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LOMA LINDA UNIVERSITY
School of Behavior Health
in conjunction with the
Faculty of Graduate Studies

Sociocultural Pressures, Thin Ideal Internalization, Body Appreciation, & Eating Pathology in Women

by

Gabriela Joanna Bolivar

A Dissertation submitted in partial satisfaction of
the requirements for the degree
Doctor of Philosophy in Clinical Psychology

December 2019

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Each person whose signature appears below certifies that this dissertation in his/her opinion is adequate, in scope and quality, as a dissertation for the degree Doctor of Philosophy.

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CONTENT

FIGURES

Figures Page

TABLES

Tables Page

ABBREVIATIONS

AN	Anorexia Nervosa
ANOVA	Analysis of Variance
BAS-2	Body Appreciation Scale-2
BED	Binge Eating Disorder
BN	Bulimia Nervosa
BMI	Body Mass Index
CFI	Comparative Fit Index
CI	Confidence Interval
EDE-Q	Eating Disorder Examination-Questionnaire
EFA	Exploratory Factor Analysis
FIML	Full Information Maximum Likelihood
IRB	Institutional Review Board
ML	Maximum Likelihood
NEDA	National Eating Disorder Association
RMSEA	Root Mean Square Error of Approximation
SATAQ-4R-F	Sociocultural Attitudes Towards Appearance Questionnaire-4R-Female
SD	Standard Deviation
SEM	Structural Equation Model
SRMR	Standardized Root Mean Square Residual

ABSTRACT OF THE DISSERTATION

Sociocultural Pressures, Thin Ideal Internalization, Body Appreciation, & Eating Pathology in Women

by

Gabriela J. Bolivar

Doctor of Philosophy, Graduate Program in Clinical Psychology
Loma Linda University, December 2019
Dr. Patricia M. Flynn, Chairperson

Sociocultural appearance pressures (i.e. family, peers, media) are linked to thin ideal internalization and body dissatisfaction, key risk factors for eating disorders in young adult women (Rodgers, McLean, & Paxton, 2015). However, positive body image, specifically body appreciation, has not been explored in the relationship between sociocultural appearance pressures, thin ideal internalization, and eating pathology. The aims of the present study were to examine the structural relations among sociocultural appearance pressures (family, peer, media), thin ideal internalization, body appreciation, and eating pathology, as well as to examine the mediating role of body appreciation in the relationship between thin ideal internalization and eating pathology in a diverse sample of college-aged women. Participants were 272 ethnically diverse women, with ages ranging from 18 to 25 (M = 19.92, SD = 1.82); 39% Hispanic/Latina). Consistent with hypotheses, results indicated that greater appearance pressures directly predicted greater thin ideal internalization and greater eating pathology, with varying relative influence of family, peer, and media appearance pressures on study variables. Additionally, greater body appreciation directly predicted lower eating pathology. Lastly, it was found that greater thin ideal internalization directly and indirectly predicted greater eating

pathology. Specifically, body appreciation mediated the relationship between thin ideal internalization and eating pathology. Due to ethnic group mean differences in sociocultural appearance pressures, a model for Latina participants only was tested. Only appearance pressures from family and media predicted study variables. To our knowledge, this is the first study to examine the role of body appreciation in this context. Study findings highlight the importance of considering positive body image when exploring the mechanisms by which sociocultural appearance pressures influence thin ideal internalization and eating pathology in diverse populations and Latinas, specifically.

CHAPTER ONE

INTRODUCTION

Twenty million women and 10 million men in the U.S. suffer from an eating disorder during their lifetime (Hoek, 2006). Adolescent and college women are at a higher risk than men of developing an eating disorder, with rates as high as 10% to 15% (Berg, Frazier, & Sherr, 2009). Furthermore, since the 1950s, the rate of eating disorders has been increasing, while the age of onset has been decreasing (Favaro, Caregaro, Tenconi, Bosello, & Santonastaso, 2009; Hudson, Hiripi, Pope, & Kessler, 2007). In a community sample of female adolescents and women (Stice, Marti, & Rohde, 2013), 13% of individuals reported eating pathology, with the peak age of onset for both full threshold and subthreshold eating disorders at age 20. Eating pathology consists of thoughts, attitudes, and behaviors associated with eating disorders including eating concern, shape concern, weight concern, and dietary restriction. It is important to study eating pathology given that it may develop into an eating disorder, specifically anorexia nervosa (AN), bulimia nervosa (BN), or binge eating disorder (BED) (Stice, Marti, Shaw, & Jaconis, 2009).

Sociocultural factors have been identified as influencing the development and maintenance of eating pathology in female adolescents and adults. Specifically, sociocultural pressures to be thin/appearance pressures (e.g., family, peers, media) are linked to body dissatisfaction and eating disorders in young adult women (Keery, van den Berg, Thompson, 2004). Women often report feeling sociocultural pressure to obtain a thin body shape, which is portrayed as the ideal body (thin ideal) for females in media

(Grabe, Ward, & Hyde, 2008). This thin ideal has been portrayed in Western culture as an ultra-slender body (Thompson & Stice, 2001). Exposure to this unrealistic and unattainable thin ideal, and more importantly, "buying into" and pursuing this ideal (thin ideal internalization), has been linked to eating pathology and body dissatisfaction (Halliwell & Dittmar, 2004; Keery, van den Berg, & Thompson, 2004; Thompson & Stice, 2001).

The role of body image on the physical and psychological consequences of eating pathology has also been studied expansively in the literature. Body image has been conceptualized as a multidimensional construct including both negative and positive features. Body image research has primarily focused on negative body image, specifically body dissatisfaction, a key risk factor for eating disorders (Stice, Marti, & Durant, 2011). Although there has been a recent shift in the literature from negative body image to towards positive body image, less is known about its influence on eating pathology. Positive body image includes a broad spectrum of multifaceted constructs that focus on the love, respect, acceptance, and appreciation for one's body (Tylka, 2011). Recent research indicates that body appreciation, a component of positive body image, is protective against the negative effects of sociocultural pressures to be thin (e.g., media exposure; Andrew, Tiggemann, & Clark, 2015). Hence, a better understanding of potential protective factors, such as body appreciation in relation to sociocultural appearance pressures and thin ideal internalization is necessary to advance research on eating pathology among women. The aim of the present study is to examine the relations among sociocultural appearance pressures, thin ideal internalization, body appreciation, and eating pathology in a culturally diverse sample of young adult women.

Negative Consequences of Eating Disorders and Eating Pathology

Eating disorders have negative long-term physical and psychosocial consequences. Anorexia nervosa is the most fatal mental disorder with an increasing hospitalization rate due to heart failure, osteoporosis, severe dehydration, and death (NEDA, 2016). In addition, bulimia nervosa may lead to tooth decay, chronic irregular bowel movements, pancreatitis, gastric rupture, inflammation of the esophagus, and electrolyte imbalances that results in irregular heartbeats, heart failure, and death. Lastly, obesity, high blood pressure, coronary heart disease, type II diabetes, gallbladder disease, and metabolic syndrome are all associated with binge eating disorder (NEDA, 2016). These physical effects of eating disorders often vary by age and their long-term consequences are worse with early onset of eating disorders (Brown & Mehler, 2013). Women with eating disorders are also at an elevated risk for simultaneous chronic fatigue, chronic pain, infectious diseases, and migraines (Johnson, Cohen, Kasen, & Brook, 2002).

Along with negative health consequences, eating disorders are associated with poor psychological and social effects. Such effects include body image concerns, negative affect, psychological disorders, and distress (Abebe, Lien, & von Soest, 2011; Keel & Forney, 2013). Through sociocultural pressures to be thin, adolescent and young adult women are more susceptible to body dissatisfaction, a drive for thinness, and extreme eating behaviors, including dietary restraint, avoidance of eating, and purging behavior, which increase eating pathology (Keery, van den Berg, Thompson, 2004; Stice, 2002). Additionally, adolescent and young adult women with eating disorders are at an elevated risk for anxiety disorders, depressive disorders, insomnia, and suicide attempts

in adulthood (Johnson, Cohen, Kasen, & Brook, 2002; Stice & Shaw, 2003). According to the National Eating Disorder Association (2016), alcohol and substance abuse disorders are four times more common in individuals with eating disorders than in the general population. Notably, compared to middle-aged women, younger women with eating disorders have reported lower quality of life two years later (Fairweather-Schmidt, Lee, & Wade, 2015). Overall, eating disorders have serious consequences on physical, psychological, and social health. It is also important to note that although eating disorders are problematic, eating pathology is more prevalent than threshold eating disorders and is associated with marked impairment (Stice et al., 2009). These symptoms, which frequently present in populations of young adult women, can be assessed more easily than eating disorders and are therefore important to study in light of established sociocultural and psychological antecedents.

Sociocultural Theories Relevant to Body Image and Eating Pathology

Sociocultural theories have been proposed to increase our understanding of the development and maintenance of body image disturbance and eating pathology in adolescent females and young adult women. One of the sociocultural models with strong research support is the tripartite influence model (Thompson, Heinberg, Altabe, & Tanteleff-Dunn, 1999). This model argues that individuals are influenced by three main sources: media, parents (family), and peers (Keery, van den Berg, & Thompson, 2004), which are hypothesized to predict body dissatisfaction and eating disturbances directly and indirectly through mediating factors, specifically thin ideal internalization and appearance comparison. In addition, this model has been found to have a direct link from

parents, peers, and media appearance pressures to restrictive behaviors and eating disturbances (bulimia and restriction), and psychological functioning (self-esteem, depression, perfectionism; Keery, van den Berg, Thompson, 2004). Although this model has been used predominantly with Anglo American adolescent and college-aged women, it has also received research support in cross-cultural, cross-sectional, and longitudinal studies (Rodgers, McLean, & Paxton, 2015). Overall, the tripartite model posits a temporal relationship between sociocultural influences, thin ideal internalization, body dissatisfaction, and eating pathology (Jones, 2004). Although there is evidence for the direction and temporal order of these relationships, a more comprehensive framework to analyze the structure of relations in light of positive body image is needed (Rodgers, McLean, Paxton, 2015). Furthermore, despite extensive research on the tripartite influence model, literature on the mediating role of positive body image between thin ideal internalization and eating pathology is lacking.

