017). Fitzsimmons-Craft, Bardone-Cone, and Kelly (2011) investigated the relations between OBC components and eating disorder recovery. They recruited four groups of participants: active, partial-recovered, and fully-recovered eating disorder patients and a control group. Results show that fully-recovered eating disorder patients and participants in the control group experience lower body surveillance and body shame. No differences were found for the component of control belief (Fitzsimmons-Craft et al., 2011).

Compared to the dual pathway model and the tripartite model, the OBC framework provides a more thorough description of people's body experiences and applies to a more diverse population. However, despite evidence to support the

usefulness of the OBC framework, particularly the components of body surveillance and body shame, research on the control belief is limited, and the results are inconsistent.

**Objectification Theory**

All models discussed above have their strengths and well-supported aspects. Therefore, it would be beneficial to consolidate these models and synthesize theories and evidence. Objectification theory appears to be such a cohesive model that integrates different theories and explains how sociocultural factors may create psychological risks to eating disturbance.

The central concept of objectification theory (Fredrickson & Roberts, 1997) overlaps with the OBC framework. It is also based on feminist theory and is a theory to understand females' experiences and mental health outcomes as they live in a society where their bodies are sexually objectified. Sexual objectification is the experience when a female is represented by her body or a collection of her body parts and is valued for her body's use to others. It can occur in various forms, ranging from the sexualized evaluation (i.e., a body being visually inspected) to sexual violence. Over time, the experience of being objectified may socialize females to integrate an observer's perspective in their self-evaluation, which is an effect called self-objectification and is manifested as body surveillance (Fredrickson & Roberts, 1997).

Similar to the dual pathway model and the tripartite influence model, Fredrickson and Roberts (1997) also recognized the influences of external pressures. They proposed that socialization processes towards self-objectification begin with exposure and compliance to external pressures. In mainstream American culture, physical appearance

is a common theme for these pressures. Bodily attributes can impact females' experiences in a variety of settings. Therefore, females may internalize the evaluation of their physical features as part of their self-worth and view their concernedness to their body as a natural and freely chosen strategy to maintain or improve the quality of their social experiences (Fredrickson & Roberts, 1997). In other words, sociocultural pressures specified in the dual pathway model and the tripartite influence model are presentations of sexual objectification and contribute to socialization processes towards self-objectification.

Fredrickson and Roberts (1997) identified several consequences of self-objectification. The first consequence is body shame, which is the same as the OBC framework and is similar to body dissatisfaction in the dual pathway model and the tripartite influence model. The second consequence is anxiety. It emerges when females do not know when and how their bodies will be visually inspected and evaluated. This consequence aligns with negative affect in the dual pathway model and psychological functioning in the tripartite influence model. The third consequence is reduced awareness of internal bodily sensations, which is also included in the extended dual pathway model as lack of interoceptive awareness. The last consequence is reduced flow experiences. It is a unique variable incorporated in objectification theory. Fredrickson and Roberts (1997) explained that flow experiences (i.e., being physically or mentally absorbed in challenging yet worthwhile activities) could be enriching and joyful. However, when individuals have high self-consciousness, chances to have flow

experiences are limited. These consequences are further related to eating disorders, depression, and sexual dysfunction (Fredrickson & Roberts, 1997).

Initially, objectification theory was focused on middle-class, White adolescent girls and young women (Fredrickson & Roberts, 1997). Later, Moradi (2010) proposed an extended model to address gender and cultural diversity issues. Specifically, in addition to sexual objectification, other socialization experiences are also included as causes of self-objectification, such as cultural identity conflict or marginalization and experiences of racism. During the self-objectification process, reactions towards group-specific appearance (e.g., facial features, skin tone, etc.) are separated from reactions toward general appearance (Moradi, 2010).

Some research has been conducted to test the applicability of objectification theory in diverse samples concerning age, gender, sexual orientation, and race/ethnicity. Objectification theory could be used to explain the development of body image and eating disturbance among adolescent girls (Slater & Tiggemann, 2002; Tiggemann & Slater, 2015) and boys (Slater & Tiggemann, 2010), as well as college women (Tiggemann & Williams, 2012; Tylka & Hill, 2004) and women age 25 and older (Augustus-Horvath & Tylka, 2009). The theory has also been tested in heterosexual, gay/lesbian, and bisexual males and females (Brewster et al., 2014; Engeln-Maddox et al., 2011; Wiseman & Moradi, 2010). Their results suggest that although the experiences of sexual objectification and self-objectification might differ across groups, relations between variables are mainly comparable. Regarding race and ethnicity, previous research suggests that objectification theory can be applied to White Americans, African

Americans, Hispanics, Asian Americans, and Muslims (Buchanan et al., 2008; Cheng et al., 2017; Schaefer et al., 2018; Tolaymat & Moradi, 2011). Overall, objectification theory is a useful framework to understand the initiation and maintenance of body image and eating disturbance in diverse populations.

## Applicability of Objectification Theory to Asian Americans

To date, very few studies have examined the applicability of objectification theory to Asian Americans. Of those studies, several tested racial differences in self-objectification and found that individuals from ethnic minority groups, including Asian Americans, experience self-objectification (Frederick et al., 2007; Hebl et al., 2004). Grabe and Jackson (2009) investigated the relation between self-objectification and depression among White and Asian Americans. They found that self-objectification and depression are positively related among White females but not among White males or Asian Americans. A more recent study (Cheng et al., 2017) used the racially extended model of objectification theory to explain the relation between experiences of racism and eating disturbance among Asian American females. Their results supported the applicability of the racially expended model to this population. More studies are needed to understand how the experience of objectification may contribute to the development of body image and eating disturbance among Asian Americans.

In the racially expanded model, Moradi (2010) proposed that cultural identity conflict or marginalization contributes to the internalization of body ideals in the dominant culture and body surveillance. With these limited previous studies, it is still

unclear whether other pathways in the expended model, particularly regarding acculturation, may also be significant for Asian Americans.

**Acculturation and Eating Disturbance**

Acculturation refers to the adaptation process when individuals from one culture are introduced to a new cultural context (Berry, 1997). It entails two major decisions regarding how to acculturate: to what extent the original cultural identity and traits are maintained and to what extent individuals should be involved in the new cultural context. The decisions can lead to four acculturation strategies: assimilation (adopts the new culture and discards the original culture), separation (rejects the new culture and maintains the original culture), integration (adopts the new culture and maintains the original culture), and marginalization (rejects both cultures; Berry, 1997), with different strategies having differential effects on physical and mental health as well as academic and professional performance (Rudmin, 2003; Suinn, 2010). Recent empirical and meta-analysis studies have concluded that the strategy of integration is associated with most positive outcomes in various domains, such as physical health, oral health, mental health, life satisfaction, and psychological well-being, whereas marginalization is associated with most negative outcomes, including depression, anxiety, psychological distress, and negative affect (Berry & Hou, 2017; Jang et al., 2017). Specifically, it is suggested that adopting external factors from the dominant culture (e.g., language, behaviors) while maintaining a strong ethnic identity is associated with most favorable mental health outcomes (Yoon et al., 2013).

Despite this well-established relation between marginalization and adverse developmental outcomes, previous research regarding acculturation and eating disturbance among Asian and Asian American populations has yielded inconsistent results. Some researchers found positive relations between acculturation and eating disturbance. Davis & Katzman (1999) found that adopting American culture is associated with a higher level of eating disturbance among Chinese and Chinese American female college students, but not among males. They also found that acculturation is positively related to perfectionism. Therefore, they speculated that females are more likely to focus their effort to perfect themselves on altering their appearance than their male counterparts, which in turn poses a risk of eating disturbance to females (Davis & Katzman, 1999). Similarly, Cachelin, Weiss, and Garbanati (2003) found that acculturating into American culture is positively related to dieting among Asian American adolescent girls but not among boys. They explained that although acculturation increases the risk for dieting and both males and females prefer thin figures, male body ideals have become more muscular. Therefore, boys are less likely than girls to be dieting (Cachelin et al., 2003).

