# The Relationship between Disordered Eating and Coping Styles: Presentation of Disordered Eating in Ethnically Diverse Female College Students

by

Claire Rachel Golden

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Georgiana Tryon, Ph.D.

| | |
|---|---|
| Date | Chair of Examining Committee |

Mario Kelly, Ed.D.

| | |
|---|---|
| Date | Executive Officer |

Helen Johnson, Ph.D.

Howard Everson, Ph.D.

Amy Michael Racanello, Ph.D.
Supervisory Committee

THE CITY UNIVERSITY OF NEW YORK

Abstract

THE RELATIONSHIP BETWEEN DISORDERED EATING AND COPING STYLES: PRESENTATION OF DISORDERED EATING IN ETHNICALLY DIVERSE FEMALE COLLEGE STUDENTS

By

Claire Rachel Golden

Advisor: Georgiana Shick Tryon, Ph.D.

Disordered eating is defined as attitudes and/or behaviors related to eating that are atypical, including but not limited to restrictive eating, binge eating, and purging. The relationship between coping styles and disordered eating has been studied among Caucasian women. Positive relationships have been found between emotion-oriented coping strategies and disordered eating symptoms in this population (e.g., Denisoff & Endler, 2000; Garcia-Grau et al., 2002, 2004). Minimal research has explicitly examined the relationship between coping strategies and disordered eating symptoms among both racially and ethnically diverse individuals. Some cross-cultural research has found differences in the use of emotion-oriented coping strategies among minority ethnic groups in general (e.g., McCarty et al., 1999; Moore & Constantine, 2005; O'Connor & Shimizu, 2002). It is critical for school psychologists to work effectively with students of diverse ethnic backgrounds. School psychologists need to be aware of preexisting differences in adaptive emotion-oriented coping, as well as in disordered eating behaviors, and keep this in mind when working with students of diverse ethnic backgrounds. The dissertation aimed to add to the literature by exploring the relationships between disordered eating symptoms and coping strategies in ethnically diverse and Caucasian samples of college women. Asian participants were found to differ from South Asian participants in the relationship

between coping styles and disordered eating, which raises questions about the validity of previous research combining the two distinct ethnic groups, as is often done. Additionally, differences were seen between participants of different regional ethnicities, calling into question broad characterization of the Caucasian and non-Caucasian dichotomy within the current body of research. With a more complete picture of eating disorders in minority college women, school professionals may be better able to identify diverse college females struggling with disordered eating symptoms.

# Acknowledgments

For Captain Joe

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# CHAPTER I

## Introduction

An estimated seven million women in the United States have an eating disorder. The vast majority of those women are between the ages of 12 and 25 (http://www.state.sc.us/dmh). Thus, the body of literature that examines disordered eating is vast. Most eating disorders research has focused on women in western cultures, and shows that Caucasian women tend to endorse more restrictive disordered eating habits than do non-Caucasian women (Cummins & Simmons, 2005; Fitzgibbon, Spring, Avellone, Blackman, Pingitore, & Stolley, 1998; French & Story, 1997; Gilbert, 2006; Pratt, Phillips, Greydanus, & Patel, 2003). Little research has examined the disordered eating habits of non-Caucasian females; however, the research that has been done found that non-Caucasian women who engage in maladaptive eating behaviors tend to endorse bingeing and purging behaviors (Alegria, Woo, Cao, Torres, Meng, & Striegel-Moore, 2007; Fitzgibbon, Spring, Avellone, Blackman, Pingitore, & Stolley, 1998; Pernick, Nichols, Rauh, Kern, Ji, Lawson, & Wilfley, 2006).

The most current edition of the Diagnostic Statistical Manual of Mental Disorders (DSM-IV-TR) identifies three types of eating disorders: Anorexia Nervosa, Bulimia Nervosa, and Eating Disorder Not Otherwise Specified (EDNOS: (APA, 2000)). Prevalence rates of eating disorders have been found to range from 3% of women reporting subthreshold levels of disordered eating (Patton, Coffey, & Sawyer, 2003) to nearly 20% of adolescent girls exhibiting threshold or subthreshold eating disorder symptoms (Pernick et al., 2006). While the categories of eating disorders share some basic characteristics, such as maladaptive dieting and a focus on weight and food, they are diagnostically valid as separate disorders (Wonderlich, Joiner, Keel, Williamson, & Crosby, 2007). Prevalence rates of disordered eating among ethnically diverse

women have been calculated in a few studies, and appear to be lower than among Caucasian women for all disordered eating diagnoses (Alegria et al., 2007; Nicdao, Hong, & Takeuchi, 2007; Taylor, Caldwell, Baser, Faison, & Jackson, 2007).

Coping processes are defined as any effort individuals make to ameliorate the stressful situations in which they find themselves (Bloks, Spinhoven, Callewaert, Willemse-Koning, & Turksma, 2001; Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Garcia-Grau, Fuste, Miro, Saldana, & Bados, 2002). Coping styles are patterns of those coping processes and have been conceptualized in many different ways, from behavioral or emotional strategies used by the individual (Garcia-Grau et al., 2002; Garcia-Grau, Fuste, Miro, Saldana, & Bados, 2004) to the amount of primary or secondary control the individual feels in the situation (McCarty et al., 1999).

The wide variety of scales used to measure coping styles has led to a large body of literature that is difficult to synthesize. Generally, three main coping styles have emerged across the research: problem-oriented coping, emotion-oriented coping, and withdrawal or avoidance (Gelhaar et al., 2007; Habarth, Graham-Bermann, & Bermann, 2009; Prelow, Tein, Roosa, & Wood, 2000; Stanton, Kirck, Cameron, & Danoff-Burg, 2000). Problem-oriented coping styles include attempts to change the stressful situation, either by making changes to the environment or to the self. Emotion-oriented coping involves expressing or repressing the emotions associated with the stressful situation. Avoidance coping styles are typically considered to be maladaptive, and involve ignoring the stressful situation and any emotions it may inspire (Gelhaar et al., 2007; Ghaderi & Scott, 2000; Koff & Sangani, 1997). Coping styles describe the ways that individuals interact with their environment and, as such, they have a profound effect on psychological outcomes (Compas et al., 2001; Gelhaar et al., 2007; Thomas, Witherspoon, & Speight, 2008).

A recent line of research has focused on the relationship between coping styles and disordered eating symptoms (Denisoff & Endler, 2000; Garcia-Grau et al., 2002, 2004). Some of this research suggests that emotion-oriented coping styles may be predictive of disordered eating symptoms in both clinical and nonclinical samples (Bloks et al., 2001; Koff & Sangani, 1997; Turner, Bryant-Waugh, & Peveler, 2009). This research is inconclusive and has, for the most part, been conducted on predominantly homogeneous populations made up mostly of White women from Western countries. The aim of the current dissertation was to explore the relationships between coping styles and disordered eating patterns within an ethnically diverse college population.

Some research has found differences in coping styles based on race or ethnic group (McCarty et al., 1999; Moore & Constantine, 2005; O'Connor & Shimizu, 2002), while other research has suggested that the broad categories of problem-oriented, emotion-oriented, and avoidance coping styles exist across cultures (Prelow et al., 2000). It has been argued that women from collectivist cultures may choose more emotion-oriented and avoidance coping styles to avoid confrontation within the community (Stanton et al., 2000; Thomas et al., 2008). Differences in rates of disordered eating symptoms, as well as diagnoses of eating disorders, have been seen cross-culturally. Ethnically and racially diverse women endorse more binge symptoms than their White counterparts (Bisaga et al., 2005; Fitzgibbon et al., 1998; Striegel-Moore, Schreiber, et al., 2000).

The operational definition of ethnically diverse participants varies across studies. Some researchers rely solely on self-identification (Striegel-Moore et al., 2005), while others use measures of acculturation such as time spent in the country (Waller & Matoba, 1999). This study used the construct of ethnic identity to determine participants' level of identification with the

minority group as opposed to their identification with the dominant culture, as ethnic identity has been shown to be a protective factor for positive psychological outcomes in minority adolescents and college-aged participants (Jeltova, Fish, & Revenson, 2005; Phinney, 1992; Phinney, Cantu, & Kurtz, 1997; Phinney, Horenczyk, Liebkind, & Vedder, 2001; Yancey, Siegel, & McDaniel, 2002).

There remains a gap in the current literature concerning the relationship between coping styles and disordered eating symptoms as it differs cross-culturally. While cross-cultural differences have been found in general coping styles studied in isolation (e.g., McCarty et al., 1999; O'Connor & Shimizu, 2002) and in disordered eating symptoms (e.g., Cummins, Simmons, & Zane, 2005; Fitzgibbon et al., 1998; Striegel-Moore, Schreiber, et al., 2000), neither body of research is conclusive. Likewise, there are few published studies regarding cross-cultural differences in the relationship between coping styles and disordered eating symptoms. The current dissertation used exploratory analysis to examine the relationship between disordered eating and coping styles among women from different ethnicity groups and regional backgrounds.

# CHAPTER II

## Literature Review

This chapter provides a review of the literature about the three main constructs in this dissertation: eating disorders, coping styles, and ethnic identity. Within each of the three sections, I discuss differences found between and among ethnic and racial groups.

The first section of the chapter begins with a review of the literature concerning eating disorders among women. The review includes contemporary definitions of eating disorders, prevalence rates, and differences across racial and ethnic groups. It also includes a summary of personal, relational, and social risk factors associated with eating disorders in women.

The second section of the chapter provides a review of the literature about coping styles, including definitions, measurement issues, and a review of the coping styles presented in current literature. Additionally, the review includes the most current research that explores the relationship between coping styles and eating disorders, as well as differences in this relationship between and among racial and ethnic groups.

The third section of this chapter focuses on the construct of ethnic identity, as conceptualized by Jean Phinney (1992). This section includes an overview of the origin of ethnic identity, information about measurement issues; outcome variables traditionally associated with ethnic identity in the extant research; a review of the current research about both ethnic identity and eating disorders; and research about eating disorders, coping styles, and ethnic identity in women of various racial and ethnic groups. The chapter concludes with the rationale and hypotheses for this study.

### Diagnostic Characteristics of Eating Disorders

The Diagnostic Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) identifies three types of eating disorders: anorexia nervosa (AN), bulimia nervosa (BN), and eating disorder not otherwise specified (EDNOS: Steinhausen, Boyadjieva, Griogoroiu-Serbanescu, & Neumark-Steiner, 2003). Prevalence rates of eating disorders vary. For example, Patton, Coffey, and Sawyer (2003) reported a 3% subthreshold level of disordered eating symptoms in a European sample of young adults, but others (Stice, Shaw, & Marti, 2007; VanderWal, 2004) have cited threshold eating disorder symptom prevalence rates of 10-12% among adolescent females in the U.S. Another study (Pernick et al., 2006) estimated a prevalence of disordered eating symptoms as high as 19.6% among female high school students. Outcomes for all categories of eating disorders also vary. Mortality ranges from 4% for AN and BN to 5.2% for EDNOS (Crow et al., 2009). On the positive side, recovery rates of 70% have been reported for eating disordered symptoms (Steinhausen et al., 2003).

**Anorexia Nervosa (AN).** AN is characterized by significant weight loss (15% below normal body weight), fear of gaining weight, distorted body image, and loss of menstruation in females (American Psychiatric Association, 2000; Bennett & Cooper, 2001; Crow et al., 2009). The two subtypes of AN are Restrictive (i.e., withholding food or using exercise to lose weight) and Binge-Purge (i.e., eating large amounts of food and then using compensatory behaviors to remove that food from the body) (Hudson, Hiripi, Popejr, & Kesser, 2007; Rastam, Gillberg, & Wentz, 2003; Wonderlich, Joiner, Keel, Williamson, & Crosby, 2007). Lifetime prevalence rates vary, ranging from 0.3% among males to 0.9% among females (APA, 2000; Flowers, Levesque, & Fischer, 2011). Relatively low recovery rates have been found, ranging from 40% to 47%; moreover, mortality related to AN has been found to be as high as 5% (Crow et al., 2009; Rastam et al., 2003; Steinhausen, 2002).

In a review of the AN literature, Steinhausen (2002) reported that individuals with AN recover completely less than 50% of the time, and present with decreased symptoms only 33% of the time. Further, Steinhausen reported that approximately 33% of patients diagnosed with AN (a) show no improvement, (b) remain chronically ill and never recover, and (c) survive. Alarmingly, for females who are 15-24 years old, the mortality rate associated with AN is 12 times higher than the mortality rate for all other causes of death combined (Hudson et al., 2007). It is imperative to note that nearly a quarter of people who suffer from AN die prematurely from complications related to the disorder, including, but not limited to, suicide and heart problems (Crow et al., 2009). Further, individuals diagnosed with AN tend to be diagnosed concurrently with high rates of comorbid psychiatric symptoms, such as affective disorders, obsessions, compulsions, and poor social functioning (Rastam et al., 2003; Wentz, Gillberg, Anckarsater, Gillberg, & Rastam, 2009; Wonderlich et al., 2007).

**Bulimia Nervosa (BN).** BN is characterized by binge eating followed by compensatory behaviors such as vomiting, laxative use, or fasting. A binge is defined as eating, within a discrete period of time, a much larger amount of food in one sitting than is normal. Binge eating is also accompanied by a sense of lack of control. Binges and compensatory behaviors must occur at least twice per week for three months to meet diagnostic criteria. The individual must demonstrate a fixation with weight and body image (American Psychiatric Association, 2000; Atlas, Smith, Hohlstein, McCarthy, & Kroll, 2002; Stice, 2002; Tylka & Subich, 2004).

Lifetime prevalence rates of BN are reported to range from 0.5% for males to 1-3% among females (APA, 2000; Flowers et al., 2011). BN is made up of two subtypes: purging and non-purging. The purging subtype is characterized by the use of self-induced vomiting, laxative, or diuretic use. The non-purging subtype is characterized by fasting or exercising after binge

eating (Wonderlich et al., 2007). Recovery rates for BN range from 35% to 75% at 5 or more years of follow-up (Evans, Foa, Gur, O'Brien, Seligman, Ruane, & Ruane, 2005). BN is a chronic condition, however, and is characterized by relapsing and remitting. Approximately one-third of those diagnosed with BN who recover will relapse within three years (Evans et al., 2005). Mortality is low, with rates of approximately 0.5% (Evans et al., 2005).