Betancourt's Integrative Model (Betancourt & Flynn, 2009; Betancourt & Lopez, 1993) is an additional framework that can be used to better understand the relations among cultural and psychological processes relevant to health behavior, such as eating pathology. The model has been applied to a variety of health behaviors including dietary adherence in culturally diverse populations (Betancourt & Flynn, 2009; Betancourt, Flynn, Riggs, & Garberoglio, 2010; Flynn, Betancourt, & Ormseth, 2011). According to the model, sociodemographic factors (A; e.g. ethnicity, religion, sexual orientation, socioeconomic status) are considered *sources* of culture rather than a definition of culture. Culture (B) is conceptualized as socially shared beliefs, norms, values, and expectations (Betancourt & López, 1993; Figure 1). Cultural factors have the potential to

influence health behavior (D) both directly and/or indirectly through psychological factors (C). Moreover, psychological factors, which occur at the individual level, have the most influence on health behavior because they are the most proximal determinants of behavior. In sum, this model emphasizes that cultural elements exert a direct and/or indirect effect on health behavior while considering potential mediating psychological factors (Betancourt & Flynn, 2009). To examine the cultural and psychological factors relevant to eating pathology, this integrative model will be applied in the examination of the influence of sociocultural appearance pressures, thin ideal internalization, and body appreciation on eating pathology.

Western Culture, Sociocultural Appearance Pressures, and the Thin Ideal

Culture is recognized as the main source of promoting thin body ideals (Thompson & Heinberg, 1999) and explicitly prescribes how women can and should attain the thin ideal. In Westernized cultures, the thin ideal, which denotes a thin or slender figure with low body fat, thin thighs, narrow hips, long legs, and a toned physique, is the dominant appearance ideal for women (Thompson & Stice, 2001). Over the years, this ultra-slender body image has been promoted as the societal standard of female beauty, which is unattainable for most women (Thompson et al., 1999). Cultural beliefs that women who are thin are preferred, valued, beautiful, and loved encourage women to attain this thin ideal (Hesse-Biber, Leavy, Quinn, Zoino, 2006). Cultivation theory (Tiggemann, 2003) posits that the constant frequency and repetition of certain cultural values, such as the thin ideal, within the media, present women with constant images of thinness. The more women are exposed to the thin ideal, the more they will

believe it is the cultural norm and seek to attain it. Furthermore, the discrepancy between a realistic, attainable body shape and the thin ideal leads to body dissatisfaction and behaviors such as dieting, excessive dietary restraint, and shape and weight concerns. Overall, the thin ideal is influenced by culture, specifically Western appearance ideals of thinness for women.

Research has shown that societal appearance pressures (pressures to achieve the societal body ideal) directly and indirectly lead to body dissatisfaction and eating pathology. Family (e.g., parents) and peer groups often amplify these sociocultural appearance messages by urging women toward thinness (Hesse-Biber, Leavy, Quinn, & Zoino, 2006; Stice & Shaw, 1994), or through critical comments about weight. For example, a qualitative study found that Asian American women endorsed body dissatisfaction and a subsequent desire to become thinner due to family criticism of weight and parental expectations of body shape and appearance (Smart & Tsong, 2014). Additionally, Schooler and Lowry (2011) found that "body policing" is a phenomenon experienced in Latino families due to widespread concerns over weight related health problems. There is also evidence of different motivations for family and community members to engage in body policing for beauty related purposes, especially in the context of food and diet (Stokes, Clemens, & Rios, 2016). Conversely, social support from family and peers has been found to be protective against body image disturbance in Hispanic/Latino women (Menon & Harter, 2012). In terms of ethnic differences in sociocultural appearance pressures (family, peers, media), some have been identified between Asian Americans and Anglo Americans, with Asian American women reporting more apparent influence of Western media ideals, although the literature in this area is

scarce (Warren, Gleaves, Rakhkovskaya, 2013). Overall, although research on the influence of sociocultural appearance pressures on body image and eating pathology has been primarily conducted with Anglo American women, there is strong evidence that appearance pressures are generally powerful sociocultural influences in the development and maintenance of eating pathology in young adult women (Grabe & Hyde, 2006; Shaw, Ramirez, Trost, Randall, & Stice, 2004).

Furthermore, although family and peers are influential, the mass media is the primary contributor of these cultural and social appearance ideals for women (Garner, Garfinkel, Schwartz, & Thompson, 1980). Experimental studies have consistently shown the negative effects of exposure to thin ideal images on body image and eating pathology, by producing an over-internalization of the thin ideal, leading to body dissatisfaction (Birkeland, Thompson, & Herbozo, 2005; Halliwell & Dittmar, 2004; Stice and Shaw, 1994). Typically, these media images with unattainably thin bodies are transmitted through magazine or television advertisements (e.g., fashion magazines, movies, print). Moreover, there is strong evidence that media exposure has a long-term effect on body image, affect, and eating pathology in female adolescents and young adult women (Gabe, Ward, & Hyde, 2008; Stice, Schupak-Neuberg, Shaw, & Stein, 1994; Stice, Spangler, & Agras, 2001). Due to the media's strong and looming influence in promoting sociocultural appearance ideals for women, women of all backgrounds are prone to experience appearance pressures, regardless of ethnic group membership (Grabe, Ward, & Hyde, 2008; Thompson et al., 1999). In sum, the mass media is a strong source of mainstream appearance pressure for women (Thompson et al., 1999).

Ethnic Differences in Eating Pathology and Body Dissatisfaction

Sociocultural models of eating pathology posit that ethnic minority groups endorse less eating pathology as compared to Anglo American women (Forbes & Frederick, 2008). There is some evidence that ethnic minority groups in the United States (e.g., Hispanic/Latino American and African American women) have a greater acceptance of different body shapes and a more broad view of beauty ideals than what is presented in the U.S. media (Gil-Kashiwabara, 2002). For example, some studies have shown that Asian American women have reported lower prevalence rates of eating pathology than other ethnic groups in the U.S. (Nicdao, Hong, & Takeuchi, 2007).

However, more recent studies have shown that the prevalence of eating disorders has been rising in those with diverse ethnic, racial, and cultural backgrounds (Smolak & Striegel-Moore, 2001). Specifically, eating disorder prevalence rates for Hispanic/Latinas, Asian Americans, and African Americans has been increasing and becoming more similar to the rates of Anglo Americans (Cummins, Simmons, & Zane, 2005; Nicdao et al., 2007). Furthermore, researchers have tried explaining the rise in prevalence rates of eating pathology in ethnic minority groups by suggesting that these groups may be particularly vulnerable to the risk factors that lead to eating pathology, such as body dissatisfaction (Gordon, Castro, Sitnikov, & Holm-Denoma, 2010). It is hypothesized that over time, ethnic minority status may be less protective from Western appearance pressures leading ethnic minority women to conform to the mainstream thin ideal, increasing body dissatisfaction (Shaw et al., 2004). Research in ethnic minority groups in Western countries has also indicated that ethnic and cultural variables are more significant in influencing eating pathology, leading to different patterns of symptom

presentations not typically characterized by threshold eating disorders, leading to unidentified eating pathology (Wildes, Emery, & Simons, 2001). Overall, there appears to be cultural variation in eating practices, body image ideals, dieting, and weight concerns among ethnic minority populations (Markey, 2004).

Overall, the evidence for ethnic and racial differences in negative body image and eating pathology is inconsistent, with some studies finding little to no support for ethnic differences in body dissatisfaction and eating pathology, supporting the idea that ethnic minority groups have reached parity with Anglo Americans (Grabe & Hyde, 2006; Shaw, Ramirez, Trost, Randall, & Stice, 2004) including Latina and Black women (Gordon, Castro, Sitnikov, & Holm-Denoma, 2010). Due to the importance of early symptom recognition combined with the likelihood that eating disorders may often go unidentified in ethnic minorities, it is evident that studying eating pathology in diverse populations is imperative.

Thin Ideal Internalization

It is not only exposure to the thin ideal that is harmful, but the internalization of this beauty ideal. Thin ideal internalization is the degree to which an individual "buys into" socially prescribed ideals of beauty and attractiveness, expresses a desire to attain the appearance ideal, and engages in behaviors aimed to achieve this ideal (Thompson et al., 1999; Thompson & Stice, 2001). Studies have found thin ideal internalization is a causal risk factor for body dissatisfaction and eating pathology (Stice, 2002). Several longitudinal studies have demonstrated that internalization of the thin ideal predicts an

increase in body dissatisfaction among young adult women (Jones, 2004; Stice & Whitenton, 2002).

Using the tripartite influence model of body image and eating disturbance, thin ideal internalization has been found to mediate the relationship between cultural pressures and body dissatisfaction, which leads to eating pathology in young adult women (Thompson et al., 1999). Additionally, a meta-analysis by Grabe and Hyde (2006) showed that Anglo and non-Anglo women in the United States had comparable levels of body dissatisfaction, suggesting that the thin ideal may not just affect Anglo women. Moreover, a longitudinal study on the sociocultural model of body dissatisfaction suggests that internalization of the thin ideal precedes and predicts body dissatisfaction in adolescent girls (Rodgers, McLean, & Paxton, 2015). An experimental study by Stice, Mazotti, Weibel, and Agras (2000) found that an intervention that reduced thin ideal internalization brought about a reduction in dieting, body dissatisfaction, negative affect, and bulimic symptoms. Furthermore, thin ideal internalization has been shown to predict the onset of binge eating and the onset and maintenance bulimic symptoms (Stice & Agras, 1998; Stice, Presnell, & Spangler, 2002). Overall, both cultural and psychological factors play a role in women's internalization of the thin ideal, body image, and eating pathology. In sum, the importance of a cultural lens is critical in understanding the impact of sociocultural appearance pressures on women in the development of eating pathology.