Acculturation can also serve as a protective factor against eating disturbance for Asians and Asian Americans. Sussman, Truong, and Lim (2007) measured self-esteem, body esteem, body parts satisfaction, eating attitudes, American identity, birth identity, and neighborhood diversity in a culturally diverse sample of foreign-born and native-born American females. They found that American identity is positively related to body esteem and body parts satisfaction among first-generation Chinese American females.

No correlations are significant between their Chinese identity and other major variables (Sussman et al., 2007). Outside of the U.S., Jennings et al. (2005) reported that less acculturated Asian Australian adolescent girls show more eating disturbance symptoms than their more acculturated peers. They explained that the less acculturated group may experience more culture clashes and have more protective parents, which contribute to their intrapsychic and interfamilial stress and further lead to eating disturbance as a way to regain a sense of control (Jennings et al., 2005).

Some studies suggest no relation between acculturation and eating disturbance. For example, Gowen et al. (1999) examined the relation between acculturation and eating disturbance among a culturally diverse sample of adolescent girls. Their results suggest that acculturating into American culture is not related to body dissatisfaction, weight concerns, or eating disturbance among Asian American adolescent girls. They theorized that aspects of Asian cultures might put adolescent girls at risk for eating disturbance. Thus acculturation may become a less salient factor for developing eating disturbance in this population (Gowen et al., 1999). Given these inconsistent results, it could be postulated that some variables can potentially mediate or moderate the relation between acculturation and eating disturbance among Asian Americans. However, previous studies have mainly focused on investigating the correlations between these two variables. The mechanisms are still not fully understood.

In addition, most studies about acculturation and eating disturbance among Asian Americans have conceptualized acculturation as Westernization or adopting American culture and failed to consider both dimensions of acculturation. For example, some

studies have used languages spoken at home and years living in the U.S. to indicate acculturation (Cachelin et al., 2000; Gowen et al., 1999). The Suinn-Lew Acculturation Scale (Suinn et al., 1992) is one of the most widely used acculturation measures for the Asian American population (Cachelin et al., 2003; Davis & Katzman, 1999; Reddy & Crowther, 2007). Despite the scale's popularity, it equates low acculturation to high Asian identity and high acculturation to high Western identity. It does not measure participants' identification with Asian and American cultures separately.

Furthermore, Cummins et al. (2005) suggested that acculturation is complex and multi-faceted, and researchers often focus on aspects of acculturation that are distal to the development of disordered eating (e.g., music preference). Additionally, Barry and Garner (2001) argued that instead of only focusing on specific cultural practices to measure acculturation, identification with an ethnic group should be examined as well. In light of these critiques, it is crucial to further explore the concept of acculturation to understand how identification with Asian and American cultures in various domains is related to the development of eating disturbance.

**Acculturation, Self-Objectification, and Body Shame**

As stated in the objectification theory, the body is a social construct that exists in cultural and social contexts (Fredrickson & Roberts, 1997). Therefore, it is essential to understand self-objectification through a sociocultural lens. For racial and ethnic minorities, particularly Asian Americans, acculturation has a pivotal role in the process of self-objectification and the experience of body shame.

In the process of acculturation, individuals are often exposed to media in the mainstream culture. Media exposure can then lead to the internalization of thin body ideals. Using a sample of Asian American college females, Nouri et al. (2011) tested the relation between media exposure and body dissatisfaction and the mediation effect of internalizing thin body ideals in this relation. Their results indicate that the internalization of both general thin body ideals and athletic body ideals can fully mediate the relation between exposure to TV and magazines and body dissatisfaction within this group, regardless of their acculturation level (Nouri et al., 2011). In another study, Javier & Belgrave (2015) compared indirect effects of family, peer, and media influences on body dissatisfaction through the mediation of thin body ideals internalization among Asian American college females and found that media influence has a higher indirect effect than peer and family influences. They theorized that Asian American females may feel more pressure to achieve a particular body ideal from the media because Asian Americans are underrepresented in American media (Javier & Belgrave, 2015). This underrepresentation may negatively impact Asian Americans' body image, particularly towards their group-specific body parts. In a qualitative study, Asian American female participants stated that the lack of Asian females in American media indirectly communicates that "my type is not reflected in what's beautiful, what's popular, or even prevalent" (Wong et al., 2017).

Exposure to media and internalization of body ideals can affect Asian American males as well. In addition to the underrepresentation, Asian American males are often depicted through stereotypical and restrictive images in media, such as being nerdy,

socially awkward, unathletic and not sexually attractive (Wilson et al., 2009). The internalization of such information inevitably leads to adverse outcomes. Ricciardelli et al. (2007) reported in a literature review that Asian American males have at least as many concerns about their body image as their White counterparts. They indicated that Asian American males may encounter the stereotype that they are less masculine than males in other ethnic groups. Since mainstream American culture highly emphasizes masculinity among males, Asian American males may work extra hard to compensate for the stereotype and achieve the male body ideal. This puts them at a greater risk for disordered eating and compulsive exercise (Ricciardelli et al., 2007). Asian American college males with higher general body ideals internalization and athletic body ideals internalization have a greater drive for masculinity. They are more likely to engage in specific behavior strategies to increase their muscle mass (Cheng et al., 2016).

Moreover, Asian Americans may internalize thin body ideals through both American cultural influences and Asian cultural influences. Stark-Wroblewski et al. (2005) explored the relation between adopting American culture and internalization of Western body ideals among female international students from Japan and China. They found that there is not a significant association between these two variables. They explained that it may be because some East Asian cultures also have a thin body ideal as part of the female gender role (Stark-Wroblewski et al., 2005). Guan, Lee, and Cole (2012) found that stronger identification with Asian cultures is associated with thinner body ideals among Asian American young women. In contrast, identification with American culture is not associated with body image. These researchers suggested that

although both American culture and Asian culture have thin body ideals, the diversity of body sizes in the United States may serve as a protective factor (Guan et al., 2012).

Wong et al. (2017) conducted a qualitative study with Asian American female young adults about their body image experiences and came to similar conclusions. Participants indicated that both American and Asian cultures have strict standards for female beauty. While the American standard for beauty focuses on physical fitness and muscle definition, the Asian standard emphasizes skinniness, fragility, and paleness. Furthermore, participants expressed that they feel more satisfied with their shape when comparing themselves with non-Asian American females, because they are usually thinner and have smaller bone frames. If they compare themselves with Asian females (especially when they go back to Asia), they usually find themselves on the "bulkier" and "sturdier" side and feel the pressure to be "slimmer" and "more delicate" (Wong et al., 2017). It appears that maintaining Asian culture also puts Asian Americans at risk for thin body ideal internalization and body dissatisfaction or body shame.

Despite previous research about acculturation and body image issues among Asian Americans, no studies have tested how acculturation may contribute to self-objectification in this population. Remotely related, Tan et al. (2016) studied the impact of Western cultural identification on self-objectification in samples of White Australians, Asian Australians, Asian immigrants in Australia, and Asians in Hong Kong. They found that identification with Western culture is positively related to self-objectification among their Asian participants. Little is known about whether this positive association between the adoption of Western culture and self-objectification would stay true for

Asian Americans, and whether the maintenance of Asian cultures may also contribute to self-objectification.

