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Eating Disorder Symptomatology: The Role of Ethnic Identity in Caucasian and Hispanic

College Women

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ABSTRACT

A relative large number of women on college campuses report experiencing eating afflictions. About 61% of college women indicated that they either occasionally or regularly used extreme measures to control their weight (Mintz & Betz, 1988). No clear consensus on the relative prevalence of eating disorder symptoms across ethnic groups has emerged (Franko et al., 2007). However, previous literature has accentuated the importance of BMI and the internalization of ideals for thinness as important predictive factors for eating disorder symptoms, and thus should be included in an analysis of symptomatology. Moreover, no studies were located that have taken into account ethnic identity when comparing the endorsement of eating disorder symptomatology among Caucasian and Hispanic women.

The purpose of this study was to examine (a) to what extent college women from Hispanic and Caucasian ethnic groups differ in behavioral and attitudinal symptoms of eating disorders, respectively when controlling for BMI, (b) to what extent ethnic identity contributed to behavioral and attitudinal symptomatology, respectively, when controlling for BMI and the internalization thinness as a beauty ideal, and (c) whether ethnicity moderated the relation of ethnic identity to eating disorder behavioral and attitudinal symptoms.

Participants in this study included 264 female students (45% Hispanic, N=119; 55% Caucasian, N=145) at a large urban university in the Southwest United States. The majority of the Hispanic participants identified themselves as second generation (N = 72, 62.2%, SD= 1.27), meaning they were born in the United States, and had one or both parents born in a Latin country. Participants completed Demographics questions, the Eating Disorder Examination Questionnaire (EDEQ; Fairburn & Beglin, 1994), the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1999), and the Sociocultural Attitudes towards Appearance Questionnaire (SATAQ; Heinberg, Thompson, & Stormer, 1995).

Bivariate correlations showed that behavioral and attitudinal eating disorder symptoms were positively and highly correlated to one another for both ethnic groups. For Hispanics, both types of symptoms were positively correlated to BMI and internalization, and negatively correlated to ethnic identity. Results differed for the Caucasian group, with positive significant correlations between attitudinal symptoms to internalization and to BMI. Behavioral symptoms were only significantly correlated with internalization and not BMI. Among Caucasians there were no statistically significant correlations of ethnic identity to any of the variables included in the study. The MANCOVA analysis showed no statistically significant differences in symptomatology between the two ethnic groups. Hierarchical Linear Regressions showed that ethnicity does not moderate the relation of ethnic identity and eating disorder symptoms.

CHAPTER I

INTRODUCTION

Eating disorders are one of the 10 leading causes of disability among young women (Striegel-Moore & Bulk, 2007). In the U.S., approximately one to three percent of women are diagnosed with an eating disorder (Tylka, 2004). However, the number of young adult women who report engaging in unhealthy eating practices, yet do not meet criteria for eating disorder diagnoses is considerably higher. According to Mintz and Betz (1988), 61% of college women indicated that they either occasionally or regularly used extreme measures to control their weight such as fasting, appetite suppressants, diuretics, or purging after eating. The number of women who engage in unhealthy eating practices is most alarming on college campuses (Kashubeck-West & Mintz, 2001). However, very few studies have examined the prevalence of and factors associated with eating disorders among college students from diverse ethnic groups.

Many discrepancies exist in the literature regarding the assessment of eating disorder symptoms. Though a few measures have been identified as the most commonly used (e.g., Eating Disorder Inventory [EDI]; Kashubeck-West & Saunders, 2001), there is no consensus on what measure is most appropriate based on factors, such as ethnic group and age under study. Researchers differ in how they utilize a measure, whether they use the standardized, complete version of an established measure, or develop their own way of assessing symptomatology. Furthermore, most measures combine behavioral (e.g., actually over-restricting your caloric intake) and attitudinal (e.g. worrying excessively about what you eat) symptoms in the assessment of eating disorders. Traditionally, attitudinal symptoms appear as more of the norm in women, whereas behavioral

symptoms often are associated with more serious pathology (e.g., actually over-restricting your caloric intake) (Arriaza & Mann, 2001).

Research examining eating disorders among women from the majority ethnic group is ample; however, there is limited research with women from ethnic minority groups. For many years, researchers assumed that eating disturbances occurred primarily in female Caucasian populations and did not include members of racial/ethnic minority groups in research studies (Cachelin, Veisel, Barzegarnarzari, & Striegel-Moore, 2000; Lester, Regan, Petrie, & Trent, 1998). Eating disorders were coined the “white female phenomenon” (Mastria, 2002) and racial minority group membership was considered a protective factor against the development of these disorders (Gowen & Hayward, 1999). However, it is possible that, at least in part, underdiagnosis has occurred because of the belief that ethnic minority women do not experience eating disorders.

Findings regarding the prevalence of eating disorder symptoms among diverse ethnic groups are mixed; there is a discrepancy in the findings based on the ethnic composition of study participants. The eating disorder literature with ethnic minorities is limited; however, important implications can be drawn from these studies. Therefore, research with African American women has been included in the review of the literature, even though the proposed study will only include Caucasian and Hispanic participants.

Studies that have compared prevalence of eating disorder symptoms among African American and Caucasian college women have consistently reported higher symptomatology among Caucasian participants (Atlas, Smith, Hohlstein, McCarthy, & Kroll, 2002; Perez & Joiner, 2002; Abrams, 1993; Petersons, Rojhani, Steinhaus, & Larkin, 2000). However, studies that included Hispanic participants tend to report that

there are more similarities than differences in terms of symptomatology between Hispanic and Caucasian college women (Altabe, 1998; Cashel, Cunningham, Landeros, Cokley, & Muhammad, 2003; Franko, Becker, Thomas, & Herzog, 2007; George & Johnson, 2005; Lester & Petrie, 1998; Shaw, Ramirez, Trost, Randall, & Stice, 2004).