**Eating Disorder Not Otherwise Specified (EDNOS).** The third eating disorders diagnostic category in the DSM-IV-TR is EDNOS. EDNOS is a diagnostic assignment reserved for individuals who demonstrate symptoms of clinically significant disordered eating, but exhibit symptom clusters that do not fit into either one of the other two categories (i.e., AN or BN). EDNOS prevalence rates are as high as 3.4% (Machado, Machado, Gonçalves, & Hoek, 2007), which are higher than prevalence rates of either AN or BN. Mortality rates among those diagnosed with EDNOS can be as high as 5.2% (Crow et al., 2009). Due to the disorganized nature of the EDNOS diagnosis, and the tendency for those diagnosed with EDNOS to meet criteria for another eating disorder, research has not focused on recovery rates. The little research that has been done, however, has found recovery rates as high as 83%, with relapse rates of up to 42% (Reel, 2013).

## Ethnic Differences in Eating Disorders

Much of the eating disorders research has focused on women of Caucasian descent who live in Western cultures. Although researchers have started to examine the presentations of eating disorder symptoms among women from different ethnic groups, the information is difficult to synthesize. Specifically, this area of study is complicated because there is little agreement regarding how to group participants. For example, some research compares Caucasian and non-Caucasian participants, while other research may examine specific ethnic

groups within the umbrella of "non-Caucasian." Additionally, a wide variety of measures have been used across studies leading to the examination of different variables.

Also, the term *race* is often used in research, including research on eating disorders, to distinguish groups of individuals. However, race is a biological category that tells little about individuals' customs, behaviors, and traditions (Gilbert, 2006). The term *ethnicity*, on the other hand, reflects these cultural distinctions. As such, readers should be aware that many studies in the literature review use either racial categories, such as Caucasian and non-Caucasian, or ethnicity categories, such as specific countries of origin or ethnic groups. I will highlight when these different categories are being used in an attempt to better elucidate similarities and differences between groups.

Some research has found significant differences between ethnic or racial groups regarding prevalence of eating disorders (Cummins & Simmons, 2005; Fitzgibbon, Spring, Avellone, Blackman, Pingitore, & Stolley, 1998; French & Story, 1997; Gilbert, 2006; Pratt, Phillips, Greydanus, & Patel, 2003; Striegel-Moore, 2000; Striegel-Moore & Schreiber, 2000). Other research has found similar rates of eating disorders across diverse groups (Demarest & Allen, 2000; Gluck, 2002; Mitchell & Mazzeo, 2004; Shaw, Ramirez, Trost, & Randall, 2004; Su-Jin Yang & Yoon, 2010).

In one of the few studies of its kind, Alegria and her colleagues calculated the lifetime prevalence of eating disorders in a large national sample (National Latino and Asian Study; NLASS) of Latino participants (Alegria, Woo, Cao, Torres, Meng, & Striegel-Moore, 2007). Within a sample of 2,554 English speaking Hispanic American participants, lifetime prevalence rates of AN (0.03% males, 0.12% females), BN (1.34% male, 1.91% females), and EDNOS (1.55% males, 2.31% females) were found (Alegria et al., 2007). This study focused on Latino

and Asian participants, and did not separate them based on country of origin or cultural group, using the broader racial categories instead.

In a similar study, Taylor and her colleagues calculated prevalence rates among a large (*n* = 6,361) sample of African American participants (Taylor, 2007). Prevalence rates were calculated for AN (0.2% males, 0.14% females), BN (0.97% males, 1.90% females), and EDNOS (0.78% males, 2.36% females). Finally, a similar study among Asian Americans (*n* = 2,095) calculated prevalence rates for AN (.05% males, 0.12% females), BN (0.71% males, 1.42% females), and EDNOS (1.35% males, 2.67% females) (Nicdao, Hong, & Takeuchi, 2007). It should be noted that prevalence rates of EDNOS for Hispanic, African American, and Asian Americans are higher than prevalence rates for either AN or BN. These prevalence rates do not reach the overall prevalence rates described previously, but they are the first studies of their kind to calculate prevalence rates among these populations. While these studies found similar prevalence rates among Hispanic, African American, and Asian American participants, the literature is mixed on the presentation of disordered eating among non-Caucasians. It should be noted that this study, and most studies in the literature, used racial groups rather than ethnic or cultural groups when comparing participants. The disparity of findings makes it difficult to synthesize this body of research. This section will attempt to summarize these incongruent findings, and consider directions for future research.

**Binge eating symptoms.** Cross-cultural studies have compared African Americans, Native Americans, Asian Americans, Hispanics, and Caucasian Americans with regard to disordered eating symptoms. Some research has shown that Hispanics report more bingeing symptoms than individuals in other ethnic groups (Alegria, Woo, Cao, Torres, Meng, & Striegel-Moore, 2007; Fitzgibbon, Spring, Avellone, Blackman, Pingitore, & Stolley, 1998; Pernick,

Nichols, Rauh, Kern, Ji, Lawson, & Wilfley, 2006). Results concerning binge eating for African Americans, however, are more mixed.

Fitzgibbon and her colleagues (1998) recruited a large sample ($n$ = 351) of Caucasian, African American, and Hispanic women to examine rates of disordered eating in a non-clinical population. Participants completed both the Binge Scale to assess the severity of binge eating symptoms and the Beck Depression Inventory (BDI) to assess rates of depressive symptoms. Even after controlling for education, depression, and ideal body image, Hispanic women had significantly higher rates of binge eating symptoms compared to the symptoms demonstrated by both Caucasian or African American women.

Pernick and her colleagues (2006) examined disordered eating among a multi-ethnic sample of 453 female high-school athletes. Hispanic students had the highest rates of general disordered eating symptoms as well as the highest rates of binge eating symptoms compared to symptoms of the Caucasian and African American students. The study focused on specific types of disordered eating symptoms, such as binge eating and vomiting, taken from the Eating Disorders Examination Questionnaire (EDE-Q). Both binge eating and vomiting were significantly more prevalent in the Hispanic group than either the Caucasian or African American groups (Vomiting: 7.8% Hispanic, 1.4% African American, 2.2% Caucasian, $p < .05$; Binge-eating: 12.6% Hispanic, 5.5% African American, 5.4% Caucasian, $p < .05$). Pernick et al. suggested that Hispanic women may present with a different picture of disordered eating than that presented by Caucasian or African American women. Consequently, clinicians may find it more difficult to identify and treat Hispanic women with eating disorders.

Alegria and her colleagues (2007) used data from the National Latino and Asian American Study (NLASS), which was a household survey of Asian Americans and Latinos aged

18 and older living in the United States. The authors found that, although Hispanic women had elevated rates of binge eating symptoms and BED (Binge Eating Disorder), they had very low rates of AN and BN. Of the few cases with lower than normal weight (*n* = 102 out of 2,554 total), only 6 individuals reported a fear of gaining weight, which is a key criterion in the diagnosis of AN. The authors argued that the current criteria for AN and BN may not be appropriate for non-Caucasian populations.

Mitchel and Mazzeo (2004) examined disordered eating among 259 Caucasian and African American college students. Participants completed the Eating Disorder Diagnostic Scale (EDDS), the Binge Eating Scale (BES), and several scales to assess affect and mood. Mitchell and Mazzeo found similar rates of binge eating for female Caucasian and African American students, and no differences in prevalence of binge eating symptoms between the two groups.

Similarly, Striegel-Moore, Fairburn, Wilfley, Pike, Dohm, and Kraemer (2005) used a case-control design to explore ethnic differences in disordered eating. They recruited Caucasian and African American adult women who were diagnosed with BED (*n* = 107) and two control groups: one group contained women with one Axis I diagnosis psychiatric disorder, and one contained healthy women for a total control sample of 214 women. Striegel-Moore and her colleagues asked participants to complete a diagnostic interview using the SCID (First et al., 2002). Striegel-Moore et al. found that there were no differences by ethnic group with regard to BED diagnosis. The authors used strict diagnostic criteria for BED, which may have underestimated the presence of disordered eating symptoms. The dissertation examined rates of disordered eating symptoms, not merely rates of diagnosis, to avoid this underrepresentation.

Striegel-Moore and Schreiber (2000) and her colleagues examined the disordered eating habits of African and Caucasian American woman. The participants (*n* = 2,379) were followed

from when they were 11 years old until they were 18 years old. Each year the girls completed the Eating Disorders Inventory (EDI) to assess the participants' attitudes toward their eating habits and their bodies, including body dissatisfaction, drive for thinness, and binge eating and purging behaviors. In addition to completing the EDI, participants also reported their height, weight, and BMI. Results indicated that, compared to the symptoms reported by the Caucasian girls, the African American participants had higher rates of self-reported binge eating symptoms. The findings suggest that African American women may be more likely to present with BN than AN symptoms, and Caucasian girls may be more likely to present with AN or other restrictive eating patterns.

Bisaga, Whitaker, Davies, Chuang, Feldman, and Walsh (2005) examined disordered eating among a diverse high school population. The sample was composed of 1,445 female high school students (mean age 16.1 years) who were either Caucasians, Hispanics, African Americans, Asian Americans, or Caribbean Americans. The girls completed questionnaires that assessed their eating attitudes and behaviors (EAT-26, EDQ), depression symptoms (Short Mood and Feelings Questionnaire), and level of ethnic identity (MEIM). Bisaga et al. (2005) found the highest rates of eating disorders in Caucasian American and Hispanic groups, and the lowest in the African and Caribbean American groups. Further, the results indicated that African American girls tended to endorse more binge eating than did Caucasian, Hispanic, or Caribbean girls. Bisaga and her colleagues concluded that African American women endorse lower rates of diagnosable eating disorders, and may present with a different picture of disordered eating from their Caucasian peers. When research focuses only on diagnosed eating disorders, data regarding disordered eating among African American women may be lost because these women may demonstrate patterns of disordered eating that are not captured by the traditional diagnostic

assignments. The dissertation study strove to avoid this pitfall by studying disordered eating symptoms, and not the presence or absence of eating disorders.

To further complicate the picture, Franko, Becker, Thomas, and Herzog (2007) gathered self-report data from a large sample ($n$ = 5,435) of college-aged students. They found that the overall frequency of disordered eating symptoms was similar across groups of Asian Americans, Native Americans, Caucasian Americans, and Hispanic students. Unlike other research described in this literature review, Franko and her colleagues did not find a significant difference across groups with regard to binge eating behaviors.

Thus, in regard to ethnic differences in binge eating symptoms, research presents a mixed picture with some studies indicating a difference and others finding no ethnic differences. Differences in samples, sample selection procedures, and measures may help to account for these disparate findings.

**Compensatory behaviors.** Compensatory behaviors are those that compensate for individuals' with eating disorders beliefs that they have eaten too much. These actions include activities such as vomiting, diuretic and laxative use, or fasting. There is some evidence that compensatory behaviors vary with ethnicity.

In the study reported above, Franko et al. (2007) found differences by ethnic group in compensatory behaviors that college-aged participants endorsed after reported binge eating. Specifically, they found that the Asian sample was least likely and the Caucasian sample was most likely to use diuretics (Asian $n$ = 153, *prevalence = 0%*; Caucasian $n$ = 4,652, *prevalence = 4.9%*; $\chi^2 = 11.85$, $p = .02$). There were no significant differences in the use of diuretics between the African American ($n$ = 363, *prevalence = 5.7%*), Hispanic ($n$ = 210, *prevalence* = 7.8%) or Native American ($n$ = 55, *prevalence* = 5.5%) samples. Additionally, they found that the Native

American sample was most likely and the Asian sample was least likely to use laxatives after binge eating behaviors (Native American *n* = 55, *prevalence = 16.4%*; Asian *n* = 153, *prevalence* = 5.3%; $\chi^2 = 12.88$, $p = .01$). They did not find any significant differences in laxative use between the Caucasian (*prevalence* = 6.1%), African American (*prevalence* = 8.2%), or Hispanic (*prevalence* = 7.8%) samples.

Cachelin, Veisel, Barzegarnazari, and Striegel-Moore (2000) studied a group of 325 women, who completed the EDE and answered questions about acculturation. Similar to Franko et al. (2007), Cachelin and her colleagues (2000) found that there were differences in compensatory behaviors. Hispanics were most likely and Caucasian women least likely to use diuretics (35% vs. 4%, respectively; $\chi^2$ (3) = 9.12, $p = .03$). Additionally, they found that African Americans were most likely and Caucasian women were least likely to use laxatives (52% vs. 12%, respectively; $\chi^2$ (3) = 9.10, $p = .03$). The fact that the adult sample in this study is similar to the college-aged sample of the previous study lends strength to the argument that differences exist in compensatory behaviors by ethnic group. This suggests that research should focus on specific symptoms of disordered eating, both eating and compensatory behaviors, to determine how patterns of symptoms and behaviors differ across ethnic groups. The dissertation focused on specific disordered eating symptoms within the sample population, and used the EAT-26 to determine if there were compensatory behavior differences across ethnic groups.

**Body dissatisfaction.** Body dissatisfaction is one of the most common variables examined in eating disorder research. Understandably, it has also been a main focus of cross-cultural research. Body dissatisfaction concerns the extent to which an individual feels that her body size is less than ideal. It is often measured through self-report questions about specific parts of the body, or by asking individuals to choose ideal and actual body shapes from a series of

figure drawings (Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006). Body dissatisfaction has been identified as an important personal variable in disordered eating behaviors and attitudes (Neumark-Sztainer et al., 2006; Stice, 2002; Tsai, Curbow, & Heinberg, 2003; Vander Wal, 2004).

Tsai et al. (2003) examined the influence of body dissatisfaction on disordered eating among 305 Taiwanese-American women (mean age = 19.5 years). Participants completed the Body Dissatisfaction subscale of the Eating Disorders Inventory (EDI; Garner & Olmstead, 1983), which assesses satisfaction with specific weigh-related body sites. Additionally, participants completed the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979). This measure assesses disordered eating behaviors and cognitions. Finally, participants completed a measure of ethnic identity developed specifically for individuals of Taiwanese descent, the Taiwanese Ethnic Identity Scale (TEIS) developed by the authors specifically to explore ethnic identity among Taiwanese Americans (Tsai & Curbow, 2001). The authors found that, within the Taiwanese-American group, higher BMI was associated with lower EAT-26 scores ($\beta = -.24$; $t = -4.5$; $p < .001$); lower ethnic identity levels were related to lower EAT-26 scores ($\beta = .21$; $t = 3.4$; $p < .01$), and higher body dissatisfaction levels were associated with higher EAT-26 scores ($\beta = .48$; $t = 8.8$; $p < .001$). They found only partial mediation effects for the Taiwanese-American sample because the association between the ethnic identity and EAT-26 scores was significantly decreased (a change in $\beta$ of .07) due to the presence of body dissatisfaction (the mediating variable). They did not find any mediating effect of body dissatisfaction between ethnic identity and disordered eating for the Taiwanese group. The authors hypothesized that this difference is caused by the proximity of Taiwanese-American women to the Western thin ideal on a daily basis, which links body dissatisfaction and ethnic identity in their minds. This is not

the case for Taiwanese women, however, who are not as exposed to the Western thin ideal on a daily basis.