In summary, based on the literature reviewed, objectification theory (particularly the racially expanded model of objectification theory) is a promising framework to understand the initiation and maintenance of eating disturbance among Asian American college male and female students. Specifically, the relations between self-objectification, body shame, and eating disturbance are well established. What is less clear in the literature is how acculturation status, with a focus on biculturalism, may influence the process of self-objectification and thus lead to eating disturbance.

# CHAPTER III

# METHOD

## Hypotheses

The purpose of this study is to explore the relation between acculturation status and eating disturbance among Asian American college students. In addition, the study aims to examine the applicability of objectification theory among Asian American college students, particularly regarding the pathways from acculturation to self-objectification (i.e., media internalization, body surveillance, and body shame) and eating disturbance. The hypothesized model is shown in Figure 1. Two direct paths from body mass index (BMI) to Body Shame and Eating Disturbance were added into the model to control for participants' weight status.

This study tested the following hypotheses:

1. The maintenance of Asian cultures is positively associated with self-objectification and eating disturbance. Participants who have higher maintenance of Asian culture experience increased media internalization and body surveillance, as well as increased body shame and eating disturbance.
2. The adoption of American culture is negatively associated with self-objectification and eating disturbance. Participants who have higher adoption of American culture experience decreased media internalization and body surveillance, as well as decreased body shame and eating disturbance.

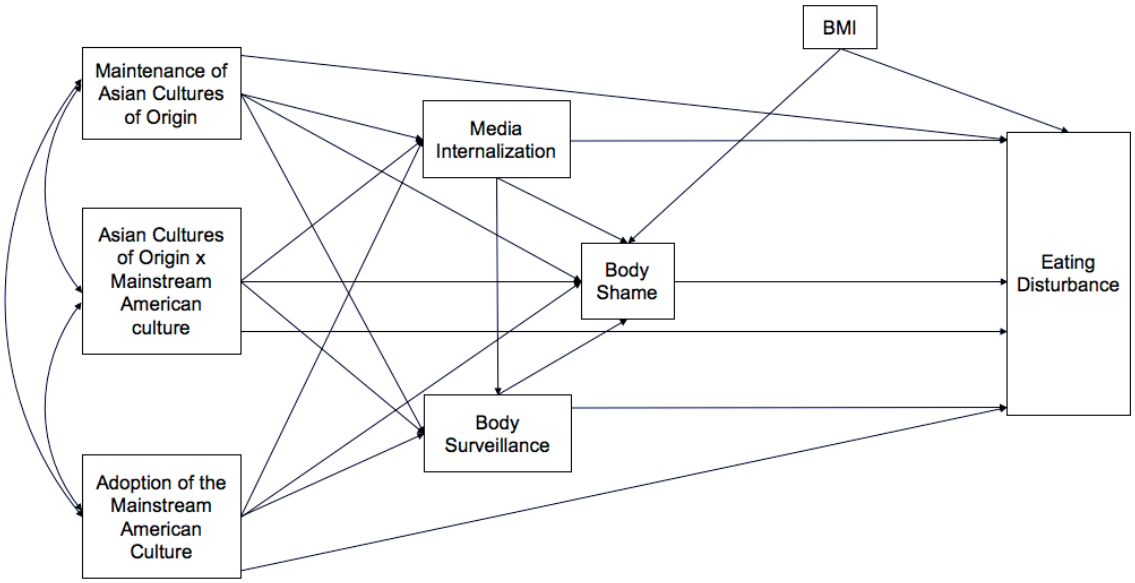
3. There is an interaction effect between American and Asian cultures on self-objectification and eating disturbance, with biculturalism being a protective factor.

   3.1 Among participants with low adoption of mainstream American culture, their self-objectification and eating disturbance are not associated with their maintenance of Asian cultures of origin.

   3.2 Among participants with high adoption of mainstream American culture, their self-objectification and eating disturbance is negatively associated with their maintenance of Asian cultures of origin.

**Figure 1**

*Proposed Path Model*



## Participants

Participants were recruited online through emails and the utilization of a snowball recruitment strategy. To be eligible to participate in the study, participants needed to: 1) self-identify as of Asian descent, 2) born in the U.S. or immigrated to the U.S. before the age of 12 years, 3) enrolled in a college in the U.S. at the time of participation, 4) between 18 and 24 years of age, and 5) able to read English. While recruitment emails were sent nationwide, most participants were attending college in Texas, California, and the New England area. Participants were recruited from approximately 36 colleges and universities.

Initially, 255 Asian American college students were recruited. After screening the validity check items (e.g., "Please select option '2' here."), nine participants were excluded because they made more than one error in selecting the specified options. In addition, only one participant identified their gender as "other." Since gender is a critical demographic variable in the analyses, that participant was also excluded due to the small sample size for that gender group. All the other participants identified as cisgender male or female.

The final sample included 245 Asian American college students (mean age = 20.36, *SD* = 1.58). About two-thirds of the participants identified as female (162 female and 83 male). The majority of participants (n = 229, 93.47%) identified as heterosexual. Most participants were born in the U.S. (n = 169, 68.98%), followed by South Korea (n = 28, 11.43%), mainland China/Hong Kong/Taiwan (n = 19, 7.76%), Vietnam (n = 17, 6.94%), and other countries/regions. On average, participants had spent 18.24 years in

the U.S. (*SD* = 3.65). About one-third of the participants identified as of Chinese/Taiwanese descent (n = 93, 37.96%). Other main Asian ethnicities represented in the sample included Vietnamese (n = 66, 26.94%), Korean (n = 60, 24.49%), and Filipino (n = 14, 5.71%). The rest of the participants (4.9%) identified as Japanese, South Asian, Indian, Napoli, etc. Participant BMI was calculated based on their reported height and weight (mean BMI = 22.49, *SD* = 3.65). Most participants fell into the normal weight range (20 underweight, 178 normal weight, 37 overweight, and ten obese), according to their BMI and standards from the Centers for Disease Control and Prevention (CDC, 2017).

## Procedure

Information about the study was sent out through emails. Individuals who were eligible and interested in participation were encouraged to contact the researcher. After they initiate the contact, the researcher provided more information about the study, addressed their questions, and confirmed their eligibility. A URL was then sent to eligible participants, which directed them to an online survey platform. Participants were provided with an information sheet and were instructed to proceed to the next page if they agreed to participate in the study. After completing the survey, participants were directed to another survey where they can provide their contact information to obtain compensation. Each participant received a $15 gift card as a token of appreciation for their participation.

## Measures

### Demographic Questionnaire

Participants were asked to provide information regarding their ethnic origin, age, gender, sexual orientation, place of birth, years in the United States, current zip code, zip code of the place where they grew up, and current college. Four validity check items were inserted in the survey (e.g., "Please select option '2' here."). Participants need to correctly answer at least three of the items to be included in the final analyses.

### Asian American Multidimensional Acculturation Scale

Participants' acculturation status was assessed by the Asian American Multidimensional Acculturation Scale (AAMAS; Chung, Kim, & Abreu, 2004). The AAMAS has three subscales that measure participants' acculturation to European American culture (AAMAS-EA), Asian culture of origin (AAMAS-CO), and pan-ethnic Asian American culture (AAMAS-AA). Each of the subscales has four factors and 15 items. The four factors include Cultural Identity (e.g., "How much do you identify with …"), Language (e.g., "How well do you speak the language of …"), Cultural Knowledge (e.g., "How knowledgeable are you about the culture and traditions of …"), and Food Consumption (e.g., "How often do you actually eat the food of…"). Participants rated each item on a 6-point Likert scale, ranging from *not very much* to *very much*.