Reasons for the disparities in research findings are not clear. It is possible that ethnic group membership is not the only explanation for differences in reported symptoms among women of different ethnic groups. Therefore, it may be important to not only consider the ethnic group individuals belong to, but also consider how much they identify with their ethnic group. Ethnic identity refers to a person's value of and attachment to ethnicity as part of their sense of self (Phinney, 1992). Some researchers have proposed that compared to mainstream American culture, ideals of beauty in African American and Hispanic cultures are more accepting of larger figures (Warren, Gleaves, Cepeda-Benito, & Rodriguez, 2001). It is possible that African American and Hispanic women who identify highly with their ethnic group are likely to adhere to these cultural ideals and not feel as pressured as Caucasian women to conform to Western societal ideals of thinness. In contrast, African Americans and Hispanics who do not identify highly with their ethnicity may be more likely to endorse western values regarding beauty ideals and to exhibit eating disorder symptoms similar to their White counterparts (Petersons et al., 2000). In other words, high levels of ethnic identity may serve as a protective factor in relation to eating disorder symptoms.

Though ethnic group membership and levels of identification with one's ethnic group (i.e. ethnic identity) have not been studied frequently, a few factors have been identified as predictors of eating disorder symptoms. Body mass index (BMI, a number

calculated from a person's weight and height that is often used as an indicator of obesity status) and the internalization of Western ideals for thinness have consistently been positively linked to eating disorder symptomatology (Arriaza & Mann, 2001; Cusumano & Thompson, 1997; Gowen & Hayward, 1999; Griffiths, Mallia-Blanco, Boesenberg, Ellis, Fischer, Taylor, & Wyndham, 2000; Lester & Petrie, 1995; Morry & Staska, 2001; Stice, Schupak-Neuberg, Shaw, & Stein, 1994).

The purpose of this study was to examine to what extent college women from Hispanic and Caucasian ethnic groups differ in behavioral and attitudinal symptoms of eating disorders. Because in previous research body mass index has emerged as a predictor of concerns with weight and eating, BMI was included as a control in the analysis. Additionally, the following research questions were examined (a) to what extent ethnic identity contributes to behavioral and attitudinal symptomatology, respectively, when controlling for BMI and the internalization of thinness as a beauty ideal, and (b) to what extent ethnicity moderates the relation of ethnic identity to behavioral and attitudinal symptoms, respectively.

CHAPTER II

LITERATURE REVIEW

This chapter reviews the literature relevant to the research purposes of this dissertation. It is organized into five sections: 1) Eating disorder criteria, 2) Assessment of eating disorder symptoms, 3) The prevalence of eating disorder symptoms among Caucasian and minority populations 4) The relation of internalization of ideals for thinness to eating disorder symptomatology and, 5) The relation of ethnic identity to eating disorder symptoms. The relevance of the literature to the proposed dissertation research is discussed in each section.

Eating Disorder Criteria

Eating disorders were first included in the Diagnostic and Statistical Manual (DSM) in 1980. Each DSM edition has included different criteria from that which preceded it (Kashubeck-West & Mintz, 2001). Based on the DSM-IV, (Diagnostic and Statistical Manual 4th ed., American Psychiatric Association, 2000) eating disorder symptoms are categorized by type of disorder: Anorexia Nervosa, Bulimia Nervosa, and Eating Disorder Not Otherwise Specified.

Anorexia Nervosa entails refusal to maintain body weight at or above a minimally normal weight for age and height, intense fear of gaining weight, distorted views about one's own body weight or shape, and amenorrhea. Bulimia Nervosa includes eating food in a short span of time (about 2 hours) in an amount that is considerably more than an average person would eat, a sense of lack of control over eating during the same time period, and recurrent inappropriate compensatory behavior in order to prevent weight gain, such as self-induced vomiting, fasting, excessive exercise, or misuse of laxatives,

diuretics, enemas, or other medications. The Eating Disorder Not Otherwise Specified category is used for disorders of eating that do not meet the criteria for the aforementioned specific disorders, but show features of one or both. Because there is a stronger affliction of symptomatology versus diagnosis, we will focus on the identification and comparison of eating disorder symptomatology as opposed to diagnosis.

Assessment of Eating Disorder Symptoms

Eating disorder symptoms among normative populations such as college students are typically assessed with self-report measures that include items related to both behavioral and attitudinal symptoms. Behavioral symptoms refer to actions taken to change one's weight or shape such as abstaining from eating, exercising excessively, bingeing, purging, and use of laxatives or diuretics. Attitudinal symptoms typically involve thoughts or beliefs in reference to body weight or shape such as fear of gaining weight, preoccupation with being overweight/underweight, and disturbance in the way in which one's body weight or shape is experienced.

Even though most instruments provide composite scores that combine the person's endorsement of both behavioral and attitudinal symptoms (e.g., Eating Attitudes Test [EAT], Eating Disorder Inventory [EDI], Questionnaire for Eating Disorder Diagnoses [QEDD], Bulimia Test-Revised [BULIT-R]), a few instruments include scales that allow researchers to assess attitudinal and behavioral symptoms separately (e.g., Eating Disorder Examination Questionnaire [EDEQ], Kashubeck-West & Saunders, 2001). Additionally, some scales provide cut-off scores to establish varying levels of symptomatology (EAT), or to yield an eating disorder diagnosis (EDI, BULIT-R). Other

scales (QEW, QEDD) yield categorical scores (e.g., diagnosable vs. nondiagnosable) based on decision rules.

Few studies have compared the endorsement of eating disorder symptoms among women from diverse ethnic groups, and for the most part these studies have not used the most well-known instruments to assess symptoms (Kashubeck-West & Saunders, 2001). As mentioned before, the minority groups studied most often are African American, followed by Hispanic women. Studies that included only 5-10% ethnic minority women in a sample that was primarily composed of Caucasian women were not included in this literature review, because in those studies sample sizes of women from ethnic minority groups were not large enough to serve as appropriate comparison groups. Though college age women are strongly affected by eating disorder symptomatology, few studies have examined symptoms and predictors of eating disorders among college aged women of different ethnic groups.