Vander Wal (2004) found that body dissatisfaction was significantly correlated with disordered eating attitudes and behaviors in young females. The authors asked 139 African American and Hispanic girls aged 9-10 years to complete a children's version of the Eating Attitude Test and a Body Esteem Scale for Children (Vander Wal, 2004). A significant correlation was found between body dissatisfaction and disordered eating attitudes and behaviors in both the African American ($r$ = -.36, $p$ < .01) and Hispanic ($r$ = -.35, $p$ < .01) participant groups, indicating that higher levels of body dissatisfaction were associated with higher rates of disordered eating attitudes and behaviors in both groups.

Neumark-Sztainer and her colleagues (2006) found that, in female adolescents, lower body satisfaction was significantly associated with unhealthy eating behaviors and binge eating. The authors used data from the Project EAT-II, a 5-year longitudinal study, which followed an ethnically and socioeconomically diverse sample of 2,516 adolescents. Participants completed a body dissatisfaction measure that consisted of scaled body figures and various questions regarding their dietary control, binge eating behaviors, and body mass index (BMI) (Neumark-Sztainer et al., 2006). Data from 1,377 female adolescents (mean age 12.8 years at the beginning of the study and 17.2 years at the end) showed that body dissatisfaction scores obtained at Time 1 (beginning of the year) predicted higher levels of disordered eating behaviors such as dieting and unhealthy weight control behaviors at Time 2 (end of the year).

Differences in body dissatisfaction between and among ethnic groups have been explained by group membership, acculturation, and assimilation (Neumark-Sztainer et al., 2006). Because body dissatisfaction is considered to be a negative variable, low body dissatisfaction is

seen as positive and protective. Some research has found that African American girls have lower rates of body dissatisfaction (Demarest & Allen, 2000; Neumark-Sztainer, Croll, & Story, 2002; Wildes, Emery, & Simons, 2001), which may serve as a protective factor against restrictive eating disorders.

Demarest and Allen (2000) used two dimensional picture drawings as a tool for participants to gauge body shape and subsequent satisfaction. Body dissatisfaction was measured as the numerical difference between each subject's choice of most attractive body size and the choice of the figure that most closely resembled her actual body size. Specifically, the authors gave a sample of 120 female college students a series of body figures and asked to choose the figure they: (a) found most attractive, (b) believed others found most attractive, and (c) thought was closest to their own body size. Demarest and Allen found that, compared to Caucasian college women, African American college-age women were more accurate about which shapes others would rate as attractive. Although no significant differences emerged between Caucasian and African American women, there was a tendency for Caucasian women ($M$ = 13.5, $SD$ = 13.1) to show more body dissatisfaction than African American women ($M$ = 9.4, $SD$ = 14.4) and Hispanic women ($M$ = 7.6, $SD$ = 9.2). The present study used a two-dimensional picture drawing tool, similar to that used by Demarest and Allen (2000), to assess body dissatisfaction in the study sample.

Neumark-Sztainer and her colleagues (2002) asked a large sample ($n$ = 2,319) of female adolescents to complete a questionnaire adapted from the EAT-26. They measured body dissatisfaction using a questionnaire format that included 10 questions related to satisfaction with various body parts that were categorized as "*low, moderate, high*" satisfaction. The authors found that low body satisfaction was significantly higher amongst Hispanic females (*prevalence*

= 57.3%) compared to African American (*prevalence* = 33.8%), Asian (*prevalence* = 54.7%), Native American (*prevalence* = 52.2%), and Caucasian (*prevalence* = 46.7%) females ($p < .001$). The use of categorical values simplifies the range of body satisfaction and makes interpretation difficult. The dissertation study used a figure drawing scale to assess body dissatisfaction and used the numerical difference between ideal and current body type to quantify body dissatisfaction.

Wildes et al. (2001) performed a meta-analysis of 35 studies that focused on body dissatisfaction and disturbed eating. They conducted a search of the computerized research databases *Psychlit, PsychINFO,* and *Medline* using both clinical (AN, BN, and eating disorders) and sub-clinical (restraint, eating, dieting problems) search terms. The authors selected only studies that had (a) at least one non-Caucasian study sample and a comparison sample of Caucasian participants (except for those studies that assessed only the effects of acculturation), (b) female participants in both experimental and control groups, (c) at least one quantitative measure of eating disturbance or body dissatisfaction, and (d) results presented in a form that allowed the calculation of at least one effect size.

The 35 studies had an overall sample size of 17,781, and the authors (Wildes et al., 2001) calculated effect sizes using the equations from Rosenthal and Rosnow (Rosenthal, 1984; Rosenthal & Rosnow, 1991). Cohen's *d*'s were calculated from *F* values, *t*-scores, and chi-square values. Non-significant effects were assigned an effect size of zero and a *p*-value of 0.5. Eight categories were examined, including (a) bulimia, (b) eating disorder, (c) weight and dieting concerns, (d) dietary restraint, (e) drive for thinness, (f) body dissatisfaction, and (g) smaller body ideal. Overall, 80% of the categories showed small to moderate effect sizes in the positive direction, meaning that Caucasian women reported higher levels on 80% of the categories than

non-Caucasian women. Specifically, Wildes and her colleagues found Caucasian women reported significantly more body dissatisfaction ($n$ = 31, *mean effect size* = .24, $SD$ = .37, $p$ < .001), and dietary restraint ($n$ = 6, *mean effect size* = .41, $SD$ = .37, $p$ <.001) than what was reported by the non-Caucasian women. This finding suggests an overall lower rate of eating pathology in the non-Caucasian sample. These results further support the theory that that body dissatisfaction may be a factor in the differential presentation of disordered eating in non-Caucasian women.

The current DSM-IV-TR requires an individual to have a fear of gaining weight in order to meet diagnostic criteria for AN and BN (American Psychiatric Association, 2000; Warren, Gleaves, Cepeda-Benito, Fernandez, & Rodriguez-Ruiz, 2005). Some researchers have stated that this conceptualization of eating disorders represents a culturally-bound syndrome, and does not capture the same disorder in different cultural contexts (Becker, 2007; Keel & Klump, 2003; Soh, Touyz, & Surgenor, 2006). Specifically, the fear of gaining weight is a common symptom with which Caucasian women with eating disorders present. If this symptom is culturally bound, its inclusion as a diagnostic criterion may lead to lower rates of diagnosed eating disorders among non-Caucasian women (Lake, Staiger, & Glowinski, 2000) .

Warren and her colleagues (2005) hypothesized that reported membership in an ethnic minority group may serve as a protective factor against disordered eating risk factors, specifically because members of non-Caucasian ethnic groups may not have awareness of the Western thin ideal. Participants were European American ($n$ = 101), Mexican American ($n$ = 103), and Spanish ($n$ = 115) college students attending universities in both the United States and Spain. They completed the Body Shape Questionnaire (BSQ), the Sociocultural Attitudes towards Appearance Questionnaire – Revised (SATAQ-R; Thompson, Heinberg, Altabe, &

Tantleff-Dunn, 1999), and answered basic demographic questions about their height and weight. The BSQ assesses general satisfaction with one's body shape and weight while the SATAQ-R assesses recognition and acceptance of culturally and socially endorsed appearance standards. Significant differences were found for all measures among the three groups. Specifically, the Mexican American group reported significantly lower levels of awareness of the thin ideal ($M$ = 40.53, $SD$ = 6.23) than the European American ($M$ = 44.14, $SD$ = 5.85) and Spanish ($M$ = 42.91, $SD$ = 6.38) participants. The three groups differed significantly from each other on the internalization of the thin ideal, with European American participants reporting the highest levels ($M$ = 37.47, $SD$ = 7.22), followed by the Mexican American group ($M$ = 33.90, $SD$ = 7.03), and the Spanish group ($M$ = 31.26, $SD$ = 8.04). Finally, the European American group reported significantly higher levels of body dissatisfaction ($M$ = 106.18, $SD$ = 37.67) than the Mexican American ($M$ = 91.30, $SD$ = 33.76), and Spanish ($M$ = 84.07, $SD$ = 30.85) groups. The authors concluded that the mere membership in a non-Western ethnic group serves as a protective factor against disordered eating risk factors. Readers should note the use of the cultural groupings of European American, Mexican American, and Spanish participants.

Although Warren et al. (2005) concluded that identification with a non-Western ethnic group was a protective factor against eating disorders, it is imperative to note that they did not take participants' ethnic identity and assimilation into account. Much research on ethnicity repeats this mistake by focusing on membership in racial or ethnic minority groups, socio-economic status, and/or time spent in the United States instead of focusing on participants' ethnic identities. The sense of belonging to one's ethnic group may play a larger role in an individual's beliefs and behavior than does her race/ethnicity. The present study used ethnic

identity as a measure of the participants' sense of belonging to their ethnic group to avoid such limitations.

Due to the lower prevalence of minority women who present with the fear of gaining weight symptom, which is a requirement for the diagnosis of AN, it stands to reason that the current conceptualization of AN as a disorder may fail to incorporate a large number of minority cases. Likewise, it appears that the larger numbers of minority individuals diagnosed with EDNOS, as described previously, may make it difficult to identify true differences in the presentation of BN between Caucasian and non-Caucasian women. EDNOS has long been a *catch-all* diagnosis for those individuals who do not fit into the strict criteria of either AN or BN. It seems likely that minority women with AN and BN symptoms are under-identified because strict diagnostic criteria fail to capture their presentation of disordered eating symptoms.

**Other variables.** Researchers often do not take into account other variables, such as Body Mass Index (BMI) and socioeconomic status (SES) that may influence eating disorder symptoms and diagnoses among ethnicities.

Gluck and Geliebter (2002) used a sample ($n$ = 208) of Caucasian, African American, and Asian female college students to examine body dissatisfaction, using the Figure Rating Scale (FRS; Stunkard, Sørensen, & Schulsinger, 1983), and disordered eating habits, using the Eating Habits Questionnaire (EHQ; Coker, 1990). The FRS consists of a series of nine female silhouettes, which range from *very thin* to *very overweight*. Participants select their ideal body shape and their current body shape, both items are indicated by numbers. The difference between these two numbers is the value of the respondent's body discrepancy. Gluck and Geliebter found that Caucasian students had significantly greater rates of body discrepancy ($M$ = 7.9, $SD$ = 5.9) than did the Asian students ($M$ = 5.1, $SD$ = 7.4). The researchers also found that

Caucasians had higher rates of disordered eating symptoms ($M$ = 27.7, $SD$ = 9.9) than either the African American ($M$ = 20.4, $SD$ = 6.9) or the Asian ($M$ = 22.8, $SD$ = 8.8) group members. Additionally, African American students consistently chose a significantly larger ideal body size ($M$ = 32.8, $SD$ = 6.7) than the Asian ($M$ = 29.5, $SD$ = 4.6) or Caucasian ($M$ = 29.5, $SD$ = 5.7) group members. However, when BMI was controlled, differences in body discrepancy between the ethnic groups lost statistical significance. When BMI was controlled for, both Caucasian and Asian participants had greater body discrepancy ($F(2,184) = 9.2$, $p < .0001$) and EHQ scores ($F(2,185) = 16.6$, $p < .0001$) compared to the discrepancies and scores of the African American participants. From these results, Gluck and Geliebter (2002) conclude that BMI might be a factor that helps to explain the differences found in current cross-cultural literature. The dissertation study, therefore, took BMI into account.

Shaw and colleagues (2004) compared a large sample ($n$ = 785) of Caucasian Americans, Asian Americans, African Americans, and Hispanic middle school, high school, and college-age females. They examined the presence and prevalence rates of eating disorders, disordered eating symptoms, and correlates of disordered eating symptoms among the ethnic groups. Disordered eating symptoms were assessed using the EDE-Q, which has been described previously, as well as the Eating Disorders module of the Structured Clinical Interview for the DSM-IV (SCID; First, Spitzer, & Gibbon, 2002). Several risk factors associated with disordered eating were examined: (a) body dissatisfaction, (b) drive for thinness, (c) perceived pressure to be thin, (d) modeling of disturbed eating, (e) dieting, (f) negative affect, and (g) self-esteem.

Shaw and her colleagues (2004) controlled for SES because they were concerned that previous research may have confounded socioeconomic effects with those of ethnicity and/or race. Researchers reported no differences between groups. The only main effect found was that

African American (*M* = 3.13, *SD* = 0.73) and Hispanic (*M* = 3.16, *SD* = 0.82) girls and women endorsed significantly less internalization of the thin ideal than the ideals endorsed by the Caucasian (*M* = 3.42, *SD* = 0.76) or Asian American (*M* = 3.42, *SD* = 0.81) girls and women. In cross-cultural research, it is important to distinguish between the effects of culture and ethnic identity and those of economic differences and abundance. Previous cross-cultural research possibly conflated SES and abundance of resources with cultural and ethnic differences. The dissertation study attempted to avoid this pitfall by taking both SES and ethnic identity into account, and followed Shaw et al.'s (2004) example to avoid accidently conflating ethnicity with SES.

**Assessment.** Research on eating disorders has traditionally relied on self-report questionnaires that assess maladaptive eating in a variety of ways. Some of these instruments, such as the Eating Attittudes Test (EAT; Garner & Garfinkel, 1979), specifically evaluate an individual's eating disorder symptoms, as well as her attitudes and general eating behaviors. Still others, such as the Body Dissatisfaction subscale of the Eating Disorders Inventory (EDI; Garner & Olmstead, 1983), focus on variables associated with disordered eating, such as body dissatisfaction.