Chung et al. (2004) completed three studies to determine the reliability and validity of AAMAS. In terms of internal reality, the overall coefficient alpha for AAMAS-EA ranges from .76 to .81 across the three studies; coefficient alphas for

Cultural Identity, Language, Cultural Knowledge, and Food Consumption are in the ranges of .74-.78, .82-.87, .67.-.71, and .68-.71, respectively. For AAMAS-CO, the overall coefficient alpha is between.87 and .91, and factor coefficient alphas are in the ranges of .79, .84-.89, .76-.77, and .65-.71. For AAMAS-AA, the overall coefficient alpha is in the range of .78-.83, and factor coefficient alphas are between .70-.72, .94-.85, .66-.77, and .68-.79. All of the subscales are reliable over a 2-week period, with coefficients of .78 for AAMAS-EA, .89 for AAMAS-CO, and .75 for AAMAS-AA. For the present study, only AAMAS-EA and AAMAS-CO were included. In the present sample, coefficient alpha of AAMAS-EA is .82, and .88 for AAMAS-CO.

**Sociocultural Attitudes Towards Appearance Questionnaire-4**

Internalization of body ideals was measured by the Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4; Schaefer et al., 2015). The SATAQ-4 is a measure of societal and social influences on body image. It has five factors. The Internalization: Thin/Low Body Fat factor includes five items and measures the desire for a thin figure. A sample item is "I want my body to look very thin." The Internalization: Muscular/Athletic factor has five items and reflects the internalization of body ideals from athletic figures (e.g., "It is important for me to look athletic."). The three factors of Pressures: Peers, Pressures: Family, and Pressures: Media factor measure perceived pressures from peers, family, and media. An example is "My peers encourage me to get thinner."

For the present study, both of the Internalization factors were included and combined. Together, these two factors include ten items. Participants responded on a 5-

point Likert scale, ranging from *Definitely disagree* to *Definitely agree*. Cronbach's alphas for Internalization: Thin/Low Body Fat are .82-.87 among U.S. female college students, .91 among non-U.S. female college students, and .75 among male college students; Cronbach's alphas for Internalization: Muscular/Athletic are .89-.92 among U.S. female college students, .89 among U.S. female college students, and .90 among male college students (Schaefer et al., 2015). In the present sample, the coefficient alpha is .80 for the combined Internalization factor.

**Objectified Body Consciousness Scale**

Body surveillance and body shame were measured by the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996). The OBCS has three subscales: Surveillance (e.g., "I often worry about whether the clothes I am wearing make me look good."), Body Shame (e.g., "When I can't control my weight, I feel like something must be wrong with me."), and Appearance Control Beliefs (e.g., "I think a person can look pretty much how they want to if they are willing to work at it."). There are eight items in each of the subscales. Participants reported their responses on a 7-point Likert scale, ranging from *Strongly disagree* to *Strongly agree*. Cronbach's alphas are within the range of .79-.89 for the Surveillance subscale, .75-.84 for the Body Shame subscale, and .68-.72 for the Control Belief subscale among female college students from diverse cultural backgrounds (McKinley & Hyde, 1996). Another study found that Cronbach's alphas are .77 for Surveillance, .82 for Body Shame, and .66 for Control Beliefs in a diverse sample of college students, both male and female students included (Lowery et al., 2005). In the present study, the Surveillance and Body Shame subscales were

included. Coefficient alphas are .86 for Surveillance and .83 for Body Shame in the present sample.

**Eating Disorder Examination – Questionnaire, Version 6.0**

Eating disturbance was measured by Eating Disorder Examination – Questionnaire, version 6.0 (EDE-Q 6.0; Fairburn & Beglin, 1994, 2008). It is considered the gold standard of eating disorder assessment and is widely used to obtain descriptive information about eating disorder symptoms in the past 28 days. The EDE-Q 6.0 has four subscales: Restraint (e.g., "Have you had a definite desire to have an empty stomach with the aim of influencing your shape or weight?"), Eating Concern (e.g., "Have you had a definite fear of losing control over eating?"), Shape Concern (e.g., "Has your shape influenced how you think about (judge) yourself as a person?"), and Weight Concern (e.g., "How dissatisfied have you been with your weight?"). These four subscales altogether have 23 items. Participants responded on a 7-point Likert scale (0-6), with higher ratings indicate more severe eating disorder symptoms.

Berg, Peterson, Frazier, and Crow (2012) completed a systematic review on the psychometric evaluation of the EDE-Q and concluded that it is a reliable and valid instrument. Cronbach's alphas range from .70-.85 for the Restraint subscale, .73-.86 for the Eating Concern subscale, .83-.93 for the Shape Concern subscale, .72-.89 for the Weight Concern subscale across six different studies. Examinations of test-retest reliability indicate that the questionnaire is reliable over a 2-week period. In a sample of Asian American and Latina college students, Cronbach's alpha is .95 for the EDE-Q full

scale (Claudat et al., 2016). In the present sample, coefficient alpha of the full scale is .94.

## Data Analyses

Data analyses were performed in R (R Core Team, 2019). Descriptive statistics and correlational analyses were conducted using the *plyr* (Wickham, 2011), *psych* (Revelle, 2018), and *MVN* (Korkmaz et al., 2014) packages. Path analyses were conducted using the *lavaan* (Rosseel, 2012) package. The interaction effect specified in Hypothesis 3 was plotted with the *gvlma* (Pena & Slate, 2019), *ggplot2* (Wickham, 2016) packages. Slope significance was tested with the *car* (Fox & Weisberg, 2019) package. Descriptive analyses were conducted first, including mean, standard deviation, and normality (skewness and excess Kurtosis). Gender differences on all major variables were tested by MANOVA, followed up with univariate ANOVAs to check which individual variables differ between gender groups. Then correlational analyses were conducted to test relations between major variables. For path analyses, the maximum likelihood estimation with robust standard errors was used to estimate all path coefficients. To test direct and indirect effects, bootstrap confidence interval method was employed. There is no missing data in the dataset.

# CHAPTER IV

# RESULTS

## Descriptive Analyses

All major variables' mean, SD, skewness, and excess Kurtosis in the total sample are shown in Table 1. Normality of data was first tested in the total sample. Mardia's multivariate skewness of 299.53 ($p < .001$) and kurtosis of 7.54 ($p < .001$) indicate that major variables in the total sample do not follow a multivariate normal distribution. Shapiro-Wilk test of univariate normality indicate that AAMAS-EA ($W = .99$, $p = .11$), Internalization ($W = .99$, $p = .30$), and Surveillance ($W = .99$, $p = .15$) are normally distributed. AAMAS-CO ($W = .98$, $p = .001$), Body Shame ($W = .98$, $p = .001$), EDEQ ($W = .94$, $p < .001$), and BMI ($W = .89$, $p < .001$) do not fit the normal distribution. BMI is approaching the thresholds of moderate nonnormality (BMI Skewness = 1.61, approaching 2.0, and excess Kurtosis = 4.48, approaching 7.0), which could potentially become problematic (Curran et al., 1996). Therefore, a log transformation was performed. Although the log-transformed BMI is still not normally distributed ($W = .96$, $p < .001$), its Skewness and excess Kurtosis are now acceptable (0.90 and 1.67, respectively).