Women's weight or Body Mass Index (BMI), a number calculated from a person's weight and height that is often used as an indicator of body fat, has emerged as an important predictor of eating disorder symptoms. Research with Caucasian and ethnic minority women have shown that weight and BMI are positively associated with ED symptoms, primarily attitudinal symptoms (Abrams, Allen, & Gray, 1993; Arriaza & Mann, 2001). Arriaza and Mann (2001) found that women with higher BMIs reported higher levels of attitudinal symptoms including body dissatisfaction and weight concerns than their peers with lower levels of body fat; however, BMI was not associated with these women's self-reported eating behaviors. Furthermore, Arriaza and Mann's (2001) findings indicated that differences in body dissatisfaction and weight concerns among

white and Hispanic women disappear if BMI is controlled for. Because Hispanic and African American women tend to report higher levels of weight or BMI than Caucasian women (Warren, et al., 2005), researchers have argued that it is important to control for BMI when comparing prevalence of eating disorder symptoms among women from diverse ethnic groups (Arriaza & Mann, 2001; Aviña, 2008).

Prevalence of Eating Disorder Symptoms among Diverse Groups

Taking into account the limited numbers of studies that have examined the prevalence of eating disorder symptoms among minority college aged women, and whether BMI is included in the studies, in this section the review of the available literature is organized by the type of measure used to assess eating disorder symptoms. Studies either used composite measures of attitudes and behaviors associated with bulimia and anorexia, or scales that assessed attitudes and behaviors separately. This distinction is important because findings across studies vary depending on the type of measure utilized to assess symptoms.

Composite Measures

Most measures of eating disorder symptoms used in research combine behavioral and attitudinal symptoms in the same scales, as well as ask about bulimia and anorexia symptoms simultaneously (Kashubeck-West & Saunders, 2001). In examining the literature that compares minority and Caucasian women with the use of composite measures of eating disorder symptoms, two important factors come to light. One is the role of BMI in examining differences between women's symptomatology rates. Studies that controlled for BMI reported mixed findings regarding the relative prevalence of eating disorder symptoms among ethnic minority women compared to Caucasian women.

Some studies found no differences in symptomatology rates between Hispanic and Caucasian women (EAT; Rich & Thomas, 2008; EDI; Cashel et al., 2003) while others found that Caucasian women reported more symptoms than African American women. (EDI; Wilfley, Schreiber, Pike, Streigel-Moore, Wright, & Rodin, 1995; EDI; Petersons et al., 2000). Studies that did not control for BMI consistently found differences between the ethnicities, indicating less symptomatology among African American participants as compared to Caucasians (BULIT-R; Atlas et al., 2002; EDI; Perez & Joiner, 2002).

There is a discrepancy in the findings based on the ethnic composition of the samples. Studies that included Hispanic women, which all controlled for BMI, reported similar levels of symptomatology between Hispanic and Caucasian women, regardless of whether participants were college students or women from the community (Cashel et al., 2003; Rich & Thomas, 2008). In contrast, the majority of studies that included African American women indicated that African American women reported less symptomatology than Caucasian women regardless of whether BMI was used or not as a control in the comparison (Atlas et al., 2002; Cashel et al., 2003; Perez & Joiner, 2002; Petersons et al., 2000; Wilfley et al., 1995).

It is important to note that not all of these studies were carried out with college aged women. However, regardless of the age of the participants and whether participants were college students, adolescents, or women from the community, the difference in findings are most consistent based on ethnic composition. Caucasian women tend to report higher levels of eating disorder symptoms than African American participants, but similar levels of symptomatology to Hispanics.

Behavioral and Attitudinal Measures

Few studies have assessed behavioral and attitudinal eating disorder symptoms separately. Assessing behaviors and attitudes separately, the use of BMI as a control variable made a difference in the findings, as did the ethnic group of the participants. Studies that have examined eating disorder behavioral and attitudinal symptoms separately have shown more similarities across ethnic groups in attitudinal compared to behavioral symptoms, particularly among Hispanic and White women (Abrams et al., 1993; Arriaza & Mann, 2001; Shamaley-Kornatz, Smith, & Tomaka, 2007).

Consistently, in three studies that controlled for either weight (Abrams et al., 1993) or BMI (Arriaza & Mann, 2001; Gluck & Geliebter, 2002), African American and Hispanic college women reported fewer behaviors associated with eating disorders than Caucasian college women. In these three studies behaviors and attitudes were assessed separately with either the EDEQ (Arriaza & Mann, 2001) or with less well known scales (e.g., Goldfarb Fear of Fat Scale; Abrams et al., 1993; Eating Habits Questionnaire; Gluck & Geliebter, 2002). In contrast, in a study that did not control for BMI and/or weight and used researcher developed scales to assess ED symptoms, findings indicated no differences in behavioral symptoms between Hispanic and Caucasian women (Shamaley-Kornatz et al., 2007).

In terms of attitudinal symptoms, results from these studies suggest that Caucasian and Hispanic college women report similar levels of symptoms (Arriaza & Mann, 2001; Shamaley-Kornatz et al., 2007) while African American women report lower levels of symptoms than Caucasian women (Abrams et al., 1993) regardless of the use of BMI and/or weight as controls. All of the studies located that examined behaviors and attitudes separately were carried out with college populations; therefore, it is not possible to

compare findings by age groups. Findings from studies that have compared endorsement of eating disorder symptoms among women from diverse ethnic groups suggest that there may be more similarities than differences among Hispanic and Caucasian women, but the type of measure used as well as whether BMI is controlled for may result in different findings across studies.

Internalization of Ideals for Thinness

Endorsement of thinness as a beauty ideal is a well established predictor of eating disorder symptoms. Ideals for thinness refer to both an individual's awareness of sociocultural pressures to fit a thin prototype, and to the internalization of the thinness beauty standard (Cusumano & Thompson, 1997). It is believed that social pressures to conform to the thin body shape ideal has contributed to the increased incidence of eating disorder symptomatology among young women (Warren et al., 2005). Possibly, the awareness and internalization of social and cultural pressures toward slimness may lead to an individual's discontent with her body and to unhealthy eating practices.