Positive Body Image and Body Appreciation

A majority of the body image literature has examined body image in terms of its negative aspects, such as body dissatisfaction. However, in the last ten years, qualitative and quantitative research focused on positive body image has increased. Positive body image is holistic, multi-faceted, stable, and linked to self-perceived body acceptance (Tylka & Wood-Barcalow, 2015). Positive body image refers to behavior or attitudes that reflect a healthy acceptance of and appreciation for one's own body (Webb, Wood-Barcalow, Tylka, 2015). Although there is limited research on positive body image, studies on adolescent girls and young adult women have shown that positive body image and negative body image are separate and distinct constructs, which have a negative association (Menzel & Levine, 2011; Tylka, 2011).

Within the context of positive body image, body appreciation is defined as an acceptance of one's body, regardless of size or bodily imperfections, a respect and self-care of one's body by attending to its needs through engaging in health promoting behaviors, and a protecting one's body by resisting the internalization of unrealistically narrow standards of beauty prominent in the media (Avalos, Tylka, & Wood-Barcalow, 2005). It incorporates an unconditional approval and respect for the body while appreciating the features, functionality, and health of the body (Frisén & Holmqvist, 2010). Body appreciation has been linked to better physical and psychological health, including body esteem, positive appearance evaluation, positive affect, self-compassion, life satisfaction, intuitive eating, decreased dieting, and less alcohol and cigarette consumption (Andrew, Tiggemann, & Clark, 2016; Augustus-Horvath & Tylka, 2011; Avalos & Tylka, 2006; Tylka & Kroon Van Diest, 2013; Wasylkiw, MacKinnon, &

MacLellan, 2012), while being negatively correlated with body dissatisfaction, body surveillance, body checking, body shame, social physique anxiety, and body image avoidance (Avalos et al., 2005; Lobera & Rios, 2011; Tylka & Wood-Barcalow, 2015).

Positive body image has also been identified as protective against body dissatisfaction and eating pathology in college women (Sandoz et al., 2013). A study by Wood-Barcalow and colleagues (2010) proposed a "protective filtering" component of positive body image that involves schema activation that rejects negative body-related information and acknowledges body-positive information. This "protective filtering" component of positive body image is a self-protective cognitive style that may help individuals tune out certain weight or appearance-related comments, such as criticism from significant others (Wood-Barcalow, Tylka, & Augustus-Horvath, 2010).

Recent research indicates that body appreciation is a particularly protective against the harmful effects of media exposure and thin ideal internalization (Halliwell, 2013). Specifically, women who reported high levels of body appreciation did not report negative effects of media exposure after viewing magazine advertisements of ultra-thin models when compared to the control group. Women who reported high thin ideal internalization and low body appreciation reported more appearance discrepancies between themselves and the thin models compared to the control group. However, women who reported high thin ideal internalization and high body appreciation reported less appearance discrepancies and viewed these appearance differences as less important compared to the control group. These findings suggest that body appreciation may protect women from negative media exposure effects, such as internalization of the thin ideal.

Moreover, women who internalize the thin ideal but also appreciate their bodies may minimize the importance of appearance discrepancies after viewing ultra-thin models.

Additional research has demonstrated the manner in which positive body image can be protective against the negative effect of media exposure on body dissatisfaction. Andrew, Tiggemann, and Clark (2015) examined the protective role of positive body image against body dissatisfaction following exposure to media promoting the thin ideal, and specifically magazine advertisements. Results indicated that body appreciation predicted the degree of change in body dissatisfaction such that women with higher levels of body appreciation reported less change in body dissatisfaction following exposure to magazine advertisements and women with lower levels of body appreciation experienced an increase in body dissatisfaction. The authors argued that interventions aimed at increasing body appreciation may help reduce the harmful impact of internalization of the thin ideal on body dissatisfaction.

Overall, the different dimensions of positive body image have been found to be protective against body dissatisfaction and eating pathology (Alleva, Veldhuis, & Martijn, 2016; Braun, Park, & Gorin, 2016). Moreover, these facets of positive body image may serve as pathways of protection against the harmful effects of negative body image and eating pathology, and in turn may play a vital role in the treatment of eating disorders through a healthy acceptance of one's body, embodied self-awareness, and self-care (Cook-Cottone, 2015). Given the limited research with this cognitive protective processing style, more research is needed regarding the relations among positive body image and eating pathology.

In summary, although there is substantial literature on the role of thin ideal internalization and body dissatisfaction on eating pathology, there is limited research on the role of body appreciation in this context. Likewise, the majority of the body image literature has been largely examined with Anglo American samples. Given the increasing cultural diversity of society, an ethnically and racially diverse sample is warranted to better understand the relationships among sociocultural appearance pressures, thin ideal internalization, body appreciation, and eating pathology. Moreover, understanding the role of body appreciation and its relation to the risk factors for eating pathology could also help clarify dimensions of positive body image as a potential protective mechanism.

Aims

Guided by the tripartite influence model and Betancourt's Integrative Model of Culture, the aims of this study were to examine the structure of relations among sociocultural appearance pressures (family, peers, media), thin ideal internalization, body appreciation, and eating pathology, as well as to examine whether body appreciation mediates the relationship between thin ideal internalization and eating pathology in a diverse sample of young adult women.

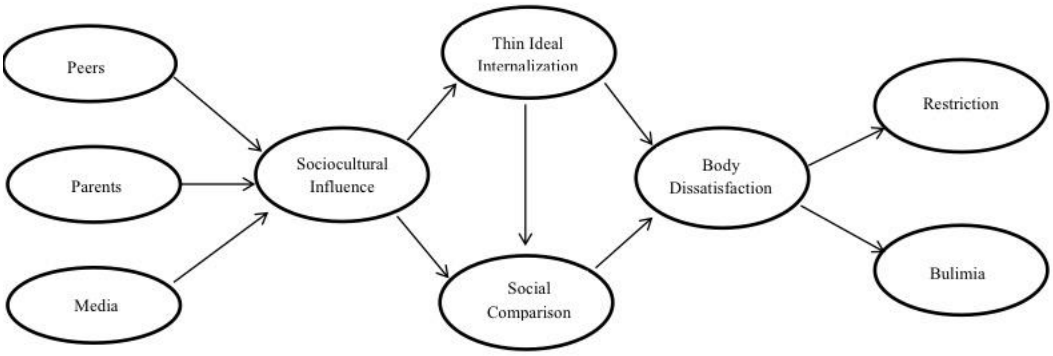

***Figure* 1**. Tripartite influence model (Thompson, Heinberg, Altabe, & Tantleff-Dun, 1999
Keery, van den Berg, & Thompson, 2004).

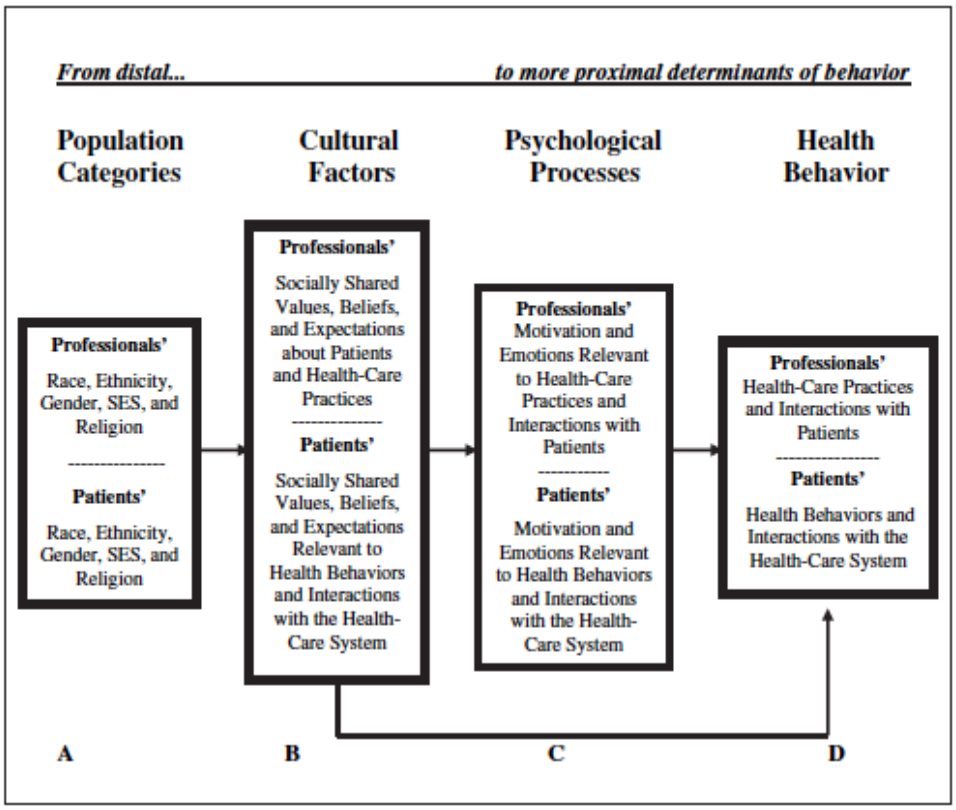

Figure 2. Betancourt's Integrative Model of Culture, Psychological Factors and Behavior adapted for the study of health behavior (Betancourt & Flynn, 2009).