Descriptive statistics were also examined by gender. A MANOVA test was performed to test for gender differences on major variables. Results indicate that there are significant gender differences between the major variables (Pillai's Trace statistic = .25, $F(7, 237) = 11.16$, $p < .001$). Subsequent univariate ANOVA tests show significant

gender differences on AAMAS-CO ($F(1, 243) = 7.19$, $p = .008$, $d = 0.35$), Internalization ($F(1, 243) = 8.77$, $p = .003$, $d = 0.39$), Surveillance ($F(1, 243) = 4.27$, $p = .04$, $d = 0.26$), Body Shame ($F(1, 243) = 5.92$, $p = .02$, $d = 0.33$), EDE-Q ($F(1, 243) = 10.64$, $p = .001$, $d = 0.42$), and log-transformed BMI ($F(1, 243) = 10.73$, $p = .001$, $d = 0.42$). Overall, female participants endorse higher levels of maintenance of their Asian cultures of origin, body surveillance, body shame, and eating disturbance, while male participants endorse higher levels of internalization and BMI.

**Table 1**

*Descriptive Statistics for Major Variables*

| Variables | Total Sample ($N = 245$) | | | | Female ($N = 162$) | | Male ($N = 83$) | |
|---|---|---|---|---|---|---|---|---|
| | *Mean* | *SD* | Skewness | Excess Kurtosis | *Mean* | *SD* | *Mean* | *SD* |
| AAMAS-CO | 4.60 | 0.79 | -0.48 | 0.24 | 4.70 | 0.75 | 4.41 | 0.82 |
| AAMAS-EA | 4.46 | 0.67 | -0.22 | -0.40 | 4.48 | 0.67 | 4.43 | 0.68 |
| Internalization | 3.16 | 0.70 | 0.06 | -0.47 | 3.07 | 0.72 | 3.35 | 0.64 |
| Surveillance | 3.91 | 0.90 | -0.16 | -0.37 | 3.99 | 0.85 | 3.74 | 0.98 |
| Body Shame | 3.08 | 1.00 | 0.47 | -0.21 | 3.19 | 1.03 | 2.86 | 0.89 |
| EDE-Q | 1.82 | 1.28 | 0.72 | -0.26 | 2.00 | 1.29 | 1.45 | 1.17 |
| BMI | 22.50 | 3.75 | 1.61 | 4.48 | 21.96 | 3.49 | 23.54 | 4.04 |

*Note.* AAMAS subscale scores range from 1 to 6, Internalization scores range from 1 to 5, Surveillance and Body Shame scores range from 1 to 6, EDE-Q scores ranges from 0 to 6.

## Correlational Analyses

Bivariate and partial correlations (controlling for participant gender) are presented in Table 2. Overall, the pattern of results for the bivariate and partial correlations is essentially the same, except for the correlations between AAMAS-CO and Internalization. The bivariate correlation between these two variables is not significant ($r$ = .12, $p$ = .06), but the partial correlation is significant ($r$ = .15, $p$ = .02) after controlling for participant gender.

**Table 2**

*Bivariate and Partial Correlations Between Major Variables*

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| 1 AAMAS-CO | -- | .11 | .15* | .08 | .04 | .13* | -.03 |
| 2 AAMAS-EA | .11 | -- | .08 | .01 | -.01 | -.01 | .01 |
| 3 Internalization | .12 | .07 | -- | .30*** | .42*** | .53*** | .18** |
| 4 Surveillance | .10 | .01 | .26*** | -- | .40*** | .41*** | -.02 |
| 5 Body Shame | .07 | -.003 | .38*** | .41*** | -- | .69*** | .28*** |
| 6 EDE-Q | .16* | -.01 | .47*** | .43*** | .69*** | -- | .46*** |
| 7 Log-transformed BMI | -.06 | .01 | .21*** | -.05 | .24*** | .40*** | -- |

*Note*. Bivariate correlations are provided *below* the diagonal. Partial correlations are controlled for participant gender. * $p$ < .05. ** $p$ < .01. *** $p$ < .001.

As shown in Table 2, the acculturation variables are not correlated with each other. All the self-objectification variables are highly correlated with each other, as

expected. The acculturation variables and self-objectification variables are not correlated before controlling for gender.

In terms of eating disturbance, EDE-Q is positively correlated with AAMAS-CO ($r = .16$, $p = .01$), Internalization ($r = .47$, $p < .001$), Surveillance ($r = .43$, $p < .001$), and Body Shame ($r = .69$, $p < .001$). Participants who maintained a higher level of their Asian cultures of origin tend to endorse more eating disturbance. In contrast, their adoption of mainstream American culture is not associated with their eating disturbance. Participants who engage in more self-objectification also endorsed more eating disturbance.

Positive correlations were found between log-transformed BMI and Internalization ($r = .21$, $p < .001$), Body Shame ($r = .24$, $p < .001$), and EDE-Q ($r = .40$, $p < .001$). Participants who have higher BMIs also tend to have stronger internalization of body ideals, experience more body shame, and endorse more eating disturbance. Participant weight status is not associated with acculturation or Surveillance.

## Path Analyses

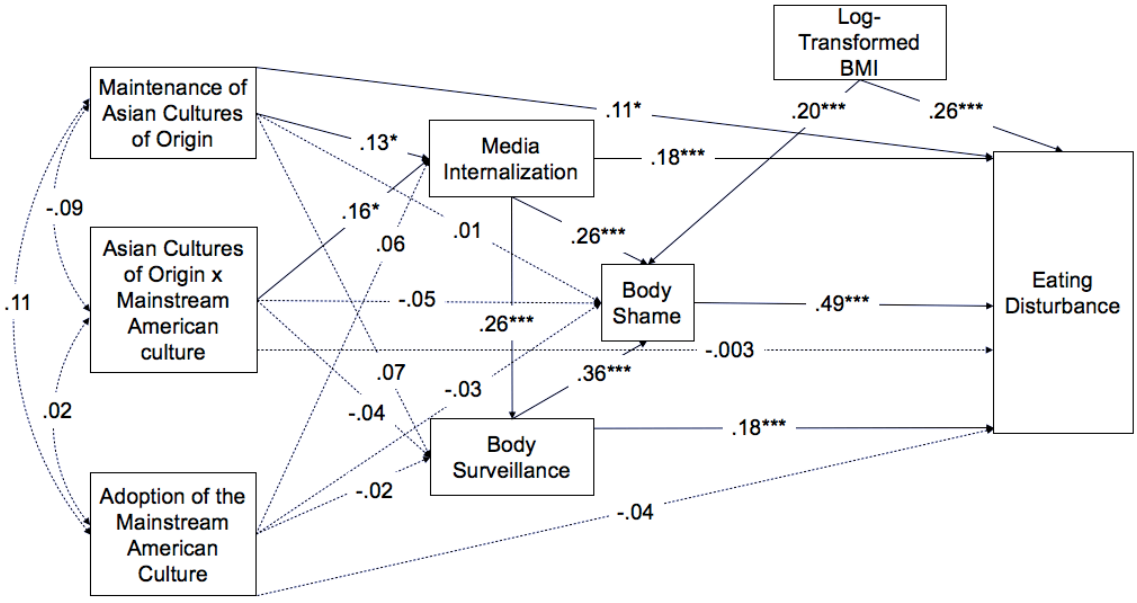
The hypothesized model (see Figure 1) was specified. Log-transformed BMI was included in the model instead of BMI. Model fit indices suggest that the hypothesized model is a good fit ($\chi^2(5) = 13.23$, $p = .02$, RMSEA = .08, SRMR = .04, CFI = .97). Standardized model results are shown in Figure 2. Overall, the model accounts for 60.4% of the variance in eating disturbance.