To explore this possibility, the ideal for thinness construct has been examined in relation to eating disorder symptomatology in college women. Research findings have consistently shown that as the awareness and internalization of ideals for thinness increase, so do eating disorder symptoms as measured by composite scales (EAT: Griffiths et al., 2000; Morry & Staska, 2001; Stice et al., 1994; EDI: Aviña, 2008; Cusumano & Thompson, 1997). More specifically, internalization consistently accounted for more of the variance associated with measures of eating disorder symptoms than awareness, suggesting that it is the acceptance of these ideals and not just the exposure to them that is associated with eating disorder symptomatology (Griffiths et al., 2000).

Minority representation in the aforementioned studies is sparse. However, the few existing studies reveal that among Hispanic college women, internalization of the thin ideal is positively associated to eating disorder symptoms (Aviña, 2008; Cusumano & Thompson, 1997; Warren et al., 2005).

To our knowledge, no study has examined the relation of the internalization of beauty ideals to behavioral and attitudinal symptoms separately. However, it seems reasonable to speculate that the internalization of ideals for thinness would be positively associated to both behavioral and attitudinal symptoms and may be an underlying cause for eating disorder symptoms. Though internalization appears as a more attitudinal than behavioral mechanism, one could expect that the effects of internalizing thinness as a beauty ideal may manifest themselves in eating disorder behavioral symptoms.

Because findings from most studies have indicated that both BMI and internalization of ideals for thinness are positively associated to eating disorder symptoms, in the present study both constructs were include as control variables when comparing Hispanic and Caucasian college women in terms of eating disorder symptomatology, as well as when examining the relation of ethnic identity to eating disorder symptoms.

Acculturation

Internalization of ideals for thinness is part of conforming to societal pressures to fit the thin American prototype. For minorities, internalization may be one part of the acculturation process. Acculturation refers to the process of psychological change that occurs when immigrants are exposed to the cultural values, languages, and norms of their new environment (Berry, 2004). Compared to mainstream American culture, standards of

beauty for women in traditional Hispanic culture are more tolerant of larger figures (Cachelin et al., 2000). It is possible that as some Hispanic women in the U.S. acculturate, they adopt and internalize mainstream values regarding weight, body image and appearance. In turn, as they seek to achieve the prevalent thin-body ideal, they may resort to unhealthy eating practices. It is believed that those who are highly acculturated to the American culture may be more at risk for presenting eating disorder symptoms due to internalizing the dominant view of beauty (Kempa & Thomas, 2000). From this perspective, one may expect that for Hispanic women, acculturation to Anglo culture will be positively associated with higher levels of eating disorder symptoms.

Ethnic Identity

Identification with the predominant European culture and internalization of specific values may vary for women of diverse ethnic groups (Lester & Petrie, 1998). The literature leads us to conclude that internalization of Western ideals of beauty for women play an important role in eating disorder symptomatology. More important than women's belonging to an ethnic group is perhaps how much they identify with their ethnicity, and whether that identification is associated with the internalization of thinness as a beauty ideal, and a predisposition to eating disorder symptoms.

Phinney (1992) (as cited in Petersons et al., 2000) defines ethnic identity as an aspect of a person's social identity, a part of an individual's self concept that derives from his or her knowledge of membership in a social group (or groups) together with the value and emotional significance attached to that membership. While ethnicity is a demographic variable that designates membership in a racial, national, or cultural group, ethnic identity involves a selective psychological process, which allows individuals to

choose which aspects of their ethnic group they affiliate with. Ethnic identity may be a particularly salient aspect of identity for ethnic minority group members. It has been reported that members of the ethnic majority score significantly lower on measures of ethnic identity than do members of ethnic minority groups (Greig, 2003; Petersons et al., 2000).

An achieved ethnic identity has been associated with positive mental health and is believed to be protective against adverse mental health outcomes with or without serious risk factors (Greig, 2003). Among members of ethnic minority groups, ethnic identity has emerged as a protective factor in relation to self esteem, coping, and optimism (Greig, 2003). Ethnic identity may also serve as a protective factor in relation to eating disorder symptoms. It is believed that in Hispanic culture, the standard of beauty allows for larger figures than in mainstream American culture, (Warren, Gleaves, Cepeda-Benito, & Rodriguez, 2001). Possibly, Hispanic women who identify highly with their ethnic group may be more likely to adhere to Hispanic rather than Anglo cultural ideals of beauty. In contrast, Hispanic women who do not identify highly with their ethnicity may be more likely to endorse western values regarding beauty ideals (Petersons et al., 2000). Thus, it is reasonable to hypothesize that among Hispanic women, identification with their ethnic culture may be negatively associated to both endorsement of Western ideals of beauty and to eating disorder symptoms. In contrast, among Caucasian women, identification with their ethnic culture may be positively associated to both, endorsement of Western ideals of beauty and eating disorder symptoms.

Only one study was found that explored the relation between ethnic identity and prevalence of eating disorders among college aged women (Petersons, et al., 2000). The

study, which included only Caucasian and African-American women, provided supported for the hypothesis that a high level of ethnic identity is negatively correlated with eating disorder symptomatology among African American women. For their Caucasian participants, in contrast, high levels of ethnic identity were associated with high levels of eating disorder symptoms (specifically body dissatisfaction and drive for thinness). In sum, findings suggested that the association of ethnic identity to a composite measure of eating disorder symptoms was in the positive direction for Caucasian and in the negative direction for African American women.

Abrams et al. (1993) examined the relation of racial identity to attitudinal and behavioral eating disorder symptoms (assessed separately) among African American women. Consistent with findings reported above, Abrams et al.'s (1993) reported that among African American women racial identification with the predominant white culture was significantly and positively correlated to endorsing both behavioral (dietary restraint) and attitudinal (fear of fat and drive for thinness) symptoms. Furthermore, identification with their racial group worked as a protective factor against higher eating disorder symptomatology.