Hypotheses

This study tested one general and two specific hypotheses. First, it was hypothesized that greater sociocultural appearance pressures (family, peers, media) will predict greater levels of thin ideal internalization, lower levels of body appreciation, and greater levels of eating pathology. Secondly, it was hypothesized that greater body appreciation will predict lower eating pathology. Thirdly, it was hypothesized that thin ideal internalization will directly and/or indirectly predict eating pathology through body appreciation. Specifically, it was expected that greater levels of thin ideal internalization will predict lower levels of body appreciation, which will in turn predict more eating pathology.

CHAPTER 2

METHODS

This study was part of an ongoing larger research study investigating sociocultural factors that may influence body image, eating pathology, and smoking behaviors.

Participants

Participants included undergraduate students who were recruited from subject pools at various Southern California and western U.S. colleges and universities (Cal State San Marcos, La Sierra University, and Pacific Union College). Additionally, some participants were recruited through a snowball sampling method via flyers distributed in the community and posted online through Facebook and Reddit. A total of 272 young adult women from diverse ethnic and racial backgrounds (38.6% self-identified as Latina (*n* = 105), 23.5% Asian (*n* = 66), 17.3% Non-Latino White (Anglo, *n* = 47), 12.5% Multiracial (*n* = 34), 5.1% African American (*n* =14), and 2.2% Other Non-Hispanic (*n* = 6); see Table 1) participated in this study. Participants' ages ranged from 18 to 25, with a mean age of 19.92 (*SD* = 1.82). Participants' average body mass index (BMI) was 24.50 (*SD* = 5.25). Eighty-five percent were born in the US.

Table 1. Demographic characteristics of participants.

n = 272	Mean (*SD*)	*n* (%)
Ethnicity/Race		
Hispanic/Latina		105 (38.6)
Asian American		66 (23.5)
Anglo American		47 (17.3)
African American		14 (5.1)
Multiracial		34 (12.5)
Other Non-Hispanic		6 (2.2)
Born in the US		230 (84.5)
Age	19.92 (*1.82*)	
Body Mass Index	24.50 (*5.25*)	

Procedure

The study was approved by the universities' ethics committees for research. Participants were recruited via subject pools from various universities (mentioned above) and several online communities, including Reddit, Craigslist, and Facebook. Participants were asked to complete a series of online questionnaires, accessed through a link via Qualtrics Software. At the start of the online survey, participants were presented with an electronic informed consent form. Participants were also given contact information for the primary investigator, allowing them to ask questions or address concerns regarding the study. Once participants provided consent and agreed to participate in the study, participants then proceeded to the online survey. Participants were asked to complete demographic questions and a series of instruments, including the SATAQ-4R-F, BAS-2, and EDE-Q (see Appendix A-C). After completion, the participants were either compensated with credit for a psychology course or entered into a raffle to win one of four $25 Amazon.com gift cards.

Measures

Demographics

Participants were asked to report demographic information including age, height, weight, sex, race/ethnicity, foreign-born status, and education. Body mass index (BMI; kg/m^2) was calculated through self-report measures of height and weight.

Sociocultural Appearance Pressures

The Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ) is an empirically supported measure of sociocultural appearance-related pressures on body image and eating disturbance (Heinberg, Thompson, & Stormer, 1995). The SATAQ-4R is the newest version of the scale and provides a targeted assessment of appearance-related pressures as well as thin ideal internalization in women and men, with the SATAQ-4-Female being most appropriate for women (Schaefer, Harriger, Heinberg, Soderberg, & Thompson, 2016). Items from each Pressures subscale: Family (4 items), Peers (4 items), and Media (4 items) from the SATAQ-4R-Female (F) were used to assess sociocultural appearance pressures from the family, peers, and media. Items are rated on a five-point Likert scale with scores ranging from (1) "*Definitely disagree*" to (5) "*Definitely agree*." Items include; "I feel pressure from family members to look thinner," "My peers encourage me to get thinner," and "I feel pressure from the media to look thinner." The SATAQ-4R-F had excellent internal consistency for the Pressures Family ($\alpha = .90$); Pressures Peers ($\alpha = .90$); and Pressures Media subscales ($\alpha = .96$). For the

purpose of SEM, each of the sociocultural appearance subscales was modeled as a manifest variable based on the mean of the four items.

Thin ideal Internalization

The SATAQ-4R-F Internalization: Thin/Low Body Fat subscale was used to measure thin ideal internalization (Schaefer et al., 2016). This subscale has four items that are rated on a five-point Likert scale with scores ranging from (1) "*Definitely disagree*" to (5) "*Definitely agree*." A sample item includes, "I would like my body to look very thin." For SEM, thin ideal internalization was modeled as a latent factor with four indicators representing each item from this scale. Confirmatory factor analyses revealed that one item loaded lower on the factor than the other items. This item was related to body leanness ("I want my body to look very lean"), whereas the other items were related to thin/low body fat. To improve model fit, this item was eliminated. The three remaining items demonstrated good internal consistency ($\alpha = .82$).

Body Appreciation

The Body Appreciation Scale-2 (BAS-2; Tylka & Wood-Barcalow, 2015) is a newly revised version of the widely used Body Appreciation Scale developed to measure several aspects of positive body image, namely body appreciation (Avalos, Tylka & Wood-Barcalow, 2005). The BAS-2 consists of ten items that use a five-point Likert scale ranging from (1) "*Never*" to (5) "*Always*." Higher scores indicate higher levels of body appreciation. Items include, "I respect my body" and "I am attentive to my body's needs." The BAS-2 demonstrated excellent internal consistency in the current study ($\alpha =$

.95). To address issues related to the use of non-normal data for statistical analyses, body appreciation was modeled as a latent factor with five indicators comprising two item parcels. An exploratory factor analysis (EFA) using principal axis factor extraction with oblique (promax) rotation was first used to evaluate the item-scale correlations of each item. Parcels were then constructed based on thematic similarities between items (i.e., item 2 "I feel good about my body" was combined with item 4 "I take a positive attitude towards my body"), while attempting to preserve the distribution of item-scale correlations observed during the EFA. Parcels were constructed by averaging the two items that were selected to comprise each parcel. Parcel one consisted of the items "I feel good about my body" and "I take a positive attitude towards my body"; the internal reliability of this parcel was .91. Parcel two consisted of the items "I feel that my body has at least some good qualities" and "I am comfortable in my body"; the internal reliability was .76. Parcel three consisted of the items "I respect my body" and "I am attentive to my body's needs"; the internal reliability was .70. Parcel four consisted of the items "I appreciate the different and unique characteristics of my body" and "My behavior reveals my positive attitude toward my body; for example, I hold my head high and smile"; the internal reliability was .85. Lastly, parcel five consisted of the items "I feel love for my body" and "I appreciate the different and unique characteristics of my body"; the internal reliability of this parcel was .88.

Eating Pathology

The Eating Disorder Examination-Questionnaire (EDE-Q 6.0; Appendix B) is a 32-item scale used to measure eating pathology (Fairburn & Beglin, 1994). Twenty-two

items measure the severity of thoughts and behaviors associated with eating disorders that occurred in the last 28 days. The EDE-Q contains four subscales that measure dietary restraint, eating concern, weight concern, and shape concern. Items are rated on a seven-point Likert scale with scores ranging from (1) "*No days*" to (7) "*Every day*." Higher scores indicate higher levels of eating pathology. Sample items include questions such as "On how many of the past 28 days…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)?" The EDE-Q was shown to have excellent internal consistency ($\alpha = .80$). The global score is derived from the average of the 22 items, which has been consistently used as a broad indicator of eating disturbances (Luce, Crowther & Pole, 2008), and was modeled as a manifest variable for SEM.

CHAPTER 3

RESULTS

Preliminary Analyses

Preliminary analyses were conducted using IBM SPSS version 25 and included identifying outliers, violations of pertinent assumptions, kurtosis, missing data, and non-normally distributed data. Sixteen participants were removed from the original sample due to missing data that exceeded 25%, which resulted in a total sample of 262 participants. Age and BMI were tested as potential covariates. Age was not correlated with any of the study variables. BMI was positively correlated with sociocultural appearance pressures from family (r = .37; p < .01), peers (r = .29; p < .01), media (r = .18; p < .01), thin ideal internalization (r = .17; p < .01) and eating pathology (r = .33 p < .01). BMI was negatively correlated with body appreciation (r = -.25; p < .01). BMI was considered as a covariate in the subsequent model.

The means, standard deviations, and correlations among the study variables are reported in Table 2. Due to the ethnic diversity of the study participants, data are presented for the total sample, as well as for Latina, Asian, and Anglo American participants separately. Due to the small number of participants self-identified as multiracial and African American, analyses with these subsamples are not reported. A review of the bivariate correlations reveals similar directionality among the associations across ethnicity. In some cases, the magnitude of the associations varied across ethnic groups. For example, the correlation between appearance pressures from peers and body appreciation was -.48 for Anglos (p < .05) and -.24 for Latinas (p < .05), while the

correlation between appearance pressures from peers and eating pathology was .62 ($p <$ .05) for Anglos and .38 for Latinas ($p < .05$).

ANOVAs revealed significant mean differences in appearance pressures from family (F[2, 215] = 4.97, $p = .01$) and peers (F(2, 215) = 3.84, $p = .02$) based on ethnicity and race. Post-hoc analyses indicated that appearance pressures from family were significantly higher for Latinas ($M = 2.82$, $SD = 1.27$, $p = .02$) and Asians ($M = 2.94$, $SD = 1.28$, $p = .01$) compared to Anglos ($M = 2.20$, $SD = 1.03$, $p = .01$). In addition, appearance pressures from peers was significantly higher for Asians ($M = 2.46$, $SD = 1.14$, $p = .04$) compared to Anglos ($M = 1.93$, $SD = 1.03$, $p = .04$), and significantly lower for Latinas ($M = 2.06$, $SD = 1.02$, $p = .05$) compared to Asians ($M = 2.46$, $SD = 1.14$, $p = .05$). Of note, compared to the total score for eating pathology in the community normative sample ($M = 1.55$; $SD = 1.21$; Fairburn & Beglin, 1994), the mean total score for the full sample was significantly higher ($M = 3.18$; $SD = 1.42$, $p < .01$)

Table 2. Means, standard deviations, and intercorrelations among the study variables for the total sample, Latinas, Asians, and Anglo American samples respectively.