Total, direct, and indirect effects were examined to test research hypotheses. The total effect of maintenance of Asian cultures of origin on eating disturbance is

statistically significant ($\beta$ = 0.30, $p$ = .01, CI = [0.083, 0.544]). One significant direct effect and two significant indirect effects were found. The significant direct effect is from maintenance of Asian cultures of origin to eating disturbance ($\beta$ = 0.17, $p$ = .02, CI = [0.039, 0.331]). The first significant indirect effect is from the interaction between the two cultures to internalization, and further to eating disturbance ($\beta$ = 0.06, $p$ = .05, CI = [0.008, 0.121]). The second significant indirect effect is from the interaction between the two cultures to internalization, then to body shame, and further to eating disturbance ($\beta$ = 0.04, $p$ = .04, CI = [0.007, 0.087]).

**Figure 2**

*Standardized Model Results*




*Note.* * $p$ < .05. *** $p$ < .001.

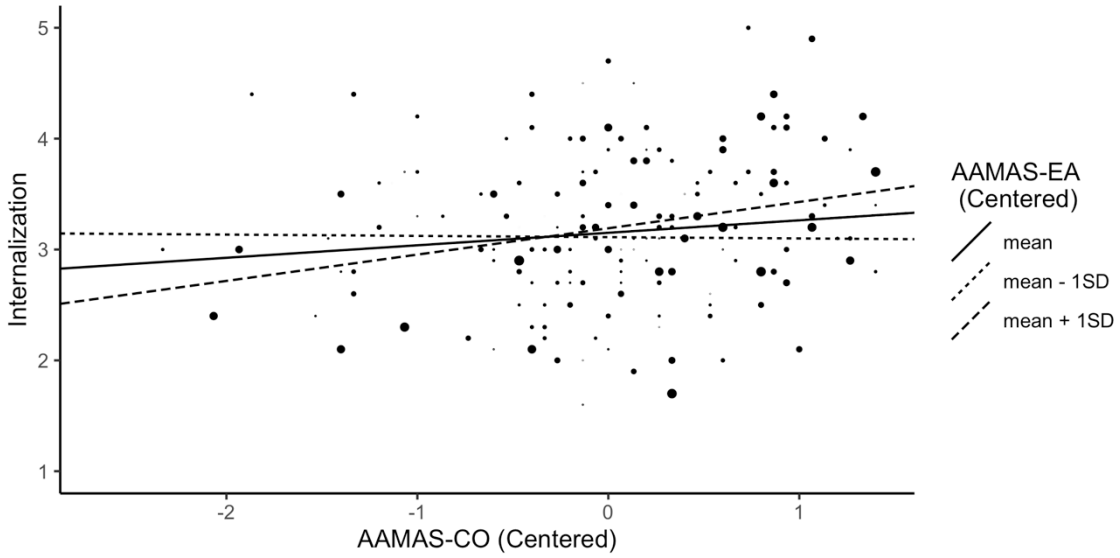
Given the significant total effect of maintenance of Asian cultures of origin on eating disturbance and the significant indirect effects from the interaction between the two cultures to eating disturbance, moderated mediation effects were then examined. Specifically, the direct and indirect effects of Asian cultures on eating disturbance were examined while American culture was fixed at three levels: one SD below the mean, the mean level, and one SD above the mean. Two full mediation effects were found when participants have high adoption of mainstream American culture. Internalization fully mediates the effect of the maintenance of Asian cultures of origin on eating disturbance when participants endorsed high adoption of mainstream American culture. The total effect of this mediation is significant ($\beta = 0.24$, $p = .02$, CI = [0.043, 0.456]), as well as the indirect effect ($\beta = 0.08$, $p = .01$, CI = [0.021, 0.138]). The direct effect is not significant ($\beta = 0.17$, $p = .10$, CI = [-0.017, 0.370]). Internalization and body shame also fully mediate the effect of the maintenance of Asian cultures of origin on eating disturbance when participants endorsed high adoption of mainstream American culture. The total effect of this mediation is significant ($\beta = 0.22$, $p = .04$, CI = [0.028, 0.435]), as well as the indirect effect ($\beta = 0.05$, $p = .02$, CI = [0.016, 0.100]), with a nonsignificant direct effect.

As shown in Figure 3, among participants with low adoption of American culture, their internalization is not associated with their maintenance of Asian cultures; the slope of the regression is not significantly different from 0 ($F(1, 241) = 0.02$, $p = .87$). Among participants who have an average level of adoption of American culture, their internalization is positively associated with their maintenance of Asian cultures

($F(1, 241) = 3.91$, $p = .05$). The positive association between maintenance of Asian cultures and internalization is even stronger among participants with high adoption of American culture ($F(1, 241) = 8.86$, $p = .003$).

**Figure 3**

*Interaction Effect Between the Two Cultures on Internalization*




*Note.* The size of the dots represent participants' AAMAS-EA centered scores. The larger the dots, the higher their centered scores are.

Based on these results, it appears that the first research hypothesis regarding the maintenance of Asian cultures, self-objectification, and eating disturbance is supported. Path analysis results suggest a positive association between the maintenance of Asian cultures and eating disturbance. The second research hypothesis regarding the adoption

of American culture, self-objectification, and eating disturbance is not supported. There is no statistically significant relation found in the model. The third research hypothesis regarding the interaction effect is partially supported. While the path analysis results suggest that an interaction effect exists, biculturalism appears to be a risk factor rather than a protective factor.

# CHAPTER V

# DISCUSSION AND CONCLUSIONS

The primary purpose of the present study is to explore and examine the role of self-objectification as a mediating mechanism through which acculturation influences eating disturbance among Asian American college students. There is a critical need for identifying the process and mechanisms underlying body image and eating disturbance because Asian American young adults are at an elevated risk for these psychosocial and health-related problems. Studying this population is important because Asian American youths are exposed to body ideals in both mainstream American culture and their Asian cultures of origin. Their body experiences may differ depending on their level and status of acculturation. Results confirm the mediating role of self-objectification and suggest that Asian cultures of origin have more contributions to self-objectification and eating disturbance in Asian American emerging adults.

## Gender Differences Among Major Variables

Several significant gender differences were found among the major variables. First, female participants have higher maintenance of their Asian cultures of origin than male participants. This result is consistent with previous research showing that female Asian American college students tend to have a stronger orientation to traditional Asian values (Suh et al., 2020). This effect may be partially explained by female gender role socialization that values the importance of family and community (Yoon et al., 2013).

Taking a closer look at the acculturation subscales, results of auxiliary analyses suggest that female participants are better at heritage language skills ($Mean_{Female}$ = 3.82, $SD_{Female}$ = 1.34, $Mean_{Male}$ = 3.18, $SD_{Male}$ = 1.36, $F(1, 243) = 12.11$, $p = .0006$, $d = 0.47$), including speaking, understanding, reading, and writing in the language of their Asian culture of origin. Female participants also consume the media from their Asian culture of origin (e.g., listening to music, watching movies, and reading magazines) more often than male participants. Their food preference, cultural knowledge, and cultural identity are not significantly different from those of the male participants. Previous research has documented that females show advantages in language skills as early as infancy, increasing with age (Eriksson et al., 2012). In addition, and perhaps more directly relevant to the maintenance of heritage language, females are more likely than males to socialize and interact with family members, which may contribute to the development of their language skills in their home language. For example, a study found that among children aged from 9 to 12 years old, girls are more likely to engage in family dinner time conversations than boys. (Merrill et al., 2015).