Cachelin, Phinney, Schug, and Striegel-Moore (2006) examined the role of ethnic identity in eating disorders, using the EDE, among Hispanic community women who either met or not met diagnostic criteria for a current eating disorder. Consistent with Abrams et al.'s (1993) findings, they revealed that identification with the Anglo American culture significantly predicted eating disorders. A woman's eating disorder status was more highly associated to her attachment to the Caucasian culture, as opposed to her attachment to the Hispanic culture.

The findings reviewed here suggest that identification with the majority ethnic group is positively associated with the endorsement of eating disorder symptoms among both Caucasian and ethnic minority women. In contrast, among ethnic minority women, identification with their own ethnic group may be negatively associated with endorsing eating disorder symptoms.

Present Study

Studying eating disorder symptoms among college students is important because there are relatively large numbers of women with these afflictions on college campuses (Kashubeck-West & Mintz, 2001). No clear consensus on the relative prevalence of eating disorder symptoms across ethnic groups has emerged (Franko et al., 2007). African American women tend to report less eating disorder symptomatology, while Hispanic women tend to report symptomatology similarly to their Caucasian counterparts. Findings regarding the relative prevalence of eating disorder symptoms among women from diverse ethnic groups also differ based on whether BMI was utilized as a control in the study, and on the type of measure used to assess symptomatology (composite vs. behavioral and attitudinal separately). However, we are able to conclude from the literature that a person's ethnic group and/or ethnic identity may be associated to symptomatology rates. Additionally, there are important constructs that need to be considered when examining eating disorder symptoms among college age women. BMI and internalization of ideals for thinness have been consistently linked to eating disorder symptomatology, and should therefore be included as control variables when examining prevalence rates and predictors of eating disorder symptoms.

One of the gaps in the literature is the lack of studies that have assessed behavioral and attitudinal symptoms of eating disorders separately. Moreover, no studies were located that have taken into account ethnic identity when comparing the endorsement of eating disorder symptomatology among Caucasian and Hispanic women. The purpose of this study was to examine to what extent college women from Hispanic and Caucasian ethnic groups differ in behavioral and attitudinal symptoms of eating disorders, respectively when controlling for BMI. We also examined to what extent ethnic identity contributes to behavioral and attitudinal symptomatology, respectively, when controlling for BMI and the internalization thinness as a beauty ideal, and whether ethnicity moderates the relation of ethnic identity to behavioral and attitudinal symptoms.

Research Questions and Hypotheses

- 1) To what extent do Caucasian and Hispanic college aged women differ on behavioral eating disorder symptoms when controlling for BMI? Based on Arriaza and Mann's findings (2001) we expect that Caucasian women will report higher level of behavioral symptoms than Hispanic women.
- 2) To what extent do Caucasian and Hispanic college aged women differ on attitudinal eating disorder symptoms when controlling for BMI? Based on Arriaza and Mann's findings (2001) we expect no differences in attitudes between the two groups. Caucasian and Hispanic women will show similar levels of attitudinal symptoms.
- 3) To what extent does ethnic identity contribute additional explanation of variance to behavioral symptoms when controlling for ethnicity, BMI and internalization of ideals for thinness?

- 4) To what extent does ethnic identity contribute additional explanation of variance to attitudinal symptoms when controlling for ethnicity, BMI, and internalization of ideals for thinness?
- 5) Does ethnicity moderate the relation of ethnic identity to behavioral symptoms of eating disorders? It is expected that ethnic identity will show a positive relation to behavioral symptoms for Caucasian women, and that ethnic identity will show a negative relation to behavioral symptoms for Hispanic women.
- 6) Does ethnicity moderate the relation of ethnic identity to attitudinal symptoms of eating disorders? Because of the high prevalence of attitudinal symptoms among all women and lack of previous research, no hypotheses are presented regarding the relation of ethnic identity to attitudinal symptoms among Hispanic and Caucasian women.

CHAPTER III

METHODS

Participants

Participants included 264 female students (45% Hispanic, N=119; 55% Caucasian, N=145) at a large urban university in the Southwest United States. The data was collected between October and December of 2009 with the approval of the University of Houston's Committee for the Protection of Human Subjects. Participants ranged in age from 18 to 52 years, with the mean age being approximately 23 (SD= 5.91). The majority of the Hispanic participants identified themselves as second generation (N = 72, 62.2%, SD= 1.27), followed by first generation (N = 25, 21%, SD= 1.13). BMI ranged from 16.64 to 51.49, with the average BMI for Hispanics being 24.3 (SD= 5.39) and 23.78 (SD= 5.97) for Caucasians. Acculturation level ranged from 2.08 to 5.0, with the average acculturation score for Hispanics being 3.43 (SD=.65) and for Caucasians 4.47 (SD=.41). A high score indicates higher level of acculturation to Anglo culture.

Procedure

Participants were recruited in their classrooms to complete online surveys using Survey Monkey. Survey Monkey is an online website used specifically to create surveys and gather data in a fast and efficient manner. The protocol consisted of a short demographic questionnaire and three measures that are described below. Informed consent materials and the research measures were filled out simultaneously.

Measures

Demographic questions were included, asking about a participant's age, ethnicity, parents' ethnicity, generational status, and estimated height and weight to calculate body mass. In addition, participants completed the following measures:

Eating Disorder Symptoms

The Eating Disorder Examination Questionnaire (EDEQ), which is a self report version of the structured clinical interview (the Eating Disorder Examination), assesses eating disorder symptoms that have been present for the past 28 days (Fairburn & Beglin, 1994). It consists of 38 questions and assesses the frequency of different forms of disordered eating behaviors (e.g., objective bulimic episodes) and inappropriate weight compensatory behaviors (e.g., purging). The EDEQ assesses behavioral and attitudinal symptoms and is composed of four subscales: restraint, eating concern, shape concern, and weight concern. The restraint subscale measures the extent to which a person has been attempting to restrict food to influence body shape or weight (e.g., Have you been deliberately trying to limit the amount of food you to eat to influence your shape or weight?). The eating concern subscale measures disruptive preoccupation with thoughts of eating, including guilt about eating and fear of losing control while eating (e.g., On what proportion of the times that you have eaten have you felt guilty because of its effect on your shape or weight?). The shape and weight concern subscales measure disruptive preoccupation with shape, or weight, body dissatisfaction, desire to be thinner, feeling fat and fear of becoming fat, and the level of importance the participant gives to shape or weight in overall self evaluation (e.g., Have you had a definite fear that you might gain weight?) (Arriaza & Mann, 2001). The restraint subscale was utilized to measure eating

disorder behavioral symptoms while the eating, shape, and weight concern subscales were combined into a composite scale to measure attitudinal symptoms.