	1.	2.	3.	4.	5.	6.
1. Pressures: Family	—					
2. Pressures: Peers		—				
Total	.52**					
Latinas	.43**					
Asians	.58**					
Anglos	.57**					
3. Pressures: Media			—			
Total	.41**	.48**				
Latinas	.42**	.50**				
Asians	.53**	.52**				
Anglos	.40*	.44**				
4. Thin Ideal Internalization	.39**	.40**	.51**	—		
Total	.40**	.31**	.45**			
Latinas	.38**	.51**	.62**			
Asians	.36*	.39*	.57**			
Anglos						
5. Body Appreciation					—	
Total	-.39**	-.33**	-.39**	-.40**		
Latinas	-.39**	-.24**	-.37**	-.35**		
Asians	-.41**	-.29*	-.35*	-.45**		
Anglos	-.43**	-.48**	-.45**	-.52**		
6. Eating Pathology						—
Total	.52**	.48**	.57**	.62**	-.55**	
Latinas	.50**	.38**	.53**	.64**	-.59**	
Asians	.54**	.48**	.59**	.53**	-.39**	
Anglos	.55**	.62**	.64**	.60**	-.64**	
Means (*SD)*						
Total	2.68(1.26)[a]	2.14(1.06)[a]	3.64(1.32)[a]	3.29(.95)[a]	3.40(1.42)[a]	3.18(1.42)[a]
Latinas	2.76(1.26)[b]	2.04(1.00)[b]	3.60(1.29)[b]	3.26(1.00)[b]	3.36 (.95)[b]	3.13(1.37)[b]
Asians	2.94(1.28)[c]	2.46(1.14)[c]	3.75(1.24)[c]	3.32(.87)[c]	3.34(.93)[c]	3.26(1.42)[c]
Anglos	2.20(1.03)[d]	1.93(1.03)[d]	3.69(1.44)[d]	3.27(.90)[d]	3.61(1.00)[d]	2.91(1.45)[d]

** $p < .01$ * $p < .05$. Total sample[a] Latinas[b] Asians[c] Anglos[d]

Testing Hypotheses

Structural equation modeling (SEM) with Full Information Maximum Likelihood (FIML) estimation was used to test the study hypotheses using Bentler's EQS. 6.3 (Bentler, 1985-2017). A two-step modeling was used to achieve good fit, as indicated by testing the measurement model first and respecifying as necessary; then testing the full structural model and respecifying as necessary to achieve good fit. Data were assessed for violations of the assumptions of ML prior to conducting the analyses, which revealed that the data were non-normally distributed. Robust estimation techniques available in EQS 6.3 were therefore used to mitigate the problems associated with testing non-normal data via ML estimation and provide corrected standard errors and indices of model fit. In addition, one outlier that contributed the most to multivariate non-normality was removed from the dataset. Full Information Maximum Likelihood Estimation (FIML) was used to handle missing data (n = 22) because it uses all available information, even from cases that have missing data on some variables, whereas traditional Maximum Likelihood estimation deletes all cases that have any missing data. Although the assumption of normality was violated, prior studies have shown that FIML is quite robust to non-normality (Enders, 2001). Binomial logistic regressions were used to test whether the independent variables in this study predicted the likelihood of instances of missing data for each dependent variable. Based on Little's MCAR test, results suggested that the data were MAR (χ^2 (60) = 66.226, $p > .05$).

Adequacy of model fit was determined by using both robust and non-robust fit indices, and included: a non-significant Yuan-Bentler scaled χ^2, a χ^2/df ratio less than 2.0 (Tabachnick & Fidell, 2001), a non-robust Comparative Fit Index (CFI) of .95 or greater

(Kline, 2015), and a robust Root Mean Square Error of Approximation (RMSEA) of less than .08, with the upper limit of the 90% confidence interval less than .10 (Kline, 2015). The SEM utilized the construct of thin ideal internalization as a latent factor (see Figure 3); item 3, item 6, and item 13 from the SATAQ-4R-F were included as indicators of this factor. The SEM utilized the construct of body appreciation as a latent factor, with five two-item parcels constructed, based on thematic similarity in order to stay consistent with the theoretical underpinnings of the scale (e.g., item 2 "I feel good about my body" was combined with item 4 "I take a positive attitude towards my body"). Appearance pressures from family, peers, and media, and eating pathology were modeled as manifest variables. The Wald and LaGrange test statistics were also reviewed, according to theoretical and conceptual reasoning, to determine which paths would improve model fit if eliminated or added. Such changes were implemented in a step-wise manner.

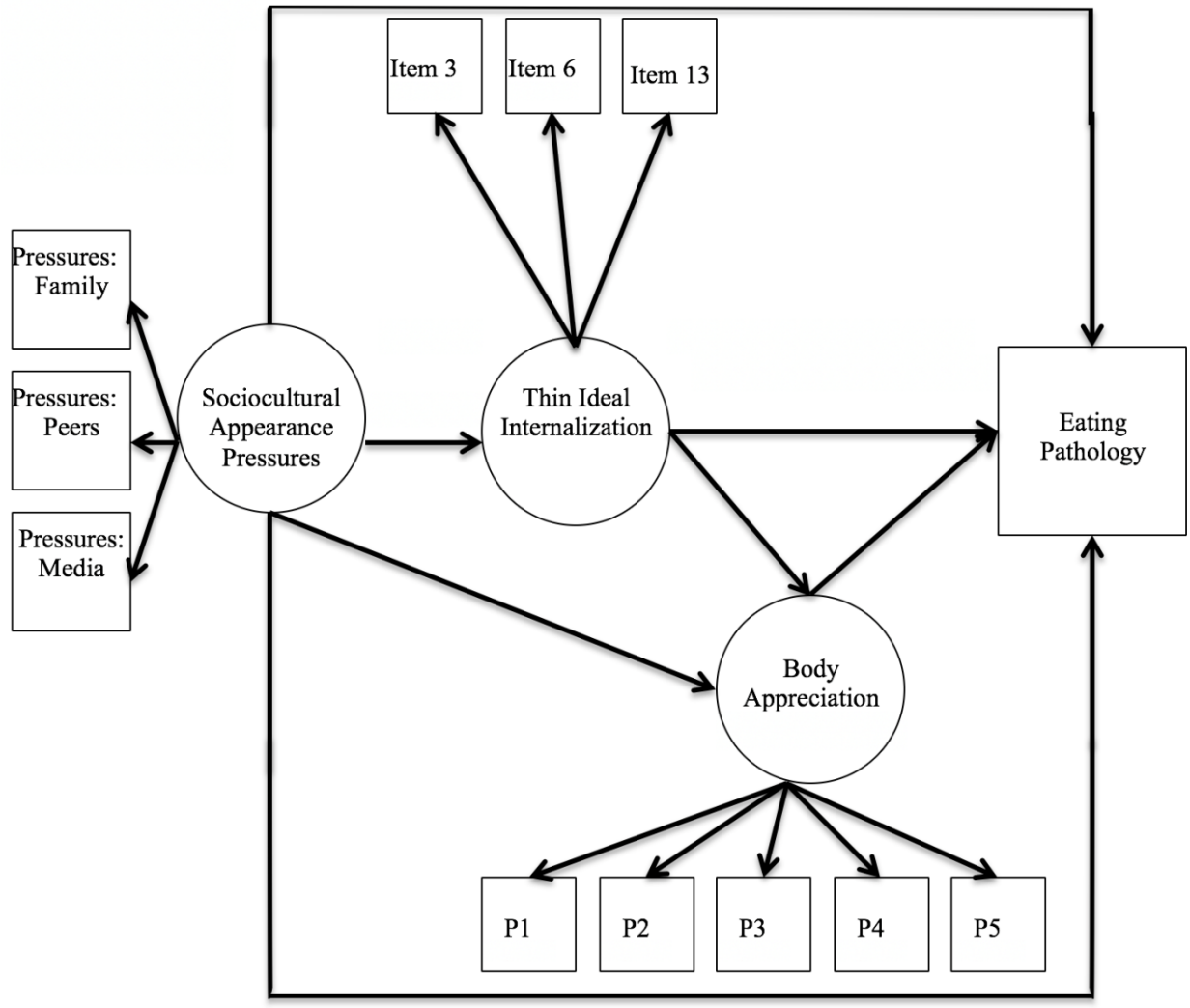

Figure 3. Proposed structural equation model for total sample.

To test the study hypothesis concerning mediation, bootstrapping methods in SEM were used to test the significance of the indirect effect (Hayes, 2009). Testing mediation in SEM has several advantages over regression because it accounts for measurement error, provides more accurate parameter estimates than regression when working with latent variables, provides better measures of model fit, and can better handle missing data (i.e., FIML imputation). Bootstrapping involves drawing a sample of *n* cases with replacement from the original sample, estimating the indirect effect, and

then repeating this process *k* times. Confidence intervals (CIs) are then calculated based on the estimates from the bootstrapping procedure and used to evaluate the significance of the indirect effect. For the present study, estimates of effects, standard errors, and bias-corrected (BC) bootstrap 95% CIs were calculated based on 5000 randomly drawn bootstrap samples. The total indirect effect and indirect effect for the mediator (denoted *ab*) were evaluated for significance according to their bootstrap CIs. Significance was determined by *ab* confidence intervals not crossing 0 (Hayes, 2009).