Second, findings show that female participants experience higher body surveillance and body shame than male participants. These results are consistent with previous research regarding gender differences for self-objectification and body dissatisfaction among young adults in various cultures (Chng & Fassnacht, 2016; Jackson & Chen, 2015; Rollero & De Piccoli, 2017). The concept of self-objectification was initially developed based on the feminist theory, aiming to understand females' experiences and mental health outcomes in an objectifying society (Fredrickson &

Roberts, 1997; McKinley & Hyde, 1996). More recent research has incorporated the experiences of males into the concept. Males are also objectified in society and are exposed to body ideals through media and other societal influences, and thus are at risk of self-objectification (Daniel et al., 2014). The consistent gender differences indicate that even when both genders are constantly being evaluated and objectified, females experience significant greater scrutiny of their physical appearance from others than males in society.

In terms of eating disturbance, female participants reported higher EDE-Q scores than male participants. However, male participants reported more elevated eating disturbance (i.e., higher percentile ranks) when compared with their peers of the same gender than females. V. M. Quick & Byrd-Bredbenner (2013a) administered the EDE-Q, version 6.0, to 2448 college students and established the normative data. The sample consists of 1533 females and 915 males. About half (56%) of the participants are Caucasian, 22% are Asian, 10% are Hispanic, 8% are African American, and 4% are other. In their sample, the mean score of female participants is 1.65 (*SD* = 1.30), and the mean score of male participants is 0.95 (*SD* = 0.98). Both of the mean scores in the normative sample are lower than the mean scores in the present study, suggesting that Asian American college students are at a higher risk for eating disturbance than their peers. In the present study, the median of the EDE-Q scores of female participants is 1.93, which is between the 60$^{th}$ and 65$^{th}$ percentile compared with their female peers. The median of male participants is 1.23, which is between the 65$^{th}$ and 70$^{th}$ percentile compared with their male peers. These results suggest increased risk from

intersectionality in ethnic and gender identities. While in general, females experience more eating disturbance symptomology than males, for Asian Americans in particular, their ethnic identity and cultural experiences may bring more risks to males than to females.

Interestingly, male participants have higher internalization of body ideal than female participants. Male participants have internalized a body ideal to be lean and have little fat as well as muscular and athletic. Female participants have internalized a body ideal to be lean, thin, and has little fat, but not muscular or athletic. The body ideals for male and female participants share some characteristics in common (i.e., to be lean and has little fat), but male participants' body ideal may have a higher emphasis on shape (i.e., to be muscular and athletic). This is consistent with previous research. Altabe (1998) conducted a qualitative study and explored the top five traits of body ideals in a sample of diverse female and male college students. The top five traits for Asian American males' body ideal include "tall or taller, toned, brown hair, thin or thinner, and light or lighter skin." In comparison, the top five traits for Asian American females' body ideals are "tall or taller, thin or thinner, brown hair, long or longer hair, and dark or darker skin." Asian American males' body ideal appears to have a stronger focus on shape than females' body ideal, which could lead to higher internalization scores. Additionally, male participants' higher level of internalization may also reflect the tendency to resist or combat the stereotypical images of them in media. Asian American males are often portrayed in media as nerds who are unathletic, unattractive, and socially

awkward (Wilson et al., 2009). Therefore, Asian American males may feel more societal pressure to look athletic and attractive to overcome this ethnic/racial stereotype.

## Cultural Influences on Major Variables

### The Main Effect of the Maintenance of Asian Cultures of Origin

Results of the correlation analyses suggest that the maintenance of Asian cultures of origin is significantly correlated with the internalization of body ideals and eating disturbance. Most importantly, it has a significant and unique contribution to body ideal internalization and eating disturbance, as indicated by the path analyses results. This is consistent with previous research showing that individuals of Asian descent experience significant body dissatisfaction and are at risk for eating disturbance (Kennedy et al., 2004; Pike & Dunne, 2015; Ricciardelli et al., 2007; Wildes et al., 2001).

A possible explanation for these results might be the standards for beauty or physical attractiveness among Asian cultures. As mentioned in the literature review, Asian standards for female attractiveness focus on skinniness, fragility, and paleness (Wong et al., 2017). Higher identification with Asian cultures is associated with thinner body ideals among Asian American females (Guan et al., 2012). As for male attractiveness, Asian standards focus on being tall and of the right amount of muscularity (i.e., "somewhat" muscular, but not "too big") (Liao et al., 2020). For example, Korean males have high internalization of the muscular and lean body ideal (*Mean* = 3.77, *SD* = 0.60, on a 5-point Likert scale), which is further linked to dissatisfaction with body fat and preference for muscularity, as well as disordered eating and muscularity enhancement behaviors (Lee & Lee, 2020). It appears that Asian cultures have strict

standards for appearance for both females and males alike, and thus Asian American young adults may internalize these body ideals and develop eating disturbance when they maintain their Asian cultures of origin.

Another possible explanation might be that specific Asian values may contribute to the internalization of body ideals and eating disturbance among Asian American young adults. Individuals of Asian descent often value interpersonal relatedness and collectivism (Cheung et al., 2011). People who subscribe to collectivistic values are interdependent with other members in their social groups (i.e., family, peer group, etc.), construct their identities in relation to their groups, and internalize and conform to the group norms (Triandis, 2001). Since body ideals are a part of cultural norms, it is plausible that Asian Americans may readily internalize body ideals due to collectivistic values when they maintain their Asian cultures of origin.

Moreover, previous research has documented an association between collectivism and shame. Shame is a social emotion that heightens self-consciousness and signals potential threats to social relationships (Scheff, 2003). Individuals who value interpersonal relatedness and define themselves in relation to their social groups are motivated to maintain their social relationships and to care about what others think or feel about them, and therefore exercise self-focused appraisals when faced with criticism or transgression, which results in the experience of shame (Dean & Fles, 2016). In a cross-cultural study, researchers recruited college students in China and the U.S. They measured participants' shame reactions for themselves and their mothers, partners, friends, and classmates in three different scenarios. They found that Chinese college

students showed higher shame reactions across all the scenarios than American college students. The closer the relationship, the stronger the shame reaction is (Wang et al., 2008). It can thus be suggested that when individuals fail to achieve internalized body ideals, those who subscribe to collectivistic values might experience more body shame than their peers who do not subscribe to collectivistic values, which then put them at a higher risk for eating disturbance.

**The Main Effect of the Adoption of American culture**

Results from the correlation analyses and path analyses show that the adoption of American culture is not related to self-objectification and eating disturbance for Asian American young adults. These results do not support the second hypothesis, which proposed that the adoption of American culture is negatively associated with self-objectification and eating disturbance. These results, however, are consistent with some of the previous research that suggests the lack of association between acculturation and eating disturbance (Gowen et al., 1999).

It is possible that the adoption of American culture has a mixed effect on the development of self-objectification and eating disturbance. As discussed in the literature review, previous research has shown mixed results regarding the association between American culture and eating disturbance (Cachelin et al., 2003; Davis & Katzman, 1999; Jennings et al., 2005; Sussman et al., 2007). Therefore, there might be some factors that could potentially moderate this association. A possible example would be messages people are receiving from the media. On the one hand, the mainstream American culture imposes body ideals on both females and males through mass media and other societal

influences. Thus people who adopt American culture may internalize those body ideals and become at risk for eating disturbance (Javier & Belgrave, 2015; Nouri et al., 2011). For Asian Americans in particular, they are usually under-represented or marginalized and being represented in an ethnically/racially stereotypical manner, which may exacerbate the effect of these societal influences (Ricciardelli et al., 2007; Wilson et al., 2009; Wong et al., 2017).