However, due to the three attitudinal subscales being very highly correlated to one another for both ethnic groups (correlations ranged from .61 to .94) we decided to combine them and create a composite score. Response options for the four subscales ranged from 0 (no days or not at all) to 6 (every day or markedly) with higher numbers indicating higher levels of symptomatology. Cronbach alpha coefficient or internal reliability for scores of the scale with participants in the present study was .94.

Ethnic Identity

The Multigroup Ethnic Identity Measure (MEIM) was developed to assess the person's sense of belonging to their ethnic group, their attitudes toward the group, their endorsement of ethnic behaviors, and their understanding of the meaning of their ethnicity (Petersons et al., 2000). The MEIM is a 12-item self report questionnaire and consists of two subscales which are ethnic identity exploration (e.g., I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs) and ethnic identity commitment (e.g., I have a clear sense of my ethnic background and what it means for me) (Phinney, 1999). Responses are on a five point scale ranging from 5 (strongly agree) to 1 (strongly disagree) with higher scores on this measure indicative of a higher level of an achieved ethnic identity. The preferred scoring is to use the mean of the 12 items for an over-all score. The MEIM has subsequently been used widely and has consistently shown good reliability, typically with alphas above .80 across a wide range of ethnic groups and ages. (Phinney, 1999). Cronbach alpha

coefficient or internal reliability for scores of the scale with participants in the present study was .87.

Ideals for Thinness

The Sociocultural Attitudes towards Appearance Questionnaire (SATAQ) was developed to assess women's recognition and acceptance of societally sanctioned standards of appearance (Heinberg, Thompson, & Stormer, 1995). It is a 14 item self-report measure composed of statements the respondent endorses on a scale ranging from 1 (completely disagree) to 5 (completely agree). The SATAQ is composed of two scales: awareness of societal pressures and internalization. High scores on the awareness subscale indicate familiarity with the thinness ideal, whereas the internalization scale taps adoption of that ideal. The two scales have strong internal consistency and construct validity based on results from factor analyses. (Smolak, Levine, & Thompson, 2001). In a study with Hispanic college aged women, good reliability was reported, with alphas ranging between .81 and .86 (Warren et al., 2005). In the current study, only the internalization subscale was used as a variable indicating acceptance of ideals of thinness. Cronbach alpha coefficient or internal reliability for scores of the scale with participants in the present study was .86.

Acculturation

The Short Acculturation Scale for Hispanics (SASH) was developed to measure the process of changes in behavior and values by a Hispanic individual due to exposure to mainstream cultural patterns of the United States (Marin, Sabogal, Van Oss-Marin, Otero-Sabogal, & Perez-Stable, 1987). It is a 12 item self report measure composed of questions regarding three factors: Language use, media, and ethnic social relations.

Responses range from 1 to 5 with a higher mean score indicating a higher level of acculturation to Anglo culture and a low score representing lower levels of acculturation to Anglo culture. An average of 2.99 should be used to differentiate the less acculturated respondents (average score between 1 and 2.99) and the more acculturated (average score above 2.99). The scale has been utilized with Hispanic and White Non-Hispanic participants and is comparable to other standardized acculturation scales in terms of reliability and validity (Marin et al., 1987). In the current study, acculturation was used as a background variable, and was included as an exploratory analysis to provide more information about our sample.

CHAPTER IV

RESULTS

Preliminary Analyses

The data were analyzed using the Statistical Package for the Social Sciences (SPSS). In preliminary analyses means and standard deviations of the predictor and criterion variables for Hispanics and Caucasians (see Table 1) were examined as well as the Pearson product correlations of all variables included in the study (see Table 2).

Correlations

Bivariate correlations shown in Table 2 indicate that as expected, BMI was positively related to eating disorder attitudes for women from both ethnic groups. However, the correlation of BMI to eating disorder behaviors was statistically significant (and positive) only for Hispanic women. Also as expected, the relation of internalization and eating disorders attitudes and behaviors was positive and statistically significant for both groups of women. Ethnic identity was associated in the expected direction to acculturation, internalization of beauty ideals, and eating disorder attitudes and behavioral symptoms only for Hispanic women. As expected, the more Hispanic participants identified with their ethnic group the less likely they were to report higher levels of acculturation, to internalize thinness as a beauty ideal, and to report eating disorder behaviors and attitudes. However, the relation of acculturation to internalization and to attitudinal and behavioral eating disorders symptoms was not statistically significant for neither Hispanic nor Caucasian women.

T-tests

Independent-samples t-tests were conducted to compare mean acculturation scores and mean BMI scores for Hispanics and Caucasians. For BMI, the difference between the means is not statistically significant: $t(262) = .74$, $p = .46$ (two tailed). For acculturation, the difference between the means is statistically significant: $t(192) = -13.18$, $p = .00$ (two tailed).

Multivariate Analysis of Covariance

A multivariate analysis of covariance (MANCOVA) with BMI as a covariate was conducted to compare ethnic groups on behavioral and attitudinal symptomatology. Results indicated a statistically significant multivariate effect for the covariate, (BMI) Wilks Lambda $F(2, 259) = .88$, $p = .00$, $\eta^2 = .12$. Differences in attitudinal and behavioral symptoms by ethnic group were not statistically significant. Univariate follow-up tests showed that the relation of the covariate (BMI) to eating disorder symptoms was positive and statistically significant for both behavioral symptoms $F(1, 259) = 10.04$, $p = .00$, $\eta^2 = .04$ and attitudinal symptoms $F(1, 259) = 33.99$, $p = .00$, $\eta^2 = .12$.