In the past few decades eating disorder researchers have begun to also examine *associated variables*, risk and protective factors related to disorder eating symptoms. The expansion of the research includes, but is not limited to, psychological variables such methods of coping with stress and ethnicity and culture (Atlas, Smith, Hohlstein, McCarthy, & Kroll, 2002; Stice, 2002; Tylka & Subich, 2004). The following sections of this literature review examine eating disorders and variables associated with eating disorders and how they differ across ethnic/racial groups.

**Summary.** While inconclusive, research suggests ethnicity plays a role in the presentation of disordered eating symptoms. However, confounding risk factors must be examined, specifically the effects of environment and socioeconomic status. The research that has failed to find differences between ethnic groups has tended to use the diagnosis of AN, BN, or EDNOS as the outcome variable, while research that has found differences between groups focused on specific maladaptive behaviors that are typical of eating disorders. Thus, current diagnostic criteria of AN, BN, and EDNOS may not be sensitive to the symptom presentations that individuals of different racial and ethnic groups demonstrate.

Some research has found reliable differences in the rates of eating disorder diagnoses and symptoms (Cummins & Simmons, 2005; Fitzgibbon et al., 1998; Gilbert, 2006; Phillips & Pratt, 2005; Striegel-Moore, 2000; Striegel-Moore & Schreiber, 2000), while other research has failed to find significant differences between and among racial and ethnic groups (Demarest & Allen, 2000; Gluck, 2002; Mitchell & Mazzeo, 2004; Shaw et al., 2004; Su-Jin Yang & Yoon, 2010). The incongruous findings may be due to the differences in the selection of non-specific outcome variables and measurement modalities of these variables in addition to any actual differences that may exist. The dissertation attempted to maximize the utility of findings by focusing on specific disordered eating symptoms and associated variables, including body dissatisfaction.

## Coping Styles

**Definitions of coping styles.** Coping styles have long been thought to play a role in the etiology of disordered eating (Ball & Lee, 2000). Indeed, most school-based treatment of disordered eating involves teaching adaptive coping skills (Bloks, Furth, & Callewaert, 2004). Furthermore, some researchers have posited that disordered eating, specifically binge eating, may be considered a maladaptive coping style (Sierra & Lemos, 2008). The most widely cited

definition of coping is the individual's continuing need to change both him/herself and the environment to reduce stress and distress (Lazarus, 1984). Coping can be made up of cognitive, affective, and/or behavioral attempts to deal with the negative subjective experiences of a situation (Denisoff & Endler, 2000). Coping can be conceptualized as being either problem-oriented or emotion-oriented (Denisoff & Endler, 2000; Folkman & Lazarus, 1988; Lazarus, 1984). Problem-oriented coping is purposeful and directed at resolving the stressful situation, and is considered to be the more adaptive of the two types of coping. Emotion-oriented coping is focused on experiencing or ameliorating negative emotions resulting from stress, and has traditionally been considered to be maladaptive (Lazarus, 1984; Stanton, Kirk, & Cameron, 2000). Avoidance coping was added to the original conceptualization to describe an individual's behaviors that serve to ignore or minimize stress without purposeful action or attempts to minimize negative emotion (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Much research uses these three categories to examine differences by ethnic group (Bennett & Cooper, 2001; Habarth, Graham-Bermann, & Bermann, 2008; O'Connor & Shimizu, 2002; Stanton et al., 2000). The dissertation used these three conceptualizations of coping: problem, emotion, and avoidance-orientation (Compas et al., 2001).

**Ethnic differences in coping.** Differences in coping styles across racial and ethnic groups may be due to the collectivist/individualist nature of the cultures in question. Western cultures are traditionally individualist in nature, with the focus on the good of the individual and active problem solving (Prelow, Tein, Roosa, & Wood, 2000). In contrast, some cultures, such as Hispanic cultures, tend to be collectivist with a focus on the family and community, and an avoidance of active problem solving (Miyazaki, Bodenhorn, Zalaquett, & Ng, 2008; Prelow et al., 2000). A focus on the family or larger group suggests that working to actively change

stressful situations may be taboo, especially if the stressful issue is disruptive to the family group. This section discusses the research that examined coping behaviors across racial and ethnic groups.

Habarth et al. (2008) assessed levels of emotion-oriented and problem-oriented coping among both Caucasian and African American women in a community sample of 133. The participants came from a pool of women who were eligible for Head Start services, and were thus considered to be of similar SES. They reported a mean monthly income of $1,281.47 (*SD* = $715.19). Participants responded to the Coping Responses Inventory (CRI), which assesses levels of coping in terms of approach or avoidance, and cognitive or behavioral. In addition, participants completed the Stanton Emotion-Focused Coping Scale. This scale assesses the use of emotion-focused coping. When compared with Caucasian women, African American women tended to use more emotion-oriented coping strategies regardless of neighborhood resources and personal resources available to them. The use of emotion-oriented and problem-oriented coping differed by group even when the presence of head start was accounted for. This suggests that African American mothers use emotion-oriented coping styles more often than their Caucasian counterparts regardless of use of community resources.

**Coping and eating disorders.** Results of research that assessed the relationship between coping styles and disordered eating has been inconclusive. Some research has found positive relationships between emotion-oriented coping style and disordered eating (Bennett & Cooper, 2001; Bloks, Spinhoven, Callewaert, Willemse-Koning, & Turksma, 2001; Denisoff & Endler, 2000; Koff, 1997; Paterson, Power, Yellowlees, Park, & Taylor, 2007; Spoor, Bekker, VanStrien, & VanHeck, 2007; Sulkowski, Dempsey, & Dempsey, 2011). Other research has found positive relationships between avoidance coping and disordered eating symptoms (Ghaderi

& Scott, 2000). In addition, this research was conducted on Caucasian women, which raises questions as to the generalizability of results to non-Caucasian women.

Koff and Sangani (1997) examined the effects of coping style and negative body image on disordered eating symptoms among 128 college-aged women. Participants completed the Coping Inventory for Stressful Situations (CISS), EAT-26, and FRS. Koff and Sangani found that higher scores on the EAT-26 were positively correlated with higher scores in both emotional coping ($r = .38$, $p < .01$) and avoidance-distraction coping items ($r = .17$, $p < .05$) (Koff, 1997). Koff and Sangani also found that general body dissatisfaction and body size distortion were positively correlated with higher rates of emotional coping ($r = .31$, $p < .01$). Further general body dissatisfaction was positively correlated with avoidance-distraction coping ($r = .17$, $p < .05$) (Koff, 1997).

To further explore the relationships among these factors, Koff and Sangani (1997) conducted two hierarchical regression analyses that showed that higher use of emotional coping was associated with higher scores on the EAT-26 regardless of level of body dissatisfaction ($R^2 = .40$, $F(4, 115) = 20.70$, $p < .001$) (Koff, 1997). The results further support the present study hypothesis that emotion-oriented coping may be related to disordered eating symptoms in some samples. Koff and Sangani did not, however, examine differences by ethnic group in their sample, nor was information on ethnic group membership described in their article. The present study reexamined the relationship between emotion-oriented coping and disordered eating symptoms within an ethnically diverse sample population.

Ghaderi and Scott (2000) examined the use of different coping strategies in a large community based sample of Swedish women (2000). Participants, 1,157 women, completed the Ways of Coping Scale (WCS: Folkman & Lazarus, 1988). The authors found that women who

endorsed current disordered eating symptoms concurrently reported significantly higher levels of escape avoidance ($M$ = 22.9, $SD$ = 8.3) than controls ($M$ = 14.6, $SD$ = 7.7), and women who endorsed a history of eating disorder diagnosis endorsed significantly higher levels of escape avoidance ($M$ = 19.2, $SD$ = 7.9) than controls. The relationship between higher rates of avoidance coping and disordered eating suggests that avoidance coping is closely related to disordered eating.

Denisoff and Endler (2000) explored the relationship between an emotion-oriented coping style and disordered eating in a sample of 206 college-aged females. Participants completed the Eating Disorder Inventory (EDI), CISS, and Life Experiences Survey (LES). Denisoff and Endler found that emotion-oriented coping was significantly correlated with weight preoccupation ($r$ = .38, $p$ < .01), which is considered to be a subclinical indicator of disordered eating. Additionally, the positive relationship between weight pre-occupation and emotion-oriented coping found was independent of levels of life stress, thus suggesting that both of these issues contributed separately to an individual's maladaptive eating behaviors. The present study only focused on the relationship between coping style and disordered eating, based on the finding above that life stress did not affect that relationship, and the fact that assessing life stress was beyond the scope of the dissertation.

Sulkowsi, Dempsey, and Dempsey (2011) examined the relationship between emotion-focused and avoidant coping and binge eating in a female college sample ($n$ = 147). Participants completed the Undergraduate Stress Questionnaire (USQ: Crandall, Preisler, & Aussprung, 1992), Coping Styles Questionnaire (CSQ: (Roger, Jarvis, & Najarian, 1993)), and Binge Eating Scale (BES: Gormally, Black, Daston, & Rardin, 1982). The authors found positive correlations between emotion-focused and avoidant coping strategy use, perceived stress, and binge eating

symptoms (emotion-focused coping, $r = .44$, $p < .001$; avoidant coping, $r = .27$, $p < .01$). As with other coping style and eating disorder research these correlations must be read with caution, because the authors did not report the relationships of coping strategies, stress, symptoms, and ethnicity. This is interesting because the study employed a sample of ethnically diverse participants, specifically: 64% Caucasian, 19% Black/African American, 10% Hispanic/Latino, and 4% Mixed/other.

**Conclusions.** Although the research discussed above consistently showed a positive relationship between emotion-focus coping and eating disorders, none of the authors examined whether this relationship holds for racially or ethnically diverse women. This dissertation examined the relationship between emotion-focused coping and eating disorders for Caucasian and non-Caucasian college-aged women.

**Ethnic Identity and Eating Disorders**

Ethnic identity has been defined as the extent to which an individual identifies with a particular ethnic group (Phinney, 1992; White, Burke, White, & Burke, 1987). Specifically, the term refers to an individual's sense of belonging to an ethnic group, and how the beliefs and values of the group influence the individual's beliefs and values (Cokley, 2007; Phinney, 1992; Phinney, Cantu, & Kurtz, 1997; Phinney, Horenczyk, Liebkind, & Vedder, 2001). Ethnic identity consists of: (a) cultural values, (b) a sense of group membership, and (c) experiences associated with being a member of the ethnic minority (Phinney, 1996). Ethnic identity has been associated with academic achievement, mental health, and vocational issues (Cokley, 2007; Phinney et al., 2001; Phinney, 1990; Yasui, 2004). The dissertation did not use ethnic identity as a predictive variable; instead it was used to determine group membership and identification within racial and ethnic groups.

**Rationale**

Research connecting coping styles and disordered eating has found a positive relationship between emotion-oriented coping and disordered eating symptoms, but most studies have failed to consider racial or ethnic group membership. Thus, the findings are impossible to generalize to individuals of different racial or ethnic groups. The dissertation aimed to add to the literature by examining the possible relationship between coping styles and disordered eating behaviors across racial and ethnic groups within a sample from a United States college population. Some research in the United States has shown different rates of disordered eating symptoms across different racial and ethnic groups (Cummins & Simmons, 2005; Fitzgibbon et al., 1998; French & Story, 1997; Gilbert, 2006; Pratt et al., 2003; Striegel-Moore, 2000; Striegel-Moore & Schreiber, 2000). Research has also shown that there are different rates of emotion-oriented and problem-oriented coping styles across different racial and ethnic groups (Habarth et al., 2008; Miyazaki et al., 2008; Prelow et al., 2000). Eating disorder research has shown that there may be a relationship between coping style and disordered eating symptoms in Caucasian women (Bennett & Cooper, 2001; Bloks et al., 2001; Denisoff & Endler, 2000; Koff, 1997; Paterson et al., 2007; Spoor et al., 2007; Sulkowski et al., 2011), but no research has looked at this relationship specifically in racially and ethnically diverse populations.

The possible effects of ethnic identity and cultural exposure to the thin ideal appear to complicate the relationship between coping styles and disordered eating. Because the current literature provides conflicting information, this dissertation attempted to examine the effects of ethnicity group membership using exploratory analyses. Specific, ethnicity group membership was used to explore the possible differences at the level of specific country of origin, as well as larger regional groups. Rather than focus on broad racial categories, this dissertation categorizes

participants by cultural groups and countries of origin. The aim is to expand current understanding of disordered eating in ethnically diverse female college students by examining the relationship between coping styles and disordered eating at this very specific level. It is hoped that the information gleaned from this exploration will guide future research and ensure that meaningful categorization of participants yields useful information in the identification and treatment of disordered eating among diverse female college students. As such, this dissertation is exploratory in nature and does not have hypotheses. Exploratory statistics were used to answer the following questions:

1. Do participants from different ethnic groups endorse different patterns of disordered eating?
2. Do participants from different ethnic endorse different patterns of coping styles?
3. Do participants who endorse non-Caucasian ethnicity groups exhibit different relationships between coping style use and disordered eating symptoms from those who endorse Caucasian ethnicity groups?
4. Do participants who endorse non-Caucasian ethnicity groups differ from those in other non-Caucasian ethnicity groups in terms of the relationship between coping style use and disordered eating symptoms?
5. Do participants who endorse the same ethnicity group differ in terms of disordered eating and coping style based on their country of origin?

Chapter III

# Method

This chapter presents the methodology used to address the research questions regarding the presentation of disordered eating and coping styles among female college students. The study explored the differences in disordered eating symptoms and coping styles among an ethnically diverse population of female college students. Additionally, the relationships between these constructs were investigated among the diverse ethnic groups. This chapter begins with a description of the participant selection procedures. The chapter then reports participant characteristics. This is followed by a description of the survey instrument as well as the study procedures. Finally, the chapter concludes with a description of the data analyses performed.

## Participant Selection and Description

After receiving approval from the Institutional Review Board of the City University of New York Graduate Center, I solicited college female students between the ages of 18 and 30 from varying colleges across the country through word of mouth recruitment. Between 85% and 95% of individuals diagnosed with an eating disorder are women (The National Institute of Mental Health: "Eating Disorders: Facts About Eating Disorders and the Search for Solutions." Pub No. 01-4901. Accessed Feb. 2002. http://www.nimh.nih.gov/publicat/nedspdisorder.cfm.). Due to the low incidence of diagnosed eating disorders among males, I decided to recruit only female participants. Additionally, as long as 20 years ago, 90% of female college students admitted to trying to control their weight through dieting (Shisslak, Crago, & Estes, 1995). While disordered eating has emerged as an issue in secondary education, it remains a major concern in colleges across the country (Substance Abuse and Mental Health Services Administration

(SAMHSA), The Center for Mental Health Services (CMHS), Offices of the U.S. Department of Health and Human Services, 2010-2011).