The model was found to be identified by the standards of the two-step rule for identification (Kline, 2015). The structural model including the hypothesized theory-based relations among sociocultural appearance pressures, thin ideal internalization, body appreciation, and eating pathology is represented in Figure 4. BMI was originally included as a covariate in the tested model; however, a review of the Wald test statistic suggested eliminating paths from BMI to thin ideal internalization, body appreciation, and eating pathology. After eliminating these direct paths from the model in a sequential manner, the fit indices remained poor, suggesting that the model would be more parsimonious without BMI.

After eliminating BMI as a covariate, the hypothesized model fit the data well [robust model fit: Yuan-Bentler scaled χ^2 (43) = 54.64, p = .11; χ^2/df = 1.27; RMSEA = .03, 90% CI (.00, .06); non-robust CFI = .99]. The Wald test statistic suggested that eliminating the direct path from appearance pressures from peers to body appreciation would provide an equally excellent fit and result in a more parsimonious model [robust model fit: Yuan-Bentler scaled χ^2 (44) = 55.17, p = .12; χ^2/df = 1.25; RMSEA = .03, 90% CI (.00, .06); non-robust CFI = .99]. The study variables accounted for approximately

59% of the variance in eating pathology for women (R^2 = .59).

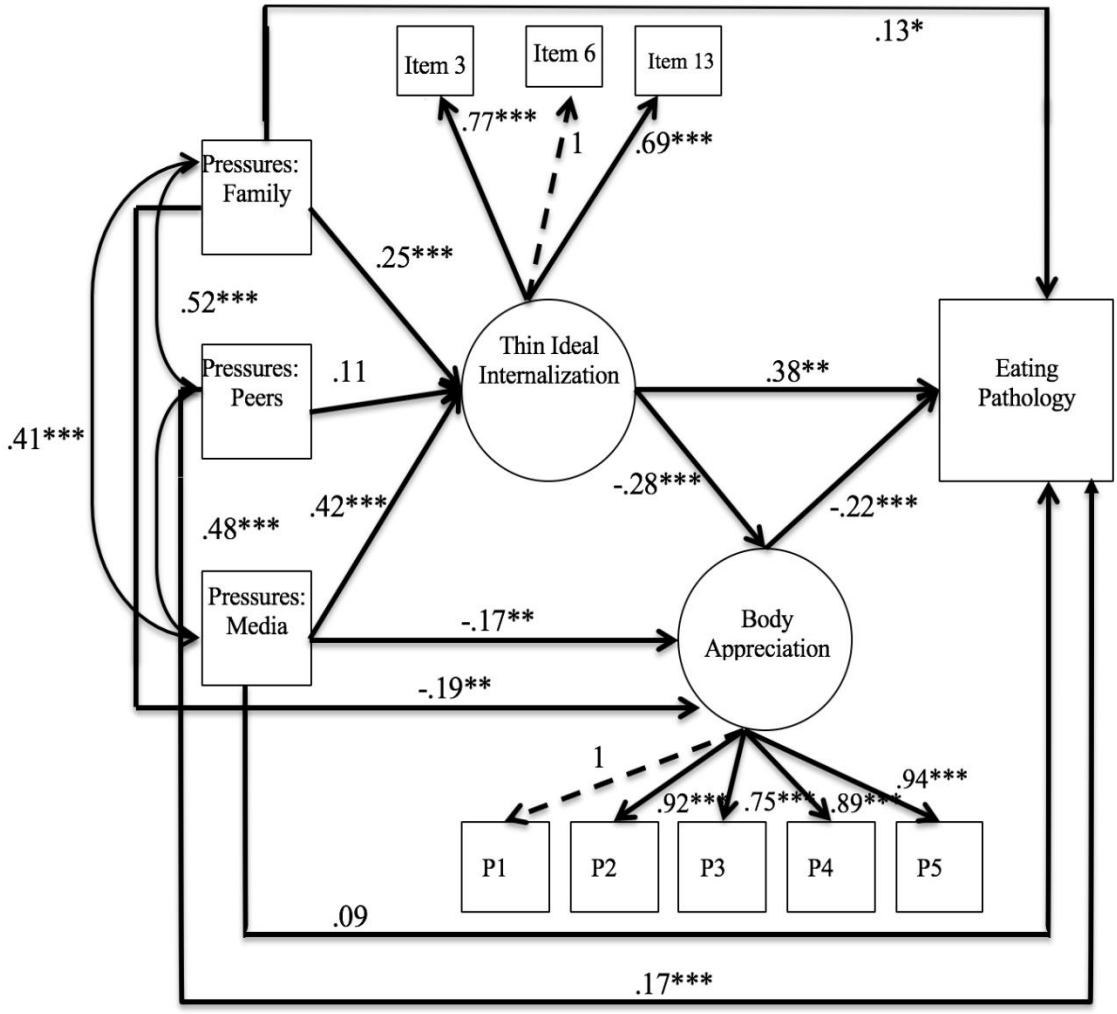

Figure 4. Final model with estimated standard path coefficients and factor loadings for total sample.
Robust model fit: Yuan-Bentler scaled χ^2 (44) = 55.17, p = .12; χ^2/df = 1.25; RMSEA = .03, 90% CI (.00, .06); non-robust CFI = .99. *p < .05, **p < .01, ***p < .001. Dashed lines represent paths fixed to 1.0.

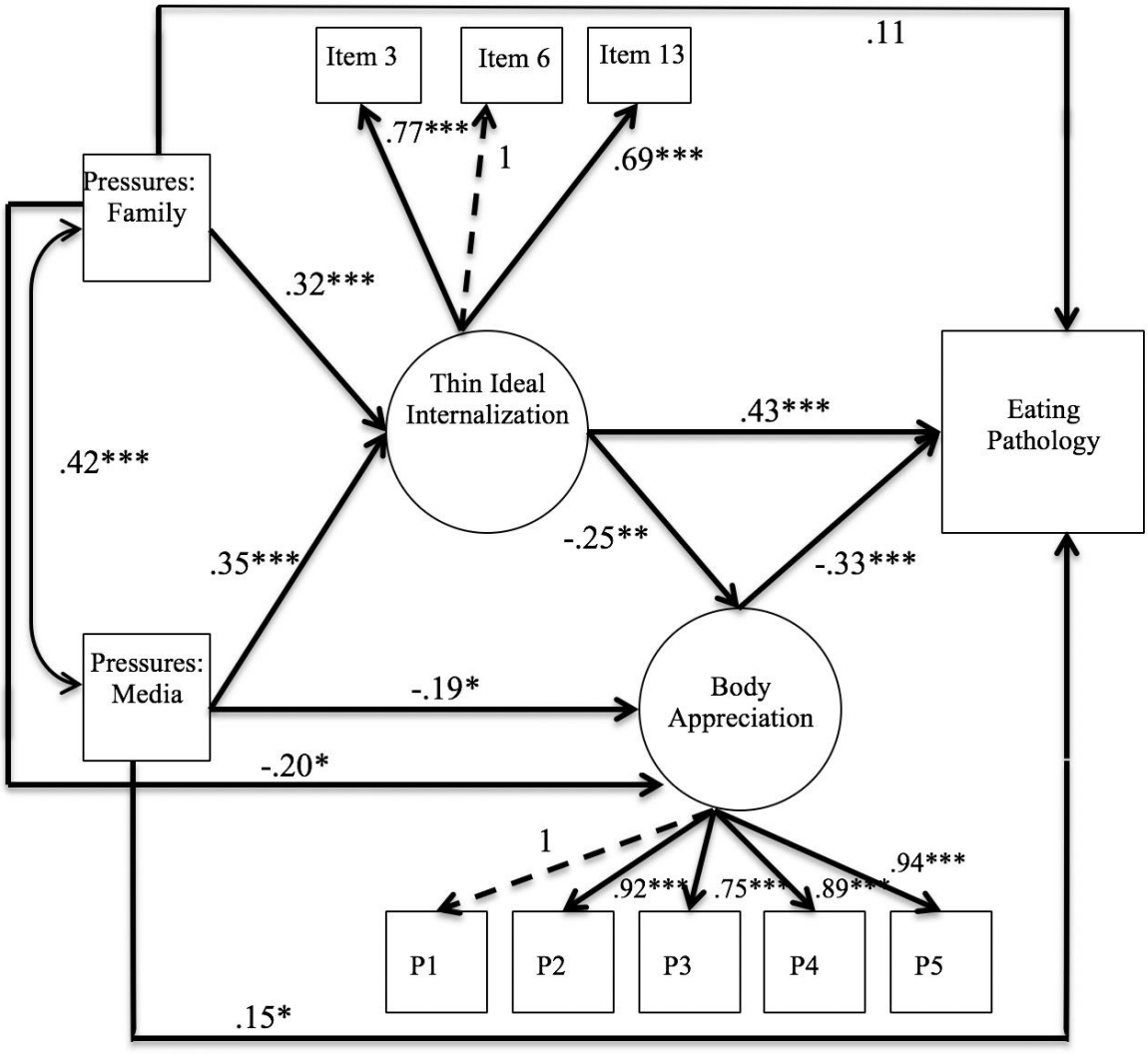

Figure 5. Final model with estimated standard path coefficients and factor loadings for Latina sample.
Robust model fit: Yuan-Bentler scaled χ^2 (44) = 55.17, p = .12; χ^2/df = 1.25; RMSEA = .03, 90% CI (.00, .06); non-robust CFI = .99. *p < .05, **p < .01, ***p < .001. Dashed lines represent paths fixed to 1.0.

Hypothesis 1

Consistent with the first study hypothesis, appearance pressures from family, peers, and media predicted greater thin ideal internalization, lower body appreciation, and greater levels of eating pathology. However, the magnitude of the effect for each of these

sociocultural appearance pressures (i.e. family, peers, media) on thin ideal internalization, body appreciation, and eating pathology varied. Appearance pressures from family (β = .25, p = .00) and media (β = .42, p = .00) were more influential than appearance pressures from peers (β = .11, p = .09) in predicting thin ideal internalization. In the case of body appreciation, only appearance pressures from family (β = -.19, p = .01) and media (β = -.17, p = .01) predicted body appreciation. Appearance pressures from peers (β = .09, p = .15) was not a strong predictor of eating pathology, but family (β = .13, p = .02) and media (β = .17, p = .00) pressures were predictive. Although some of the noted paths were not statistically significant at $p < .05$, there was a significant decrement in model fit when these variables were omitted from the structural model.