Regression Analyses

Two hierarchical linear regression analyses were conducted to examine: (a) to what extent ethnic identity (the extent to which participants identified with their ethnic group) was associated to behavioral and attitudinal symptoms when controlling for ethnicity, BMI, and internalization of ideals for thinness, and (b) whether ethnicity moderated the relation of ethnic identity to behavioral and attitudinal symptoms. The variables Ethnicity, BMI, and Internalization were entered as a block in the first step to control for their effects. Acculturation was not entered as a control variable because it

was not associated to eating disorder symptoms for any of the two groups of women. Ethnic identity was entered in the second step. In the third step the interaction term of ethnicity and ethnic identity were entered to examine whether a moderation effect was present.

Results displayed in Table 3 showed that the combination of ethnicity, BMI, and internalization, entered in step 1, explained 16% of the variance in behavioral eating disorder symptoms. Inspection of the beta coefficients showed that BMI and internalization of ideals contributed unique variance. The addition of ethnic identity in step 2 did not contribute a statistically significant amount of variance in behavioral eating disorder symptoms, $\Delta R^2 = 0$, $p < .001$, $R^2 = .16$, $p < .001$. Inspection of the Beta coefficients showed that BMI and internalization once again contributed unique variance. The change in ΔR^2 in step 3, where the interaction term of ethnicity and ethnic identity was entered, was not statistically significant, indicating that there is no moderator effect.

Results of the second hierarchical regression analyses showed that the combination of ethnicity, BMI, and internalization, entered in step 1, explained 40% of the variance in attitudinal eating disorder symptoms. Inspection of the beta coefficients showed that BMI and internalization of ideals contributed unique variance. The addition of ethnic identity in step 2 once again did not contribute a statistically significant amount of variance in behavioral eating disorder symptoms, $\Delta R^2 = 0$, $p < .001$, $R^2 = .41$, $p < .001$. Inspection of the beta coefficients showed that BMI and internalization once again contributed unique variance. The increment in R^2 in step 3, where the interaction term of ethnicity and ethnic identity was entered, was not statistically significant, indicating that there is no moderator effect. Results from this regression can be viewed in Table 4.

CHAPTER V

DISCUSSION

This study examined to what extent college women from Hispanic and Caucasian ethnic groups differed in behavioral and attitudinal symptoms of eating disorders. Results showed that controlling for BMI, Hispanic and Caucasian participants reported similar levels of behavioral and attitudinal eating disorder symptoms. These results are consistent with prior findings that reported more similarities than differences in terms of composite measures of eating disorder symptomatology between Hispanic and Caucasian college women (Altabe, 1998; Cashel et al., 2003; Franko et al., 2007; George & Johnson, 2005; Lester & Petrie, 1998; Shaw et al., 2004). However, they are inconsistent with the findings of Arriaza and Mann (2001) and others who measured attitudes and behaviors separately while controlling for either weight (Abrams et al., 1993) or BMI (Arriaza & Mann, 2001; Gluck & Geliebter, 2002). These researchers found that compared to Hispanics, Caucasian women reported higher levels of eating disorder behavioral symptoms and similar levels of eating disorders attitudinal symptoms.

In line with Arriaza and Mann's findings (2001), our results showed similar attitudinal eating disorder symptoms for both Hispanic and Caucasian participants after BMI was controlled for. Furthermore, there may be more likenesses between the two ethnic groups than was previously believed. The similarities in the behavioral findings between both groups could reflect an upward trend in symptomatology for Hispanics since earlier research studies. The present study used the same eating disorder behavioral symptoms scale used in the Arriaza and Mann study (2001). In the present study the behavioral symptoms' mean score for Hispanic participants was higher ($M=1.77$) and

closer to the mean for Caucasian women ($M=1.82$) than the behavioral symptoms' mean scores reported in Arriaza's study (Hispanics: $M=1.34$; Caucasians: $M=1.93$). Past literature has posited that those who are highly acculturated to the American culture may be more likely to internalize the dominant view of beauty and, therefore, be at higher risk for presenting eating disorder symptoms than their less acculturated counterparts (Kempa & Thomas, 2000). However, the lack of a statistically significant correlation between internalization and acculturation among either ethnic group in the present study does not provide support for this speculation. Hispanic participants in the study were highly acculturated and also reported very similar BMI scores to the Caucasian group, which may explain the lack of differences in both behavioral and attitudinal symptoms of eating disorders.

Behavioral and attitudinal symptoms were positively highly correlated with each other for both groups. Our findings also reiterate the strong relations between eating disorder symptoms and BMI in Hispanics; however, in the Caucasian group, BMI was correlated to attitudinal symptoms only. One may wonder why behavioral symptoms are not linked to BMI for this group. This variation cannot be explained through our data and analysis, and further research is needed to explain the differences in the findings.

Also consistent with previous studies is the finding that internalization of the thinness ideal has a positive relation with eating disorder symptoms for Hispanic and Caucasian college women (Aviña, 2008; Cusumano & Thompson, 1997; Griffiths et al., 2000; Morry & Staska, 2001; Stice et al., 1994; Warren et al., 2005). Regardless of whether studies examined Caucasian and/or Hispanic women, and measured behavioral and attitudinal symptoms together or each type of symptom separately, results indicate

that the acceptance of the thin Western ideal is highly related to symptomatology for all women.

As speculated, among Hispanic participants results of bivariate correlations showed that ethnic identity was negatively correlated to internalization and behavioral and attitudinal symptoms of eating disorder symptoms. These findings concur with the notion that a high ethnic identity for minorities is a protective factor against eating disorder symptoms (Abrams et al., 1993). Hispanic women with a high ethnic identity may be benefiting from a healthier psychological outlook, due to a high ethnic identity being linked to better coping skills and self esteem (Greig, 2003).