The dissertation's age inclusion criterion, 18 – 30 years, was set to ensure that the study sample reflected the age of a typical college student (Lewis & Neighbors, 2006). I sent an email (see Appendix A) to colleagues and friends who are professors at public and private colleges throughout the Eastern United States (i.e., New York City, Brooklyn, Staten Island, Massachusetts, and Pennsylvania) to pass along to their students and other colleagues. To obtain as large a sample size as possible, I used snowball recruiting that encouraged participants, via the approved recruitment email, to send the survey to their friends. The recruitment email directed participants to an anonymous online survey on LimeSurvey (www.limesurvey.com), which does not collect IP addresses from respondents. Thus, I collected no identifying information from the participants. At the completion of the survey, participants were given directions to email me to enter a raffle for a chance to win one of two $25 gift cards (see Appendix B). Because there was no connection between the participants' email addresses and their responses to the survey, I had no way to identify which email addresses matched which completed surveys. Fifty eight (30.85%) of the 188 potential participants who began the survey, entered the raffle.

Recruitment and data collection continued over the course of 8 weeks (from November 16, 2012 to January 20, 2013). A total of 188 potential participants began the survey by reading the initial consent page (see Appendix B) and continuing onto the next page. Of those 188 respondents, 21 (11.17%) indicated that they were male, and because they did not meet the gender requirement, their survey experience ended with an offer to email me to enter the raffle. Of the remaining participants, 146 indicated they were female, and 141 provided their birthdays. Participants who did not meet inclusion criteria for age (18-30) or college enrollment were

eliminated from analysis (*n* = 5). Additionally, participants who did not provide an ethnic group membership were eliminated from analyses (*n* = 34). The resulting sample of 102 participants (72% of the 188 female potential participants who responded) is described below.

**Participant descriptions.** Participants indicated the region of their ethnic background. Much of the confusion in current eating disorders research stems from the categorization of study participants according to their ethnic group membership (Alegria et al., 2007; Bisaga et al., 2005; Fitzgibbon et al., 1998; Gluck, 2002; Mitchell & Mazzeo, 2004; Pernick et al., 2006; Striegel-Moore & Schreiber, 2000; Shaw et al., 2004; Su-Jin Yang & Yoon, 2010). The current US census allows individuals to select "American" as an ethnic group option (U.S. Census Bureau, Statistical Abstract of the United States: 2012). For the purposes of this study, those who selected "American" as their ethnic group are considered to be Caucasian. In the unlikely instance that an individual who is not Caucasian selected "American" as her ethnic group, it may be concluded that she is fully acclimated into the dominant American culture. Because this study is focusing on the effects of diverse ethnic culture on individuals' behavior, rather than examining race, a participant who endorses membership in the American culture is considered to be "Caucasian."

The study aimed to clarify differences by ethnic group. To do this, participants were asked to be as specific as possible about their ethnic group membership They were able to choose from nine options: a) American, b) European, c) Central/South American, d) African/Caribbean, e) Asian, f) South Asian, e) Pacific Islander, f) North American (Native American), and g) Middle Eastern. I use the term *regional ethnic background* to refer to participants' responses to these nine categories in the text and tables that follow. Table 1 presents participants' responses to the regional ethnic options in bold. Readers will note that roughly half

(63.7%) of the sample population consider themselves to be of American descent. These demographics reflect the ethnic make-up of New York State (67.9% Caucasian, 15.9% Black/African American, 5.5% Asian, 15.1% Hispanic, 7.5% other; 2010 U.S. Census Bureau n.d.b.). According to the Institute of Educational Sciences, the ethnic makeup of female college students is similar to the makeup of the current study sample: 58.9% White, 16.5% Black, 14.3% Hispanic, 5.3% Asian, 1.7% two or more races (U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), 2010-2011).

Participants were then asked to select from specific ethnic groups or countries. For example, Table 3 shows that the eight participants who identified their regional ethnicity as European indicated their specific ethnic backgrounds as: a) Armenian, b) Belarusian, c) British, d) Czech, e) Greek, f) Italian, g) Polish, and h) Russian. None of the participants selected Pacific Islander, North American, or Middle Eastern as their regional ethnicity.

Table 1

*Ethnicity by Region and Specific Ethnic Group*

| Variable | *n* | % |
|---|---|---|
| Regional Ethnicity | 102 | 100 |
| **American** | **65** | **63.7** |
| **European** | **8** | **7.8** |
| Armenian | 1 | 1.0 |
| Belarusian | 1 | 1.0 |
| British | 1 | 1.0 |
| Czech | 1 | 1.0 |
| Greek | 1 | 1.0 |
| Italian | 1 | 1.0 |
| Polish | 1 | 1.0 |
| Russian | 1 | 1.0 |
| **Central/South American** | **5** | **4.9** |
| Cuban | 1 | 1.0 |
| Guyanese | 1 | 1.0 |
| Peruvian | 1 | 1.0 |
| Salvadoran | 1 | 1.0 |
| Not specified | 1 | 1.0 |
| **African/Caribbean** | **10** | **9.8** |
| African American | 4 | 3.9 |
| Jamaican | 2 | 2.0 |
| Nigerian | 2 | 2.0 |

*Table 1 continues*

*Table 1 continued*

| Variable | *n* | % |
|---|---|---|
| Trinidadian and Tobagonian | 1 | 1.0 |
| **Asian** | **8** | **7.8** |
| Chinese | 5 | 4.9 |
| Filipino | 1 | 1.0 |
| Korean | 1 | 1.0 |
| Vietnamese | 1 | 1.0 |
| **South Asian** | **6** | **5.9** |
| Burmese | 1 | 1.0 |
| Gujarati | 1 | 1.0 |
| Indian | 1 | 1.0 |
| Nepalese | 3 | 2.9 |
| **Pacific Islander** | **0** | **0.0** |
| **North American** | **0** | **0.0** |
| **Middle Eastern** | **0** | **0.0** |

Table 2 shows the basic sample demographic information. Participants ranged in ages from 18 to 28, with a mean age of 20.88 (*SD* = 2.487). The mean height and weight of the sample population was 5’4” (*SD* = 3.05 inches) and 142.96 lbs (*SD* = 34.46 lbs), with a mean BMI of 24.45 (*SD* = 5.67). The normal range for BMI in the United States is between 19.1 to 25.8; therefore this population is considered to be in the normal weight range (Kuczmarski & Flegal, 2000). Participants did not differ significantly in height, weight, or BMI by regional ethnic group (see Appendix C).

Table 2

*Descriptive Data*

| | Total Sample ($n$ = 102) | American ($n$ = 65) | European ($n$ = 8) | Central/ South American ($n$ = 5) | African/ Caribbean ($n$ = 10) | Asian ($n$ = 8) | South Asian ($n$ = 6) |
|---|---|---|---|---|---|---|---|
| Age | | | | | | | |
| Min | 18 | 18 | 19 | 20 | 20 | 20 | 19 |
| Max | 28 | 27 | 27 | 23 | 23 | 22 | 26 |
| *M* | 20.90 | 20.94 | 20.88 | 20.60 | 20.60 | 20.75 | 20.90 |
| *SD* | 2.13 | 2.09 | 2.53 | 1.34 | 2.95 | 0.71 | 2.13 |
| Height (in.) | | | | | | | |
| Min | 49 | 59 | 62 | 49 | 62 | 60 | 60 |
| Max | 70 | 70 | 68 | 67 | 70 | 67 | 67 |
| *M* | 64.38 | 64.82 | 64.75 | 61.20 | 64.70 | 63.38 | 62.50 |
| *SD* | 3.05 | 2.68 | 2.82 | 7.05 | 2.71 | 2.14 | 2.59 |

*Table 2 continues*

*Table 2 continues*

| | Total Sample ($n$ = 102) | American ($n$ = 65) | European ($n$ = 8) | Central/ South American ($n$ = 5) | African/ Caribbean ($n$ = 10) | Asian ($n$ = 8) | South Asian ($n$ = 6) |
|---|---|---|---|---|---|---|---|
| Weight (lbs.) | | | | | | | |
| Min | 96 | 100 | 115 | 134 | 102 | 100 | 96 |
| Max | 275 | 275 | 220 | 160 | 200 | 180 | 156 |
| *M* | 142.96 | 147.77 | 150.13 | 148.20 | 131.67 | 124.00 | 119.17 |
| *SD* | 34.46 | 36.60 | 36.00 | 11.71 | 29.00 | 26.81 | 21.01 |
| BMI | | | | | | | |
| Min | 15 | 15 | 20 | 23 | 18 | 17 | 18 |
| Max | 46 | 46 | 40 | 41 | 29 | 33 | 24 |
| *M* | 24.25 | 24.68 | 25.35 | 28.69 | 21.75 | 21.84 | 21.36 |
| *SD* | 5.67 | 5.68 | 7.06 | 7.14 | 3.33 | 5.33 | 2.66 |

*Note:* Body Mass Index (BMI) = weight (lb) * 703/height $(in)^2$

Table 3 shows participant characteristics, including annual family income, and parental education. Within this sample population, 17.6% reported an annual family income of less than $25,000, which is considered to be the poverty line in the United States. The 2011 national census indicated that 15% of Americans live below the poverty line (U.S. Census Bureau, n.d.b.), which suggests that the sample population is comparable to national norms. As seen in Appendix C, there were no significant differences in family income between groups. Participants indicated their mothers' and fathers' highest level of education. Table 3 shows that participants reported that larger percentages of mothers than fathers had either a college degree or some college. Participants did not differ on rates of maternal education by regional ethnicity group (see Appendix C). Table 3 also shows similar percentages of college graduates and attenders among the participant's fathers. Again, participants did not differ significantly in regard to father's education by regional ethnicity group (see Appendix C).

Table 3

*Socioeconomic Data for Sample Participants by Ethnic Group*

| | Sample | | American | | European | | Central/South American | | African/ Caribbean | | Asian | | South Asian | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *N* | % | *N* | % | *N* | % | *N* | % | *N* | % | *N* | % | *N* | % |
| Annual Family Income | | | | | | | | | | | | | | |
| Below $25,000 | 18 | 17.6 | 10 | 15.4 | 2 | 25.0 | 1 | 20.0 | 0 | 0.0 | 2 | 25.0 | 1 | 16.7 |
| $25,000-$50,000 | 32 | 31.4 | 13 | 20.0 | 2 | 25.0 | 4 | 80.0 | 4 | 40.0 | 4 | 50.0 | 3 | 50.0 |
| $50,000-$75,000 | 14 | 14.7 | 10 | 15.4 | 1 | 12.5 | 0 | 0.0 | 2 | 20.0 | 1 | 12.5 | 0 | 0.0 |
| $75,000-$100,000 | 23 | 22.5 | 19 | 29.2 | 2 | 25.0 | 0 | 0.0 | 1 | 10.0 | 1 | 12.5 | 0 | 0.0 |
| Above $100,000 | 16 | 15.7 | 12 | 18.5 | 0 | 0.0 | 0 | 0.0 | 2 | 20.0 | 0 | 0.0 | 2 | 33.3 |
| Mother's Education | | | | | | | | | | | | | | |
| Less than High School | 8 | 7.8 | 3 | 4.6 | 0 | 0.0 | 1 | 20.0 | 2 | 20.0 | 2 | 25.0 | 0 | 0.0 |
| Finished High School (or GED) | 22 | 21.6 | 11 | 16.9 | 1 | 12.5 | 1 | 20.0 | 2 | 20.0 | 2 | 25.0 | 0 | 0.0 |
| Some College | 25 | 24.5 | 15 | 23.1 | 3 | 37.5 | 2 | 40.0 | 1 | 10.0 | 1 | 12.5 | 2 | 33.3 |
| Finished College | 33 | 32.4 | 19 | 29.2 | 3 | 37.5 | 1 | 20.0 | 2 | 20.0 | 2 | 25.0 | 2 | 33.3 |
| Technical School | 1 | 1.0 | 1 | 1.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |

*Table 3 continues*

*Table 3 continued*

| | Sample | | American | | European | | Central/South American | | African/ Caribbean | | Asian | | South Asian | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *N* | % | *N* | % | *N* | % | *N* | % | *N* | % | *N* | % | *N* | % |
| Some Graduate School | 2 | 2.0 | 1 | 1.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 16.7 |
| Finished Graduate School | 20 | 19.6 | 15 | 23.1 | 1 | 12.5 | 0 | 0.0 | 3 | 30.0 | 0 | 0.0 | 1 | 16.7 |
| Father's Education | | | | | | | | | | | | | | |
| Less than High School | 9 | 8.8 | 3 | 4.6 | 0 | 0.0 | 3 | 60.0 | 1 | 10.0 | 0 | 0.0 | 0 | 0.0 |
| Finished High School (or GED) | 29 | 28.4 | 13 | 20.0 | 2 | 25.0 | 1 | 20.0 | 2 | 20.0 | 2 | 25.0 | 2 | 33.3 |
| Some College | 21 | 20.6 | 11 | 16.9 | 4 | 50.0 | 0 | 0.0 | 2 | 20.0 | 1 | 12.5 | 1 | 16.7 |
| Finished College | 24 | 23.5 | 13 | 20.0 | 2 | 25.0 | 0 | 0.0 | 2 | 20.0 | 1 | 12.5 | 1 | 16.7 |
| Technical School | 5 | 4.9 | 5 | 7.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Some Graduate School | 3 | 2.9 | 2 | 3.1 | 0 | 0.0 | 0 | 0.0 | 1 | 10.0 | 0 | 0.0 | 0 | 0.0 |
| Finished Graduate School | 21 | 20.6 | 16 | 24.6 | 0 | 0.0 | 1 | 20.0 | 2 | 20.0 | 2 | 25.0 | 2 | 33.3 |

*Note.* Sample = all participants. % = percent of the ethnic group listed.

**Instrument**

I used an online questionnaire as the data collection measure (see Appendices D through I). The questionnaire included five measures to assess: (a) demographic information, (b) eating attitudes and behaviors, (c) body dissatisfaction, (d) coping styles, and (e) ethnic identity. Before making the questionnaire available online, I beta tested the measures for content and understanding among a small ($n$ = 5) ethnically diverse group of young adults. I received no negative feedback, and put the questionnaire online unchanged. At the same time that I beta tested the questionnaire, I beta tested a series of vignettes and follow-up questions created to collect qualitative data about attitudes towards, and family culture of, meals and eating. The volunteers did not want to participate in the qualitative vignettes. The response to these vignettes was so overwhelmingly negative that I did not use them in the online questionnaire.