Hypothesis 2

In support of hypothesis 2, greater body appreciation directly predicted lower eating pathology (β = -.22, p = .00).

Hypothesis 3

Results indicated that hypothesis 3 was also supported. Thin ideal internalization directly predicted lower body appreciation (β = -.28, p = .00) and greater eating pathology (β = .38, $p < .01$). Additionally, body appreciation was found to significantly mediate the relationship between thin ideal internalization and eating pathology, such that for every one standard deviation increase in thin ideal internalization, there was a .06 standard deviation increase in eating pathology via the indirect effect of body appreciation (*ab'* = .06; BC 95% CIs [.03 , .14], $p < .05$).

Post Hoc Analyses: The Case of Latinas

As previously noted, preliminary data analyses reveled significant ethnic group mean differences in the sociocultural appearance pressures subscales. In addition, there were also some differences in the strength of the correlations among some of the study variables based on ethnicity. These findings suggest a need to further explore the structural relations among the study variable based on ethnicity. Only the sample for Latinas was large enough to be sufficient to test a structural equation model. Individuals that self-identified as multiracial Latinas (n = 26) were included with the larger sample of self-identified Latinas (n = 105) resulting in a 131 multiracial Latinas and Latinas). BMI was originally included as a covariate in the tested model. A review of the Wald test statistics for the Latina structural equation model suggested eliminating paths from BMI to the study variables. Hence, this covariate was eliminated from the model all together.

After eliminating the noted covariate, the hypothesized model fit for Latinas was satisfactory [robust model fit: Yuan-Bentler F (43, 88) = 1.02, p = .47; RMSEA = .06, 90% CI (.01, .09); non-robust CFI = .98]. A review of the Wald test statistics suggested removing the direct paths from appearance pressures from peers to thin ideal internalization, body appreciation, and eating pathology. Hence, appearance pressures from peers was dropped from the model altogether, resulting in an improvement in model fit [robust model fit: Yuan-Bentler F (46, 85) = 0.95, p = .56; RMSEA = .05, 90% CI (.00, .08); non-robust CFI = .98] (see Figure 5). The study variables accounted for 63% of the variance in eating pathology for Latino women (R^2 = .63).

Appearance pressures from family (β = .32, p = .00) and media (β = .35, p = .00) directly predicted greater thin ideal internalization and lower body appreciation (family: β

= -.20, p = .05; media: β = -.19, p = .03). In addition, appearance pressures from the media predicted greater eating pathology (β = .15, p = .04). Similar to the model for total participants, thin ideal internalization predicted lower body appreciation (β = -.25, p = .01), and greater eating pathology (β = .43, p = .00). Body appreciation directly predicted lower eating pathology (β = -.33, p = .00). As previously mentioned, the direct effect of appearance pressures from peers to study variables was not significant for Latina participants and was eliminated from the model all together. Mediation was not tested due to small sample size.

CHAPTER 4

DISCUSSION

Full Model

Overall, this study suggests that sociocultural appearance pressures have a direct effect on thin ideal internalization and eating pathology among the ethnically and racially diverse sample of young adult women, in line with previous body image literature. Although there is strong evidence in the literature for the direct effects of sociocultural appearance pressures on thin ideal internalization and eating pathology (Stice, 2001; Stice, 2002), less is known regarding the impact of sociocultural appearance pressures on body appreciation. Findings from this study revealed that the relative influence of family, media, and peer appearance pressures on body appreciation varied. Appearance pressures from family and media were stronger predictors of body appreciation than appearance pressures from peers. Moreover, for the model including only Latinas, appearance pressures from peers was not predictive of body appreciation. Consistent with these findings, Latinas also reported lower levels of appearance pressures from peers as compared to Asian participants. Collectively these findings suggest that the relative influence of sociocultural appearance pressures (family, peers, media) and body appreciation may differ based on ethnicity and race.

For the SATAQ, confirmatory factor analyses revealed that one item on the Thin/Low Body Fat Subscale loaded lower than the others. To improve model fit, an item related to body leanness (“I want my body to look very lean”) was eliminated. The three remaining items demonstrated good internal consistency ($\alpha = .82$). A possible explanation

to this improvement in internal consistency may be attributed to the face that the deleted item was related to body leanness ("I want my body to look very lean") whereas the other items were related to thin/low body fat, possibly better characterizing participants' thin ideal internalization.

Furthermore, results revealed that greater body appreciation predicted lower eating pathology which is an important and novel finding. To our knowledge, this is the first study to examine the direct influence of body appreciation on eating pathology globally. A vast amount of research has indicated that body dissatisfaction leads to eating pathology (reference). Findings from the present study suggest that women who accept and respect their body, regardless of size or bodily imperfections, and appreciate its functionality and features may experience fewer thoughts, attitudes, and behaviors associated with eating pathology. Of note, the EDEQ global score measures the severity of such thoughts, attitudes, and behaviors. Identifying potential factors that may reduce eating pathology is important because severe eating pathology is a precursor to eating disorders. Notably, participants' EDEQ total mean score (severity of eating pathology) was higher (M = 3.18; SD = 1.42) than community norms (M = 1.55; SD = 1.21; Fairburn & Beglin, 1994). Given the ethnic and racial diversity of the sample (38.6% Latinas; 23.5% Asians; 17.3% Non-Latino Whites), this finding highlights the possible higher incidence of eating pathology in ethnic minority populations (e.g., Latinas) when compared to Anglo women ages 16-35.

This relationship between body appreciation and eating pathology is also in line with studies examining health outcomes of body appreciation. The literature supports body appreciation being inversely related to maladaptive health behaviors specifically

dieting and media-induced body dissatisfaction (Andrew, Tiggemann, & Clark, 2016; Andrew, Tiggemann, & Clark, 2014). Likewise, women who have body appreciation tend to engage in health promoting behaviors and self-care activities, including intuitive eating, which involves a strong connection with and understanding awareness of physiological hunger and how the body responds to certain foods (Avalos & Tylka, 2006). When women focus on how their body functions and feels internally rather than their external appearance, they are more likely to appreciate their body by taking care of their needs to keep their body functioning well (Avalos, Tylka, & Wood-Barcalow, 2005; Tylka, 2006). Although the relationship between body appreciation and eating pathology needs to be explored further, study findings reveal the possible protective role of body appreciation in reducing engagement in thoughts, attitudes and behaviors associated with eating disorders.

Regarding the mediating role of body appreciation, findings suggest that thin ideal internalization increases eating pathology, through reducing body appreciation. Moreover, although body dissatisfaction is an established mediator in the Tripartite Model between thin ideal internalization and eating pathology (Thompson, Heinberg, Altabe, & Tantleff-Dun, 1999; Keery, van den Berg, & Thompson, 2004), there is initial evidence in this study that body appreciation, a distinct and separate construct from body dissatisfaction, also appears to play a similar albeit more protective role as a mediating mechanism. Additionally, whereas these relations have been primarily studied in Anglo American women, this study highlights the role of body appreciation between thin ideal internalization and eating pathology in a diverse sample of young adult women (39% Latina). Overall, this finding contributes to a greater understanding of body appreciation

and its relation to the risk factors and antecedents of eating pathology, specifically thin ideal internalization and sociocultural appearance pressures.

Contrastingly, other research has shown that body appreciation can act as a moderator between thin ideal internalization and body image discrepancies between the self and ultra-thin models (Halliwell, 2013). A study by Halliwell (2013) revealed that women who reported high thin ideal internalization and high body appreciation reported smaller appearance discrepancies after being exposed to magazine advertisements of ultra-thin models compared to the control group. Halliwell's findings suggest that body appreciation may protect women from negative media exposure effects, such as internalization of the thin ideal after viewing an ultra-thin model in the media. Future studies examining the context in which body appreciation acts as a mediator or moderator are still warranted. Although moderation was not tested in this study, this study nonetheless highlights the importance of analyzing the protective roles and dimensions of body appreciation, especially in the relationship between thin ideal internalization and eating pathology. Overall, study findings add to the positive body image literature by proposing the mediating role of body appreciation in the relationship between thin ideal internalization and eating pathology. Future research should aim to explore this hypothesized structure of relations in other ethnic minority groups.

Latina Model

Overall, for Latina participants, appearance pressures from family and media were the strongest sources of sociocultural appearance pressure, above and beyond that of appearance pressures from peers. Appearance pressures from family was a slightly

stronger predictor of lower body appreciation than media for Latina participants. There are several potential explanations for the small effect that appearance pressures from peers had on study variables. The combined impact of appearance pressures from media and family within Latino culture, may have a greater impact on thin ideal internalization, positive body image, and eating pathology compared to appearance pressures from peers alone (Rubin, Fits, & Becker, 2003; Viladrich, Yeh, Bruning, & Weiss, 2009). Further, appearance pressures from peers may be less important for Latinas when pressures from family and media are also present.

Moreover, there is evidence that media representations of Latina women, family emphasis on weight, and typical foods eaten may constitute unique risk factors for eating pathology in this group (Franko and George, 2006). Moreover, Hispanic populations have reported receiving mixed messages about the relationships among health, weight, appearance, and diet; and those who place a greater emphasis on the mainstream, White, dominant culture have greater body image concerns (Schooler & Lowry, 2010). A qualitative study by Franko and colleagues (2012) revealed cultural aspects of body image and disordered eating among Latina college students including perceived pressure from family and media messages. Findings highlighted differences in perceived pressures from family members, such as family members voicing a desire for participants to increase or decrease in weight (Franko et al., 2012). It is possible that these familial messages are as strong as media messages in mainstream culture surrounding women's weight and shape, as seen in the present study. Additionally, Latino families promote traditional and specific values, such as *familismo*, a focus on family, closeness, and respect, which places a great emphasis on family attitudes and beliefs. This could present

a conflict with Western sociocultural values and body ideals. However, it is important to note that although most studies group Hispanics/Latinos under one broad category, Hispanics represent many diverse ethnic backgrounds. Moreover, because cultural beliefs and body image experiences may differ among this population, these sociocultural differences would be worth further exploration in future research.