The role of ethnic identity in eating disorder symptomatology has not been studied frequently, and our findings accentuate the need for additional clarity in reference to ethnic identity, ethnicity, and eating disorder symptoms. Within our sample, both Caucasian and Hispanic women seem to relate highly to their respective ethnic groups. Ethnic identity did not contribute any additional variance when trying to predict symptomatology. It is important to note that among Hispanics, though ethnic identity was negatively associated with internalization and eating disorder symptomatology, after the BMI and internalization were controlled for, ethnic identity failed to add predictive power. In other words, whatever explanatory force ethnic identity carried was redundant with BMI and internalization. In addition, ethnicity did not moderate the relation of behavioral or attitudinal eating disorder symptoms to ethnic identity. The lack of a moderation effect could be due to our group of college women being highly acculturated, showing more similarities between the two ethnicities.

However, the regression analyses showed that the linear combination of BMI and internalization predicts more variance in relation to attitudinal ($R^2 = .40$) than behavioral ($R^2 = .16$) symptoms. We are left to wonder why this is so. Perhaps this is because attitudinal symptoms are highly prevalent among all women, regardless of ethnicity or ethnic identity. Also, internalization could be classified as an attitudinal construct in itself, since it involves psychologically accepting and mentally implementing the desire to achieve the thin ideal. It could be that behavioral manifestations of eating disorder are less socially acceptable, more difficult to maintain, and more often denied in self-reports than attitudes are.

There are several limitations that can be noted for this study. The use of self report measures is often criticized for its lack of completely accurate information. Asking participants to report their height and weight as well as attitudes and behaviors concerning their appearance is asking for value-laden personal information that participants may not be willing to divulge precisely. Also, our sample came from a large public university in a large metropolitan city, which may not produce the most representative traditional groups of each ethnicity. A college sample, regardless of ethnicity, is different in that they are educated, highly acculturated individuals, and not what we picture as typical community members. Furthermore, perhaps other variables like age or socioeconomic status, which were not measured here, may prove to be more useful when studying where differences in groups may originate.

Our study extends other research showing that eating disorder symptoms, both behavioral and attitudinal, are equally occurring for Caucasian and Hispanic women. BMI and internalization of ideals of thinness are consistently correlated to eating disorder

symptoms and should be key components of eating disorder research. This study's findings suggest that therapists should consider eating disorder symptoms among women from all ethnic groups, not just women from the majority as popularly believed (Cachelin et al., 2000).

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Table 1

Means and Standard Deviations of Predictor and Criterion Variables

Measure	<u>Hispanic</u>			<u>Caucasian</u>		
	<u>N</u>	<u>M</u>	<u>SD</u>	<u>N</u>	<u>M</u>	<u>SD</u>
ED Attitudes	118	2.20	1.34	144	2.0	1.34
ED Behaviors	118	1.77	1.48	144	1.82	1.53
BMI	119	24.30	5.39	145	23.78	5.97
Ethnic Identity	119	3.73	.73	145	3.35	.64
Internalization	118	20.36	7.53	141	21.28	7.75
Acculturation	114	3.43	.65	140	4.47	.41

Note: The range of possible scores for Eating Disorder Attitudes and Behaviors was 0 to 6 respectively; BMI range was from 16.64 to 51.49; Ethnic Identity was 1 to 5; Internalization was 8 to 40; Acculturation was 1 to 5. In all cases, higher scores indicate a higher level of the variable.

Table 2

Correlation Matrix

	Hispanic					Caucasian				
Variable	1	2	3	4	5	1	2	3	4	5
1. ED A										
2. ED B	.659**					.646**				
3. BMI	.330**	.284**				.349**	.128			
4. E I	-.230**	-.184*	-.007			.056	.035	.044		
5. INT	.543**	.339**	-.077	-.233*		.490**	.332**	-.051	.064	
6. ACC	.062	.047	.152	-.363**	.084	.060	.143	.061	-.171	.029

Note. ED A= Eating Disorder Attitudinal Symptoms; ED B= Eating Disorder Behavioral Symptoms; BMI= Body Mass Index; E I= Ethnic Identity; INT= Internalization; ACC= Acculturation

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

Table 3

*Summary of Hierarchical Regression Analysis for Variables Predicting Behavioral**Eating Disorder Symptoms (N=259)*

Variable	B	SE B	β	R^2	ΔR^2
Step 1					
ETH	.03	.17	.01	.16***	.16***
BMI	.06	.02	.22***		
INT	.07	.01	.35***		
Step 2					
ETH	.03	.17	.01	.16***	.0
BMI	.06	.02	.22***		
INT	.07	.01	.35***		
E I	-.10	.12	-.05		
Step 3					
ETH	.03	.17	.01	.16***	0
BMI	.06	.02	.22***		
INT	.07	.01	.35***		
E I	-.10	.13	-.05		
E X E I	.01	.05	.01		

ETH = Ethnicity, BMI = Body Mass Index, INT = Internalization, E I = Ethnic Identity

E X E I = Interaction of Ethnicity x Ethnic Identity

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 4

*Summary of Hierarchical Regression Analysis for Variables Predicting Attitudinal**Eating Disorder Symptoms (N=259)*

Variable	B	SE B	β	R^2	ΔR^2
Step 1					
ETH	-.18	.13	-.07	.4***	.4***
BMI	.09	.01	.37***		
INT	.09	.01	.54***		
Step 2					
ETH	-.1	.1	-.08	.4***	0
BMI	.09	.01	.37***		
INT	.09	.01	.53***		
E I	-.1	.1	-.05		
Step 3					
ETH	-.93	.70	-.35	.4***	0
BMI	.09	.01	.37***		
INT	.09	.01	.53***		
E I	-.40	.31	-.21		
E X E I	.20	.19	.28		

ETH = Ethnicity, BMI = Body Mass Index, INT = Internalization, E I = Ethnic Identity

E X E I = Interaction of Ethnicity x Ethnic Identity

* $p < .05$, ** $p < .01$, *** $p < .001$