**Demographic measure.** The first measure was a series of five demographic questions, querying participants about their date of birth, height, weight, annual family income, and their parents' highest level of education (see Appendix D). The demographic questions were based on items for the Nam-Powers Socioeconomic Status Score (NPSSS), which has been used widely in adolescent and adult research (Bluestone & Tamis-LeMonda, 1999; Warren, Worthington, & Taylor, 1998). The demographic questions were also used to assess participants' body mass index (BMI), which was calculated based on their self-reported height and weight.

**Eating Attitudes Test – 26 (EAT-26).** The EAT-26 is a short form that assesses individual attitudes towards food, dieting, and eating behaviors, and is one of the most widely used screening tools in disordered eating research (Garner & Olmstead, 1983). The items are scored using a Likert scale, with a choice of six answers, ranging from *never* (1) to *always* (6) for each of the 26 items (see Appendix E). Possible scores on the EAT-26 range from 0-78. Scores

greater than 20 are considered to be characteristic of subclinical eating pathology (King, 1991). The EAT-26 correlates highly with the original longer version scale, the EAT-40, ($r$ = .98). It has a high internal consistency ($\alpha$ = .90) (Garner et al. 1982). Specifically, the EAT-26 shows good internal consistency for women ($\alpha$ = .88) (Cash et al., 2005). The EAT-26 is often viewed as a measure of disordered eating habits rather than as a diagnostic tool for eating disorders and has identified disordered eating habits in both Caucasian and non-Caucasian participants (Neumark-Sztainer et al., 2002). Within the current study, the internal consistency of the EAT-26 for the entire sample was high ($\alpha$ = .97). The EAT-26 is made up of three subscales: the dieting scale, the bulimia and food preoccupation scale, and the oral control scale. As seen in Table 4, the reliabilities of the three subscales in the current study ranged from $\alpha$ = .92 (bulimia and food preoccupation) to $\alpha$ = .97 (oral control).

**Figure Rating Scale.** The Figure Rating Scale (FRS) is the most commonly used figure-rating assessment, and was developed by Stunkard, Sorenson, and Schulsinger (1984). Variations of this scale are commonly used in body dissatisfaction research (Stunkard, 2000; Stunkard et al., 1983). The figure rating scale used in this study was based on the FRS (see Appendix F). The FRS figures were presented to the participants with numerical values ranging from 1-10. Participants select (a) the figure they believe most closely matches their own current figure, and (b) the figure that most closely matches their ideal figure. Body dissatisfaction was measured by subtracting the first value from the second, as described in Demarest and Allen (2000). Possible scores range from -9 to 9. Larger scores indicate higher rates of body dissatisfaction. Positive scores indicate that the participant's ideal figure is much smaller than her current figure. Negative scores indicate that the participant believes her current figure is smaller

than her ideal figure. This is the only measure of its kind to measure body dissatisfaction without written self-report questionnaires.

**Brief COPE.** The Brief COPE inventory is based on a four-factor structure of approach and avoidance motives and problem- and emotion-focused behavior (Carver, 1997). Each of the 28 items is a statement about how one handles stressful situations (e.x., "I've been turning to work or other activities to take my mind off things.") (see Appendix G). The participant indicates how often she has been doing this type of activity on a scale ranging from 1 (*I haven't been doing this at all*) to 4 (*I've been doing this a lot*). The Brief COPE has been used with both adolescent and adult populations to assess adaptive and maladaptive coping (Litman, 2006). It has also been validated cross-culturally and has been shown to have measurement equivalence in diverse populations (Miyazaki et al., 2008; Prelow et al., 2000).

The Brief COPE contains 14 scales of coping made up of two statements each. These scales include: active coping, planning positive reframing, acceptance, humor, religion, using emotional support, using instrumental support, self-distraction, denial, venting, substance use, behavioral disengagement, and self-blame. They range in reliability from $\alpha = .50$ (venting) to $\alpha = .90$ (substance use) among adult participants (Carver, 1997; Cash, Santos, & Williams, 2005). Similar levels of reliability were found in an adolescent sample (Wilson & Pritchard, 2005). The Brief COPE was created to eliminate the redundancy and length of the original COPE and has been validated as a reliable measure (Carver, 1997; Garner & Olmstead, 1983). Within the current sample, reliability of scales ranged from $\alpha = .37$ (self-distraction) to $\alpha = .94$ (substance use). See Table 4 for reliability coefficients for all scales.

Table 4
*Subscale Reliability*

| | α |
|---|---|
| EAT-26 Subscales | |
| Dieting Scale | .963 |
| Bulimia and food preoccupation scale | .923 |
| Oral control scale | .968 |
| Total Score | .974 |
| Brief COPE Subscales | |
| Self Distraction | .368 |
| Active coping | .552 |
| Denial | .789 |
| Substance use | .939 |
| Emotional support | .788 |
| Instrumental support | .867 |
| Behavioral disengagement | .648 |
| Venting | .595 |
| Positive reframing | .737 |
| Planning | .695 |
| Humor | .881 |
| Acceptance | .538 |
| Religion | .897 |
| Self blame | .792 |
| MEIM Subscales | |
| Total | .902 |
| Commitment | .926 |
| Exploration | .674 |
| BAS | |
| English | .828 |
| Other Language | .956 |

**Multi-Group Ethnic Identity Measure.** Ethnic identity was measured using the Multi-Group Ethnic Identity Measure (MEIM). The MEIM is a 12-item self-report questionnaire that assesses ethnic identity across two dimensions: exploration and commitment (Phinney, 1992). The dimension of exploration is defined as seeking and learning information about and becoming involved in an ethnic group, while the dimension of commitment assesses commitment and a sense of belonging to an ethnic group. Answers are given on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*) (see Appendix H). Higher scores on each dimension

indicate stronger ethnic identity. Scores for both the exploration and commitment scales have been used in research, as has the overall mean score as a measure of overall ethnic identity. Internal consistency reliabilities have been reported as $\alpha = .86$ (commitment) and $\alpha = .77$ (exploration) (Rogers Wood & Petrie, 2010). Within the current sample, internal consistency reliabilities were found to range from $\alpha = .67$ (exploration) to $\alpha = .93$ (commitment). See Table 4 for reliability coefficients for all scales. The MEIM is the only measure intended to be used across many ethnic groups (Roberts, Phinney, Masse, Chen, Roberts, & Romero, 1999), and has been popular in research with college-aged participants.

**Behavioral Acculturation Scale (BAS).** Behavioral acculturation was measured using a modified version of the Language, Identity, Behavior Scale developed by Dina Birman (Birman, 2001). The BAS is made up of 18 questions, focusing on behaviors an individual participates in within his or her ethnic group, such as eating ethnic food, participating in clubs, speaking the language, and watching television and movies in the ethnic language. Answers are given on a 4-point Likert scale ranging from 1 (*not at all*) to 4 (*very much*) (see Appendix I). Within the study sample, the internal consistency reliability coefficient was $\alpha = .91$. Lower scores indicate greater acculturation and less connection to the ethnic group. Similar to ethnic identity, scores on the BAS were used to examine the extent to which individuals identified with their stated ethnic groups.

## Procedures

As principal investigator for this study, I sought approval from the Institutional Review Board (IRB) of the City University of New York Graduate School and University Center. After I received this approval, I emailed an approved recruitment letter to colleagues and friends who interact with college students and asked them to send an email to their students. The email

contained a URL (www.tinyurl.com/clairegolden) directing potential participants to a website containing consent and confidentiality information as well as the survey questions. I had originally intended to use the Psychology 101 subject pools to recruit participants, but was not given access to them. As such, I amended my recruitment methods to include word of mouth and snowball recruiting. In this way, I was able to collect data from a wider array of colleges and populations than I would have using the subject pool recruitment method. The recruitment email encouraged students to share the study link with their friends.

The first page of the questionnaire was the information sheet (see Appendix J). It explained the research and requirements for participation in the study. The information sheet explained that I was the principal investigator of the research and that I did not have access to any identifying participant information. It also explained that the data would not be coded for confidentiality because participants are not asked to include any identifying information when completing the questionnaire. The participants' completion of the survey was considered to be their informed consent.

The questionnaire took each participant approximately 20 minutes to complete. At the end of the survey, participants were given the opportunity to enter a raffle to win one of two $25 gift cards. Using a random number generator, I selected 2 of the 58 participants who entered the raffle and emailed them an Amazon.com gift certificate for $25. Participant identifying information and raffle emails were not connected in any way to their survey responses. Participant responses were downloaded from the survey website onto a spreadsheet. I then transferred the data from the spreadsheet to statistical software for analysis.

**Data Analyses**

I used various statistical methods to examine the data collected, to determine whether relationships reported in previous literature held true for the current sample, and to determine what differences, in any, there were between and among specific ethnic groups. The first stage of data analysis involved descriptive statistics related to all study and demographic variables. This included basic demographic information (parental education, annual family income) and questionnaire responses.

The second stage of data analysis involved correlational analyses. First, I examined whether the relationships reported in the eating disorders literature regarding the relationship between emotion-oriented coping and disordered eating held true for the Caucasian participants in my sample. I then explored whether these relationships held true for the non-Caucasian participants. I then compared the responses of the American and European participants to those participants from the other ethnic groups to determine if there were significant differences between the groups.

The third stage of analysis involved exploratory analysis. Data were plotted by each subscale of the Brief COPE to explore the usefulness of categorizing participants by either Caucasian/Non-Caucasian or by specific ethnic group (American, European, Central/South American, African/Caribbean, Asian, South Asian). Finally, discriminant analysis was used to determine if the ethnic groups were valid groupings in terms of disordered eating and coping styles.

Chapter IV

# Results

The primary goal of this study was to explore the presentation of disordered eating in an ethnically diverse population of female college students. The chapter begins with a presentation of the sample means and standard deviations of the study's variables. Intercorrelations among these variables for the sample can be found in Appendix K. Next, I compare the relationship between coping styles and disordered eating between and among ethnic groups. Specifically, I used exploratory analysis to identify differences between specific ethnic groups, as well as ethnic regional backgrounds.

The study sample was situated within the existing literature that examined expected relationships between the research variables of disordered eating symptoms and coping styles. This chapter provides the results of the existing relationships between the research variables in the current sample population as well as between the Caucasian and non-Caucasian samples. Because this study is exploratory, the $p < .05$ level of significance was used. Readers are cautioned that some of the significant relationships may be due to chance.

## Sample Descriptive Statistics and Correlations among Study Variables

This section presents the sample means and standard deviations for the study variables as well as their intercorrelations. Demographic information for all participants is included in Tables 1, 2, and 3 in the Method section.

**Sample means and standard deviations.** The instruments used in this study are not normed, which means that interpretation of scores is limited to a general overview of the range of scores and relative comparison to possible scores for each measure. The sample means and standard deviations for each measure are presented in Table 5.

Table 5

*Total Sample Means, Standard Deviations, and Ranges for Research Variables*

| | *N* | Min | Max | *M* | *SD* |
|---|---|---|---|---|---|
| Body Dissatisfaction | 92 | -1 | 4 | 1.00 | 1.16 |
| EAT-26 Subscales | | | | | |
| Dieting Scale | 101 | 0 | 32 | 6.53 | 6.63 |
| Bulimia and food preoccupation scale | 102 | 0 | 12 | 1.32 | 2.47 |
| Oral control scale | 102 | 0 | 15 | 2.31 | 2.83 |
| Total Score | 102 | 0 | 48 | 9.55 | 9.41 |
| Brief COPE Subscales | | | | | |
| Problem-oriented coping | | | | | |
| Acceptance | 99 | 2 | 8 | 5.15 | 1.58 |
| Religion | 102 | 2 | 8 | 3.64 | 2.09 |
| Planning | 101 | 2 | 8 | 5.43 | 1.58 |
| Positive reframing | 101 | 2 | 8 | 5.37 | 1.70 |
| Instrumental support | 101 | 1 | 8 | 4.58 | 1.86 |
| Active coping | 100 | 2 | 8 | 5.03 | 1.53 |
| Emotional support | 101 | 1 | 8 | 4.62 | 1.78 |
| Humor | 100 | 1 | 8 | 4.18 | 2.00 |
| Emotion-oriented coping | | | | | |
| Self Distraction | 102 | 1 | 8 | 5.47 | 1.70 |
| Denial | 100 | 1 | 8 | 2.71 | 1.31 |
| Substance use | 101 | 1 | 8 | 2.91 | 1.64 |

*Table 5 continues*

*Table 5 continued*

| | *N* | Min | Max | *M* | *SD* |
|---|---|---|---|---|---|
| Behavioral disengagement | 101 | 1 | 7 | 3.00 | 1.26 |
| Venting | 101 | 1 | 8 | 4.13 | 1.57 |
| Self blame | 101 | 1 | 8 | 4.99 | 1.95 |
| MEIM Subscales | | | | | |
| Total | 102 | 1 | 3.92 | 2.45 | 0.91 |
| Commitment | 102 | 0 | 4 | 2.69 | 1.01 |
| Exploration | 102 | 0 | 4 | 2.13 | 0.90 |
| BAS Subscales | | | | | |
| BAS English | 95 | 18 | 36 | 34.55 | 2.96 |
| BAS Other Language | 85 | 9 | 36 | 27.49 | 9.44 |

Table 5 shows that 92 of the 102 participants gave information about their ideal and current body shape. Body dissatisfaction was calculated by subtracting the ideal body shape value from the current body shape value. A negative score indicates that the participant's ideal body shape is heavier than her current body shape. A positive body dissatisfaction score indicates the participant's current body shape value is larger than her ideal body shape, with larger numbers indicating a greater discrepancy between the two values. The current study sample showed an average body dissatisfaction of 1.00 (*SD* = 1.16), with a range of -1 to 4. This indicates that the sample on the whole has low rates of body dissatisfaction (i.e., mean ideal body shape is one value different from current body shape), but that there is great variability within the sample as the maximum reported body dissatisfaction score of 4 represents a 4-point difference between ideal and current body shape on a 10-point scale.