Additionally, according to Betancourt's model (see Figure 1), culture is conceptualized as socially shared beliefs, norms, values, and expectations (Betancourt & López, 1993). Due to the need to examine cultural variables, an additional cultural framework was used in this study. Consistent with this conceptual framework, study findings showed that sociocultural appearance pressures influenced health behavior (eating pathology) both directly and/or indirectly through psychological factors (thin ideal internalization; body appreciation). Ethnic differences were found in sociocultural appearance pressures, but not in thin ideal internalization, body appreciation, or eating pathology, in line with previous research showing the lack of group differences between Whites and Latinas in body image and eating pathology (Herbozo, Stevens, Moldovan & Morrell, 2017). This is also in line with previous studies showing that ethnic minority college women experience higher rates of weight/shape-related criticisms from interpersonal sources compared to Anglo American college women (Calogero et al., 2009). Specifically, there is evidence that Latinas report more weight-related teasing from family members than Anglo American women (van den Berg, Neumark- Sztainer, Eisenberg, & Haines, 2008). Moreover, consistent with Betancourt's model, psychological factors exerted the greatest influence on health behavior because they are the most proximal determinants of behavior. Although sociocultural differences exist in

the acceptance of Western appearance ideals, analyses indicate that certain sources of appearance pressures that women experience impact body appreciation with varying intensity. In sum, this study emphasizes that cultural elements exert a direct and/or indirect effect on health behavior while considering potential mediating psychological factors, most notably body appreciation.

Limitations

This study has several limitations and strengths. Limitations of the study include self-report measures, generalizability of the study findings, and the cross-sectional nature of the data. The use of self-report measures is a limitation of the study; however, all of the measures utilized had good to excellent reliability with Cronbach's alphas ranging from .80 to .96. The current study focused on diverse, college-aged women in the United States, and thus the results may not be generalizable to men, other age groups, or other countries. Furthermore, the sample, which included unequal portions of representative ethnic groups, did not allow for testing differences in the structure of relations between study variables across ethnic groups. Since eating pathology is common among ethnic and racial minority groups in the U.S. (Alegria et al., 2007; Nicdao et al., 2007), future researchers make efforts to include equal portions of various ethnic groups/populations in order to more definitively test differences in the structure of relations among sociocultural appearance pressures, thin ideal internalization, body appreciation, and eating pathology. Additionally, the limited research using the SATAQ-4R with Asian Americans is a limitation of the study.

However, the large and ethnically diverse sample size is also a strength, due to the

large percentage of participants identifying as Hispanic/Latina, followed second by Asian American. Most models of positive body image have focused on adult women in the U.S. and U.K. who are predominately Anglo (e.g., Avalos et al, 2005; Swami, Stieger, et al., 2008). Additionally, the current study includes the use of both college and community samples of young adult women (ages 18-25) because of the high rates of eating pathology in this age range compared to the rest of the population (Stice, Marti, Rohde, 2013; Quick & Byrd-Bredbenner, 2014). The anonymous method of collecting data is also a strength, especially in the context of eating pathology due to the importance in promoting participants' honest disclosure (Anderson et al., 2007). Additionally, although weight was self-reported, there is research supporting high reliability between self-report and measured weight (Quick et al., 2015). Lastly, the use of validated measures for sociocultural appearance pressures, thin ideal internalization, body appreciation, and eating pathology were strengths of the current study.

Significance, Implications, and Conclusions

Overall, study findings highlight the importance of considering body appreciation when exploring the mechanisms by which sociocultural appearance pressures influence thin ideal internalization and eating pathology in diverse populations, given the prevalence of eating pathology in young adult women. Notably, results add evidence for the direct and indirect effects of thin ideal internalization on eating pathology through body appreciation, for women of diverse, ethnic backgrounds as well as the direct effect of media and family appearance pressures on body appreciation and eating pathology for Latinas, specifically. Historically, many strategies aimed at prevention and reduction of

eating pathology focus on reducing body dissatisfaction or thin ideal internalization (Neumark et al., 2006). Study findings on the mediating role of body appreciation between thin ideal internalization and eating pathology can be used to contribute to culturally sensitive approaches targeting body appreciation, by considering the salient sources of appearance pressures (family and media) for diverse ethnic groups. For Latinas, including cultural family values in intervention efforts (e.g., *familismo*) may be particularly important in increasing body appreciation. Additionally, study findings on the role of body appreciation on eating pathology can aid in the further strategies aimed at increasing body appreciation in diverse populations.

Although the current study contributes to an understanding of these relationships, more research is needed to explore the structure of relations. In addition, analyzing the role of body appreciation as a mediator or moderator between thin ideal internalization and eating pathology is of interest. Models of positive body image are in their infancy and the potential for research in sociocultural models among diverse populations is rich. Future studies should include distal factors to examine the variations of cultural contributors of sociocultural appearance pressures, thin ideal internalization, body appreciation, and eating pathology due to differences in the way in which body appreciation is conceptualized across cultures. Overall, considering the sociocultural and psychological antecedents of body appreciation and eating pathology may be an effective way to increase body appreciation and prevent eating pathology in diverse, young adult women.

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APPENDIX A

Sociocultural Attitudes Towards Appearance Questionnaire – 4R – Female

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

Definitely Disagree = 1
Mostly Disagree = 2
Neither Agree Nor Disagree = 3
Mostly Agree = 4
Definitely Agree = 5

Pressures: Family

Item 16 "I feel pressure from family members to look thinner"
Item 17 "I feel pressure from family members to improve my appearance"
Item 18 "Family members encouraged me to decrease my level of body fat"
Item 19 "Family members encourage me to get in better shape."

Pressures: Peers

Item 20 "My peers encourage me to get thinner"
Item 21 "I feel pressure from my peers to improve my appearance"
Item 22 "I feel pressure from my peers to look in better shape"
Item 23 "I get pressure from my peers to decrease my level of body fat"

Pressures: Media

Item 28 "I feel pressure from the media to look in better shape"
Item 29 "I feel pressure from the media to look thinner"
Item 30 "I feel pressure from the media to improve my appearance"
Item 31 "I feel pressure from the media to decrease my level of body fat."

APPENDIX B

Eating Disorder Examination–Questionnaire

Instructions: The following questions are concerned with the past four weeks (28 days) only. Please read each question carefully. Please answer all of the questions.

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 (e.g., a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
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 (e.g., 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 (e.g., 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 to lose weight?	0	1	2	3	4	5	6

Questions 13 – 18: 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)…

13. How many *times* have you eaten what other people would regard as an unusually large amount of food (given the circumstances)? _____
14. On how many of these times did you have a sense of having lost control over your eating (at the time you were eating)? _____
15. How many DAYS have such episodes of overeating occurred (i.e., you have eaten an unusually large amount of food *and* have had a sense of loss of control at the time)? _____
16. How many *times* have you made yourself sick (vomit) as a means of controlling your shape or weight? _____
17. How many *times* have you taken laxatives as a means of controlling your shape or weight? _____
18. 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 19 – 21: Please circle 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 lost control over eating.

19.	Over the past 28 days, on how many days have you eaten in secret (i.e., furtively)? …Do not count episodes of binge eating.	**No days**	**1-5 day**	**6-12 days**	**13-15 days**	**16-22 days**	**23-27 days**	**Every day**
		0	1	2	3	4	5	6
20.	On what proportion of the times that you have eaten have you felt guilty (felt that you've done wrong) because	**None of the times**	**A few of the times**	**Less than half**	**Half of the times**	**More than half**	**Most the times**	**Every time**
		0	1	2	3	4	5	6

	of its effect on your shape or weight? …Do not count episodes of binge eating.						
21.	Over the past 28 days, how concerned have you been about other people seeing you eat? …Do not count episodes of binge eating.	**Not at all** 0	1	**Slightly** 2	**Moderately** 3	4	**Markedly** 5

Questions 22 – 28: Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days).

	Over the past 28 days…	**Not at all**		**Slightly**	**Moderately**		**Markedly**
22.	Has your weight influence how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
23.	Has your shape influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
24.	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
25.	How dissatisfied have you been with your weight?	0	1	2	3	4	5	6
26.	How dissatisfied have you been with your shape?	0	1	2	3	4	5	6
27.	How uncomfortable have you felt seeing your body (e.g., 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
28.	How uncomfortable have you felt about others seeing your shape or figure (e.g., in communal changing rooms, when swimming, or wearing tight clothes)?	0	1	2	3	4	5	6

What is your weight at present? (Please give your best estimate) _____

What is your height? (Please give your best estimate) _____

If female: Over the past three to four months, have you missed any menstrual periods? _____

- If so, how many? _____
- Have you been taking the "pill"? _____

APPENDIX C

Body Appreciation Scale-2

Please indicate whether the question is true about you never, seldom, sometimes, often, or always.

1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always.

1. I respect my body.
2. I feel good about my body.
3. I feel that my body has at least some good qualities.
4. I take a positive attitude towards my body.
5. I am attentive to my body's needs.
6. I feel love for my body.
7. I appreciate the different and unique characteristics of my body.
8. My behavior reveals my positive attitude toward my body; for example, I hold my head high and smile.
9. I am comfortable in my body.
10. I feel like I am beautiful even if I am different from media images of attractive people (e.g., models, actresses/actors).