On the other hand, there have been some social movements on social media regarding body image in recent years, promoting body positivity, and lately, body neutrality. With the body positivity movement, diverse body attributes are depicted in social media (Cohen et al., 2019). The representation of diverse body attributes sends the message that all body types need to be respected and accepted. There is also an emerging discussion about body neutrality. Body neutrality further encourages people to avoid placing too much value on their appearance (Cohen et al., 2020). Moving away from the appearance focus could potentially prevent the objectification of the body. These two social movements both can serve as protective factors against the development of body image and eating disturbance. Therefore, depending on whether individuals have more exposure to traditional body ideals or recent body image movements, adopting American culture could have differential effects on their body experiences.

**The Interaction Effect Between Asian and American Cultures**

The path analyses suggest that there is a significant interaction effect between the Asian and American cultures on Media Internalization. Among participants with low adoption of mainstream American culture, their media internalization is not related to

their maintenance of Asian cultures of origin. Among participants with high adoption of mainstream American culture, their media internalization is positively related to their maintenance of Asian cultures of origin. In other words, biculturalism, or the acculturation strategy of integration (Berry, 1997), appears to be associated with an elevated risk of body image and eating disturbance among Asian American college students. These results do not support the third research hypothesis and are inconsistent with previous research.

Previous research associates integration with positive developmental outcomes (Berry & Hou, 2017; Jang et al., 2017; Yoon et al., 2013). Overall, being bicultural is beneficial to individuals' adjustment when they are emersed in multiple cultural contexts. A possible explanation is that biculturalism may be associated with increased flexibility and adaptability in response to stressors. In the article on biculturalism by LaFromboise et al. (1993), researchers presented the alternation model of second-cultural acquisition, a similar theory to the code-switching theories in research on bilingualism. According to the alternation model, individuals who can alter their behaviors to fit into a particular cultural context in social situations may have higher levels of cognitive functioning than individuals who cannot effectively alter their behaviors. This flexibility and adaptability, or ego resilience (Block & Kremen, 1996) is positively correlated with academic achievement, social functioning, mental health, and physical health (Swanson et al., 2011; Taylor et al., 2014).

For Asian Americans, however, this benefit of being bicultural and being flexible integrating and switching between different cultural norms does not seem to apply to

their body experiences, as suggested by the results of the present study. Since both Asian and American cultures have different yet similar body ideals, being immersed in these two cultures may reinforce the internalization of body ideals instead of allowing individuals to integrate and switch between diverse body ideals. As discussed earlier, both Asian and American standards for female attractiveness focus on being thin, and for male attractiveness focus on being muscular. Even though slight differences exist, the similarities of these body ideals may outweigh the differences, and thus may exacerbate the negative impact of internalizing body ideals from both cultures.

Besides, when ethnic minorities encounter mainstream American culture, they are faced with ideologies regarding the stratification of racial groups as well as stereotypes and negative connotations ascribed to their specific groups (Viruell-Fuentes et al., 2012). Exposure to messages that they are "minorities" or "others" in this racialized society can take a toll on their well-being and mental health, and it exacerbates among individuals with higher generational status (Viruell-Fuentes, 2007). There is ample evidence that Asian Americans are subject to these othering messages, and in some extreme cases, xenophobia. A recent example is Asian Americans' experiences during the COVID-19 pandemic, where anti-Asian attitudes and behaviors are activated on both the systemic and individual levels (Reny & Barreto, 2020). Thus, when Asian American college students adopt more mainstream American culture, they may have been exposed to more messages that their body type is not regarded as beautiful or popular (Ricciardelli et al., 2007; Wilson et al., 2009; Wong et al., 2017). Additionally, it is possible that Asian Americans who have stronger adherence to their Asian cultures

of origin may become more sensitive to and identify with racially specific messages in media than their counterparts who maintain less Asian cultures of origin. The accumulation of such "othering" messages about their body and appearance, combined with the collectivistic values to conform with social norms, may heighten the risk for body image and eating disturbance among bicultural Asian American individuals.

## Implications for Practice

The findings of the present study point to possible prevention and intervention considerations for body image and eating disturbance among Asian American emerging adults. In terms of prevention, several measures need to be taken on multiple levels to effectively improve Asian Americans' body image. On the societal level, campaigns that promote diverse body types and body neutrality can help the general population, including Asian Americans, develop healthy body image and decrease the internalization of unattainable body ideals. For Asian Americans in particular, increased and appropriate representation of Asian Americans in media could also help address this group's physical and mental health associated with body image. On the school and community level, agencies can create programs to increase adolescents' and young adults' media literacy. Agencies can also collaborate with other agencies, such as schools and families, to develop a consistent language about interpreting and processing messages from media, including mass media and social media. On the family level, within Asian American families, caregivers may want to include discussions of Asian representations in media as part of the racial socialization process.

As results of the present study suggest, Asian Americans who maintain relatively more of their Asian cultures of origin is at a higher risk of eating disturbance than their peers who maintain less Asian cultures. Therefore, it is crucial for community and school based mental health services providers to explicitly assess multicultural factors in order to develop a comprehensive conceptualization of Asian American clients' body experiences. Such factors may include:

1) Clients' exposure to Asian and American content through media, including mass media and social media;
2) Clients' understanding of Asian and American body ideals and how they navigate the differences and similarities between those body ideals;
3) Specific Asian values that clients identify with, particularly surrounding collectivism, conformity with social norms, and sources of shame; and
4) Clients' perceived stress regarding being of Asian descent in a society where their natural body type and features are not considered attractive.

Throughout the intervention process, community and school based mental health services providers need to stay aware of the role that culture plays in Asian American clients' body image and eating disturbance, and actively using this information to inform their intervention.

## Limitations and Future Research

While this is one of the first known studies to examine the role of acculturation status and biculturalism on the process of self-objectification and eating disturbance, the present study has several limitations. The major limitation of this study is the cross-

sectional design, which makes it impossible to draw causal conclusions regarding the association between acculturation and eating disturbance among Asian American college students. While the hypothesized model is proposed based on a well-established body image model and is theoretically sound, the relations between the factors can be better understood if there are longitudinal data to explore and examine the developmental trajectories of acculturation and eating disturbance. Thus, this study represents a first step in establishing pathways between the body image and eating disturbances among Asian Americans, but longitudinal studies are needed to determine the causal directions of these relations.

Second, although Asian American ethnic groups share some common values, there are still substantial within-group differences among Asian Americans. The present study captured a broad range of Asian ethnic groups, including Chinese/Taiwanese, Vietnamese, Korean, Filipino, Japanese, Indian, Napoli, etc. However, it still does not represent all of the Asian Americans in the U.S. Similarly, even though the present study attempted to collect information about gender and sexual orientation, all except one participant identified as cisgender male/female and almost all participants (93.47%) identify as heterosexual. Therefore, it was impossible for the present study to explore the body experiences of Asian American college students who are also gender and sexually diverse. Future research could replicate the study with a larger and more diverse sample to have a more in-depth examination of the intersectionality between Asian ethnicities and gender/sexual orientation.

Third, the present study used the overall score of the AAMAS to quantify participants' acculturation level. The AAMAS is a reliable and valid scale to measure acculturation in the areas of language, food consumption, cultural knowledge, and cultural identity (Chung et al., 2004). It was suggested that adopting external factors from the dominate culture, such as language and behaviors, while maintaining a strong ethnic identity is associated with most favorable mental health outcomes (Yoon et al., 2013). Future research may consider looking at the interactions between behaviors and identity associated with the two cultures, as well as the impact of cultural values, when examining the influence of acculturation on eating disturbance.

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