The EAT-26 scale produces four subscales: the dieting subscale includes dieting and restricting attitudes and behaviors. The bulimia and food preoccupation scale reflects binging and purging attitudes and behaviors, as well as persistent thoughts about food. The oral control scale indicates food intake and its control. The total scale is most commonly used as an overall indicator of disordered eating attitudes and behaviors. A score of 20 or greater indicates the individual may be at risk for disordered eating and should seek help from a medical or mental health professional. Readers will note that the current sample's average scores on the EAT scales are well below 20. The total sample scores on the dieting subscale ($M$ = 6.53, $SD$ = 6.63), bulimia and food preoccupation subscale ($M$ = 1.32, $SD$ = 2.47), and oral control subscale ($M$ = 2.31, $SD$ = 2.83) all show larger standard deviations than mean scores. This indicates that the range of scores on these subscales is very large, and interpretation of the total sample scores is difficult. Likewise the total sample scores on the total subscale, which represents overall disordered eating symptoms, have a mean of 9.55 and a standard deviation of 9.41. These scores indicate that the total sample is low on disordered eating attitudes and behaviors overall, but the large standard deviations indicate large ranges for each scale. Indeed, the highest score on the total scale was 48. Again, a score of 20 or greater is considered to be at risk of developing an eating disorder. Therefore, a score of 48 would be indicative of disordered eating at a clinical level. The sample then represents a wide range of eating attitudes and behaviors, and is representative of a typical college population (Garner & Garfinkle, 1979).

Table 5 shows the overall means, ranges, and standard deviations for the 14 subscales of the Brief COPE. For each subscale a higher number indicates that the coping style is used more often, on a scale of 1 ("*I have not been doing this at all*") to 4 ("*I have been doing this a lot*"). Each subscale is made up of 2 coping statements that reflect the specific coping style, for a

maximum score of 8 and a minimum score of 2. In the current study sample, the least popular coping style for the entire sample (i.e., the scale with the lowest mean) is denial ($M$ = 3.00, $SD$ = 1.26). Denial involves refusing to acknowledge a stressor. The most commonly used coping style in total sample is self-distraction ($M$ = 5.47, $SD$ = 1.70), which signifies distracting oneself from the problem without taking steps to change anything. Both of these coping styles are emotion-oriented rather than problem-oriented. Within the problem-oriented coping styles, the current study sample used acceptance coping most often ($M$ = 5.15, $SD$ = 1.58) and religion least often ($M$ = 3.64, $SD$ = 2.09). Both acceptance and religion coping styles involve using emotions to change the way the individual feels toward the stressor, and to reduce the effect of the stressor. In this way, they are considered to be problem-oriented coping styles. All of these scores are within the middle range of scores.

The means and standard deviations for the subscales of both the MEIM and the BAS for the study sample are provided in Table 5. The total subscore of the MEIM is the mean of all 12 items, and is the most commonly used measure of ethnic identity (Phinney, Horenczyk, Liebkind, & Vedder, 2001). A higher score indicates greater feelings of belonging and a feeling of identity with the individual's ethnic group, while a lower score indicates greater acculturation and identity with the dominant culture. Table 5 shows that mean sample score on all of the MEIM scales were below 3.00. This indicates that the members of the sample on the whole do not feel a strong identification with their ethnic culture. On the MEIM, a 3 indicates that the participant agrees with the statement, while a 2 indicates she does not agree. Therefore, the mean sample score on all of the MEIM scales fell somewhere between the two, suggesting ambivalence in the sample towards ethnic group membership.

The BAS is a behavioral acculturation measure that assesses how often an individual participates in certain ethnic group-specific activities, and what language they speak while they participate in these activities. The study sample as a whole reported a mean of 34.55 (*SD* = 2.96) out of possible 36 for the BAS English subscale, indicating participation in a high rate of activities in English. The sample as a whole had a mean of 27.49 (*SD* = 9.44) out of 36 on the BAS other language subscale. This suggests that sample members participate in activities (such as listening to music, watching TV and movies, and eating food) of the dominant and English-speaking culture more often than they do in the activities of the non-dominant ethnic group culture.

**Correlations among study variables.** Table 6 shows the significant intercorrelations among study variables for the total sample (See Appendix K for a full summary). Readers will note that the EAT-26 total score was significantly correlated with the EAT-26 dieting ($r = .94$, $p < .01$), bulimia and food preoccupation ($r = .67$, $p < .01$), and oral control ($r = .54$, $p < .01$) scales. The EAT-26 Dieting subscale was significantly correlated with body dissatisfaction ($r = .47$, $p < .01$). It was also significantly correlated with the COPE self-distraction ($r = .40$, $p < .01$), denial ($r = .23$, $p < .05$), and self-blame ($r = .36$, $p < .01$) subscales. All three of these subscales represent emotion-oriented coping styles, and higher scores on the EAT-26 dieting scale were associated with higher rates of these emotion-oriented coping styles.

Additionally, the EAT-26 bulimia and food preoccupation subscale was significantly correlated with body dissatisfaction ($r = .35$, $p < .01$) and the COPE self-distraction ($r = .27$, $p < .01$) and self-blame ($r = .26$, $p < .01$) subscales. Again, the COPE self-distraction and self-blame subscales represents emotion-oriented coping styles, and higher scores on the EAT bulimia and food preoccupation scale were correlated with higher rates of these emotion-oriented coping

styles. The EAT-26 oral control scale was not significantly correlated with body dissatisfaction, but it was significantly correlated with the COPE emotional support ($r$ = -.21, $p$ < .05) and instrumental support ($r$ = -.24, $p$ < .05) subscales. These two COPE subscales are both problem-oriented coping styles, and higher scores on the EAT-26 oral control subscale were correlated with less use of these coping styles.

The EAT-26 total scale was significantly correlated with body dissatisfaction ($r$ = .38, $p$ < .01). It was also significantly correlated with the COPE self-distraction ($r$ = .36, $p$ < .01), denial ($r$ = .22, $r$ < .05), and self-blame ($r$ = .34, $p$ < .01) subscales. All three of these COPE subscales represent emotion-oriented coping styles, and higher scores on the EAT-26 total scale were correlated with higher rates of these emotion-oriented coping styles.

Body dissatisfaction was significantly correlated with the COPE self-distraction ($r$ = .26, $p$ < .05), humor ($r$ = .25, $p$ < .05), and self-blame ($r$ = .22, $p$ < .05) subscales, BMI ($r$ = .66, $p$ < .01), and the MEIM affirmation ($r$ = .26, $p$ < .05) subscale. The COPE self-distraction and self-blame subscales represent emotion-oriented coping styles, while humor encompasses a problem-oriented way of using humor to reduce stress levels. In the current sample, higher rates of body dissatisfaction were associated with higher rates of these coping styles. Additionally, higher rates of body dissatisfaction were also significantly correlated with BMI, indicating that those who endorsed greater body dissatisfaction were heavier. Finally, body dissatisfaction was significantly correlated with the affirmation subscale of the MEIM ($r$ = .26, $p$ < .05). This subscale represents feelings of belonging and investment in the individual's culture, and higher reported affirmation was associated with higher rates of body dissatisfaction.

Table 6

*Significant Intercorrelations for Scores on Body Dissatisfaction, EAT-26, Brief COPE, and MEIM Subscales for Total Sample*

| Measures | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. EATD | — | | | | |
| 2. EATB | .57** | — | | | |
| 3. EATO | .34** | .01 | — | | |
| 4. EATT | .94** | .67** | .54** | — | |
| 5. BD | .47** | .35** | -.11 | .38** | — |
| 6. SD | .40** | .27** | .04 | .36** | .26* |
| 8. D | .23* | .19 | .01 | .22* | .16 |
| 10. ES | -.13 | .09 | -.21* | -.12 | .05 |
| 11. IS | -.13 | .05 | -.24* | -.14 | .01 |
| 16. H | .16 | .19 | -.10 | .12 | .25* |
| 19. SB | .36** | .26** | .09 | .34** | .22* |
| 20. BMI | .12 | .18 | -.19 | .07 | .66** |
| 21. MEIMA | .03 | .11 | -.10 | .06 | .26* |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p$ < .05, **$p$ < .01.

**Summary**. Readers will note that the significant positive correlations among EAT-26 scores and emotion-focused COPE subscales indicates that participants who endorsed more symptoms of eating disorders also indicated that they used emotion-focused coping. The significant negative correlations among the EAT-26 scores shows that participants who endorsed more symptoms of eating disorders tended not to use problem-oriented coping.

**Examination of Caucasian and Non-Caucasian Subsamples**

The literature reviewed in the second chapter of this dissertation often compared eating disordered behaviors and attitudes in samples of Caucasian and non-Caucasian participants (Warren, et al., 2005; Fitzgibbon et al., 1998; Mitchel & Mazzeo, 2004). These studies often found significant, but inconsistent, differences between these groups. To compare responses of this study's participants with those in the literature, I examined mean differences between Caucasian and non-Caucasian participants' scores and also looked at the intercorrelations among variables for both subsamples.

**Mean differences.** Table 7 presents the means and standard deviations of each EAT-26 subscale and body dissatisfaction scales for both the Caucasian (American and European) participants and the non-Caucasian participants (all other ethnic groups). The significant mean differences are denoted with an * at the $p < .05$ significance level. On both the EAT total and the EAT dieting scales, the Caucasian participants appear to have endorsed more disordered eating attitudes and behaviors than non-Caucasian participants, but Levene's Test for Equality of Variance showed significant differences in variance between groups on both the Total ($F = 10.391$, $p = .001$) and Dieting ($F = 4.68$, $p = .03$), and the corrected *t*-test results (shown in Table 6) were not significant. There were no significant differences in body dissatisfaction, bulimia symptoms, or oral control between the two groups.

Table 7

*EAT-26 Subscales and Body Dissatisfaction by Caucasian/Non-Caucasian Participants*

| | Mean (*SD*) | | | | *t* (df) | sig. |
|---|---|---|---|---|---|---|
| | Caucasian | | Non-Caucasian | | | |
| EAT-26 Total | 10.75 | (10.47) | 8.69 | (6.19) | .99 (100) | .32 |
| EAT-26 Dieting | 7.01 | (7.16) | 5.31 | (4.95) | 1.17 (100) | .24 |
| EAT-26 Bulimia | 1.48 | (2.58) | 0.93 | (2.14) | 1.01 (100) | .31 |
| EAT-26 Oral Control | 2.26 | (3.13) | 2.45 | (1.92) | -.30 (100) | .76 |
| Body Dissatisfaction | 1.12 | (1.18) | 0.68 | (1.07) | 1.63 (90) | .11 |

* $p < .05$

Table 8 shows means and standard deviations for each subscale of the Brief COPE by Caucasian/non-Caucasian groups. Levene's Test for Equality of Variance showed significant differences in variance between groups on the denial subscale ($F = 7.06$, $p = .01$). Denial as a coping style involves the refusal to accept that there is a stressor or that the problem is affecting the individual, and it is an emotion-oriented coping style. In the current sample, the non-Caucasian group endorsed higher levels of denial coping ($M = 3.11$, $SD = 1.739$) than did the Caucasian group ($M = 2.56$, $SD = 1.093$), but the corrected *t* test only approached significance.

Table 8

*Brief COPE Subscales by Caucasian/Non-Caucasian Participants*

| | Mean (*SD*) | | | | *t* (*df*) | *p* < |
|---|---|---|---|---|---|---|
| | Caucasian | | Non-Caucasian | | | |
| Problem-oriented Coping | | | | | | |
| Acceptance | 5.17 | (1.57) | 5.11 | (1.63) | .16 (97) | .88 |
| Religion | 3.45 | (1.94) | 4.10 | (2.40) | -1.43 (100) | .16 |
| Planning | 5.47 | (1.48) | 5.32 | (1.83) | .41 (00) | .68 |
| Positive Reframing | 5.38 | (1.75) | 5.32 | (1.57) | .16 (99) | .87 |
| Use of Instrumental Support | 4.68 | (1.76) | 4.32 | (2.04) | .88 (99) | .38 |
| Active Coping | 5.03 | (1.56) | 5.04 | (1.48) | -.03 (98) | .98 |
| Use of Emotional Support | 4.67 | (1.70) | 4.50 | (1.99) | .43 (99) | .67 |
| Humor | 4.15 | (1.99) | 4.25 | (2.14) | -.22 (99) | .83 |
| Emotion-oriented coping | | | | | | |
| Self-Distraction | 5.63 | (1.67) | 5.07 | (1.73) | 1.52 (100) | .13 |
| Denial | 2.56 | (1.09) | 3.11 | (1.74) | -1.88 (98) | .06 |
| Substance Use | 2.95 | (1.62) | 2.82 | (1.72) | .34 (99) | .74 |
| Behavioral Disengagement | 3.10 | (1.30) | 2.75 | (1.11) | 1.24 (99) | .22 |
| Venting | 4.23 | (1.55) | 3.86 | (1.63) | 1.08 (99) | .29 |
| Self-Blame | 5.01 | (1.96) | 4.93 | (1.96) | .20 (99) | .85 |

* $p < .05$

There were no significant mean differences between the Caucasian and non-Caucasian participants in endorsement of ethnic identity exploration, affirmation, and behavioral acculturation, as presented in Table 9. While none of the MEIM subscales differed by group, the MEIM exploration subscale showed a significant difference of variance (Levene's $F = 4.42$, $p = .04$). When the means of the Caucasian and non-Caucasian groups were compared, there was a significant mean difference on the BAS English subscale between Caucasian participants ($M = 35.16$, $SD = 1.60$) and non-Caucasian participants ($M = 32.84$, $SD = 4.80$). There was also a significant difference between the groups (Caucasian $M = 29.33$, $SD = 1.59$; non-Caucasian $M = 22.83$, $SD = 8.24$) on the BAS other language subscale. On these subscales, higher scores indicate more endorsement of ethnic-specific activities, such as watching TV or movies, eating food, or participating in ethnic-group specific holidays. This indicates that significantly more participants who endorsed membership in the Caucasian group watched English-language and TV and movies, ate food specific to the dominant culture, and participated in dominant cultural events. It is possible that the higher rates of activities in other languages are artifacts of Caucasian participants completing both sections indicating participation in English-language activities. The question asks for level of activity in the participant's "ethnic group's language," which may have been misinterpreted by participants as being English for Caucasian participants. Far fewer Caucasian participants than non-Caucasian participants completed the BAS, indicating that those who were in the Caucasian group and completed the "Other Language" section completed it in error, and results must be interpreted with caution.

Table 9

*MEIM and BAS Subscales by Caucasian/Non-Caucasian Participants*

| Meim or BAS Scale | Mean (*SD*) | | | | *t* (*df*) | *p* = |
|---|---|---|---|---|---|---|
| | Caucasian | | Non-Caucasian | | | |
| MEIM Total | 2.38 | (0.84) | 2.619 | (1.06) | -1.19 (99) | .24 |
| MEIM Exploration | 2.06 | (0.82) | 2.32 | (1.06) | -1.31 (99) | .20 |
| MEIM Commitment | 2.62 | (0.94) | 2.86 | (1.17) | -1.05 (99) | .30 |
| BAS English | 35.16 | (1.59) | 32.84 | (4.79) | 3.56 (93) | .001* |
| BAS Other Language | 29.33 | (9.30) | 22.83 | (8.24) | 2.99 (83) | .001* |

* $p < .05$

In summary, Caucasian and non-Caucasian subsamples were very similar in their endorsement of eating disorder symptoms, coping mechanisms, and ethnic identity. The mean differences that appeared to exist between the groups were limited to the behavioral acculturation

measure. As discussed above, it is probable that the differences in behavioral acculturation were due to misinterpretation by participants as to the meaning of the MEIM questions.

**Correlations.** Based on the current body of literature, I expected the American and European descent groups to show positive relationships between emotion-oriented coping styles and disordered eating symptoms (Bennett & Cooper, 2001; Bloks, Spinhoven, Callewaert, Willemse-Koning, & Turksma, 2001; Denisoff & Endler, 2000; Koff, 1997; Paterson, Power, Yellowlees, Park, & Taylor, 2007; Spoor, Bekker, VanStrien, & VanHeck, 2007; Sulkowski, Dempsey, & Dempsey, 2011). I examined these relationships among American and European descent (Caucasian) participants, and for non-Caucasian participants. Table 10 presents the significant correlational data for the Caucasian participants for the subscales of the EAT-26 and the Brief COPE, as well as participant BMI and the MEIM (See Appendix L for a complete summary). Table 11 presents the correlational data for the Non-Caucasian participants for the same subscales (See Appendix M for a complete summary).

Table 10

*Significant Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for Caucasian Participants (n=73)*

| Measures | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. EATD | — | | | | |
| 2. EATB | .59** | — | | | |
| 3. EATO | .44** | .03 | — | | |
| 4. EATT | .96** | .66** | .60** | — | |
| 5. BD | .45** | .38** | -.09 | .37** | — |
| 6. SD | .37** | .22 | .00 | .31** | .25* |
| 8. D | .31* | .28* | .04 | .30* | .19 |
| 10. ES | -.20 | .12 | -.29* | -.19 | .18 |
| 11. IS | -.21 | .04 | -.29* | -.29 | .13 |
| 16. H | .17 | .27* | -.03 | .17 | .23 |
| 20. BMI | .13 | -.06 | -.27 | -.02 | .75** |
| 21. MEIME | -.07 | .20 | .41* | .18 | .04 |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$, MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p < .05$, **$p < .01$.

As seen in Table 10 the four subscales of the EAT-26 were significantly correlated with each other in both samples, although those relationships appear to be stronger for the Caucasian sample than the non-Caucasian sample. In the Caucasian sample the EAT-26 dieting scale was significantly correlated with the bulimia and food preoccupation ($r = .59$, $p < .01$), oral control ($r = .44$, $p < .01$), and total score ($r = .96$, $p < .01$) subscales. In addition, there were positive correlations among some emotion-coping styles and disordered eating symptoms, as suggested by the literature. Specifically, significant positive correlations were found between the EAT-26 dieting subscale and the COPE self-distraction ($r = .37$, $p < .01$) and denial ($r = .31$, $p < .05$) subscales. Both self-distraction and denial are problem-oriented coping styles, and higher scores on the EAT-26 dieting scale were associated with higher rates of these emotion-oriented coping styles. Positive correlations were also found between the EAT-26 bulimia and food preoccupation scale and the COPE denial ($r = .28$, $p < .05$) and humor ($r = .27$, $p < .05$) subscales. Although denial is an emotion-oriented coping style, humor is a problem-oriented style. Furthermore, negative correlations were found between the EAT-26 oral control scale and both the COPE emotional support ($r = -.29$, $p < .05$) and instrumental support ($r = -.29$, $p < .05$), indicating that higher rates of oral control is associated with higher rates of these problem-oriented coping styles. Finally, positive correlations were found between the EAT-26 total subscale and the COPE self-distraction ($r = .31$, $p < .01$) and denial ($r = .30$, $p < .05$) subscales.

These relationships indicate that the Caucasian participants responded in a similar way as Caucasian samples in the literature, because greater endorsement of eating disordered behaviors was, for the most part, associated with greater use of emotion-oriented and less use of problem-oriented coping styles. Although Carver (1997) categorizes the 14 scales of the Brief COPE as

either emotion- or problem- oriented, he cautions against combining them into emotion and problem-oriented scales.

With regard to the MEIM, there was a significant positive relationship ($r = .41$, $p < .01$) between the exploration scale and the EAT-26 oral control scale. There were also significant negative correlations between exploration and the COPE acceptance ($r = -.54$, $p <. 01$) and self-blame ($r = -.53$, $p < .01$) scales. These relationships indicate that higher rates of ethnic identity exploration and searching were associated with greater control of food intake, lower rates of the problem-oriented coping style of acceptance, and lower rates of the emotion-oriented coping style of self-blame among Caucasian participants. Additionally, there were significant negative correlations between the MEIM affirmation scale and the COPE venting ($r = -.41$, $p < .05$), acceptance ($r = -.48$, $p < .05$), and self-blame ($r = -.45$, $p < .05$). While venting and self-blame are emotion-oriented coping styles, acceptance is problem-oriented, indicating that there is a complicated relationship between affirmation and coping styles among Caucasian participants.

Table 11

*Significant Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for Non-Caucasian Participants (n=29)*

| Measures | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. EATD | — | | | | |
| 2. EATB | .47* | — | | | |
| 3. EATO | -.20 | -.06 | — | | |
| 4. EATT | .87** | .72** | .15 | — | |
| 5. BD | .52** | .22 | -.22 | .41* | — |
| 6. SD | .47** | .33 | .23 | .56** | .22 |
| 9. SU | .35 | .22 | .11 | .39* | .26 |
| 12. CBD | .20 | .17 | -.18 | .16 | .50* |
| 16. H | .16 | -.04 | -.41* | -.01 | .39 |
| 18. R | -.32 | -.13 | .07 | -.28 | -.44* |
| 20. BMI | .13 | -.06 | -.27 | -.00 | .75** |
| 22. MEIMA | .09 | .03 | -.04 | .05 | .31* |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p < .05$, **$p < .01$.

Among the non-Caucasian participants (see Table 11), there were also significant positive correlations between the EAT-26 total and dieting ($r$ = .87, $p$ < .01) and bulimia and food preoccupation ($r$ = .72, $p$ < .01) subscales. Positive significant correlations were also found between the EAT-26 dieting and COPE self-distraction ($r$ = .47, $p$ < .01) subscale, between the EAT-26 total and COPE self-distraction ($r$ = .56, $p$ < .01) and substance use ($r$ = .39, $p$ < .05) subscales. Similar to the Caucasian participants, there was a significant negative correlation between the EAT-26 oral control scale and the COPE humor ($r$ = -.41, $p$ < .05) subscale, which represents a problem-oriented coping style. This indicates that, among non-Caucasian sample in the current study, there were also some positive relationships between emotion-oriented coping styles and disordered eating attitudes and behaviors, although the relationships were not as strong as in the Caucasian sample. A significant positive correlation was found between the MEIM exploration scale and the COPE denial scale ($r$ = .32, p < .01), suggesting that higher rates of ethnic identity exploration are associated with higher rates of emotion-oriented coping. Additionally, there was a significant positive correlation between the MEIM affirmation scale and body dissatisfaction ($r$ = .31, $p$ < .05), indicating that greater feelings of belonging and acceptance of ethnic identity are associated with higher rates of body dissatisfaction among non-Caucasian participants.

Positive correlations were also found between body dissatisfaction, BMI, eating attitudes and behaviors, and coping styles for both Caucasian and non-Caucasian participants. Among the Caucasian participants, body dissatisfaction was significantly positively correlated with the EAT-26 dieting ($r = .45$, $p < .01$), bulimia ($r = .38$, $p < .01$), and total ($r = .37$, $p < .01$) subscales. Body dissatisfaction was also significantly positively correlated with the COPE self-distraction ($r = .25$, $p < .05$) subscale, and to BMI ($r = .61$, $p < .01$) among Caucasian participants. Finally, BMI was also significantly positively correlated with the EAT-26 bulimia subscale ($r = .23$, $p < .05$). This indicates that higher rates of reported body dissatisfaction are associated with more disordered eating attitudes and behaviors, as well as with emotion-oriented coping styles and actual body mass. Additionally, body mass was associated with disordered eating attitudes and behaviors.

Among the non-Caucasian participants, body dissatisfaction was positively correlated with the EAT-26 dieting subscale ($r = .52$, $p < .01$), as well as the behavioral disengagement subscale ($r = .50$, $p < .05$) and BMI ($r = .75$, $p < .01$). There was a significant negative correlation between body dissatisfaction and the religion subscale ($r = -.44$, $p < .05$) for non-Caucasians. These correlations suggest that similar relationships between body dissatisfaction and disordered eating attitudes and behaviors may exist across the entire study sample. The non-Caucasian sample is much smaller than the Caucasian sample, which may weaken the relationships between the study variables.

Thus, both subsamples demonstrated similar relationships between disordered eating attitudes and behaviors and coping styles. In both samples in general, disordered eating behaviors and attitudes were associated with emotional coping responses rather than with problem-oriented coping.

**Examination of Regional Ethnicity Subsamples**

The literature reviewed in the second chapter of this dissertation often compared disordered eating symptoms and coping styles by specific ethnic groups. While the sample sizes were small, I also performed analyses based on regional ethnicity groups.

**Mean differences.** I conducted one-Way ANOVA analyses (see Appendix N) of the mean differences in each of the EAT-26 subscales as well as body dissatisfaction across the regional ethnicity groups described previously. The significant differences are denoted with an * at the $p < .05$ significance level, and an ** at the $p < .01$ significance level. There were no significant differences between regional ethnicity groups for any of the EAT-26 subscales. There was, however, a significant difference ($F = 2.63$, $p = .03$) between groups for body dissatisfaction. Specifically, the Central/South American group reported higher rates of body dissatisfaction ($M = 2.0$, $SD = .71$), and the Asian group reported lower rates of body dissatisfaction ($M = 0.13$, $SD = .64$) than other groups.

Significant differences between regional ethnicity groups were also seen in several COPE subscales (see Appendix N). The reader should note that significant differences between groups were observed in the acceptance ($F = 2.38$, $p = .04$), religion ($F = 3.25$, $p = .01$), and use of instrumental support ($F = 2.54$, $p = .03$) subscales. Specifically, the Asian group reported higher rates of acceptance ($M = 6.13$, $SD = 1.8$) and the South Asian group reported lower rates of acceptance ($M = 4.00$, $SD = 1.23$) than the other groups. With regard to religion, the African/Caribbean group reported higher rates of turning to religion ($M = 5.90$, $SD = 2.85$) and the Central/South American group reported lower rates ($M = 2.60$, $SD = .89$) than other groups. Finally, the Asian group reported higher rates of use of instrumental support ($M = 5.88$, $SD = 1.55$) and the South Asian group reported lower rates ($M = 2.60$, $SD = .89$) than other groups.

No significant mean differences between groups were found for either of the MEIM subscales. Significant mean differences were, however, found for both the BAS English ($F$ = 8.03, $p$ = .001) and other language ($F$ = 2.81, $p$ = .004) subscales. Specifically, the American group reported engaging in more activities in English ($M$ = 35.42, $SD$ = .97) and the Central/South American group reported engaging fewer activities in English ($M$ = 25.50, $SD$ = 10.61). Finally, the American group reported engaging in more activities in another language ($M$ = 30.43, $SD$ = 8.89) and the Central/South American group reported engaging in fewer activities in another language ($M$ = 19.50, $SD$ = 7.33) than other groups. As described above, it is possible that ambiguous wording created confusion about the questions regarding "other language" activities.

**Correlations.** Correlational analyses were performed separately for each regional ethnicity group. Sample sizes are small (ranging from $n$ = 5 to $n$ = 10), and any significant correlations must be interpreted with caution. That being said, general trends can be observed in the relationship between disordered eating attitudes and behaviors between these groups.

***American sample.*** Analyses were performed for the participants who selected American ($n$ = 65) as their regional ethnic group (See Table 12). As expected from their large numbers, this group showed similar patterns to the Caucasian group. Specifically, the EAT-26 total score was significantly correlated with the dieting ($r$ = .96, $p$ < .01), bulimia and food preoccupation ($r$ = .72, $p$ < .01), and oral control ($r$ = .53, $p$ < .01) subscales. The EAT-26 total score was also significantly correlated with body dissatisfaction ($r$ = .60, $p$ < .01), as seen in the total Caucasian sample of which Americans were a part. With regard to the relationship between disordered eating and coping styles, the EAT-26 total score was significantly related to the COPE self-distraction ($r$ = .26, $p$ < .05), denial ($r$ = .26, $p$ < .05), and self-blame ($r$ = .47, $p$ < .01) scales. All

three of these scales represent emotion-oriented coping styles. Within this sample, body dissatisfaction was significantly correlated with BMI ($r = .61$, $p < .01$).

Table 12

*Select Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "American" Participants (n=65)*

| Measures | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. EATD | — | | | | |
| 2. EATB | .65** | — | | | |
| 3. EATO | .33** | .07 | — | | |
| 4. EATT | .96** | .72** | .53** | — | |
| 5. BD | .46** | .30* | -.10 | .36** | — |
| 6. SD | .33** | .27* | -.15 | .26* | .29* |
| 8. D | .28* | .28* | -.02 | .26* | .18 |
| 11. IS | -.19 | .02 | -.26* | -.20 | .08 |
| 19. SB | .44** | .43** | .18 | .47** | .32* |
| 20. BMI | .10 | .13 | -.16 | .06 | .61** |
| 21. MEIME | .25* | .17 | .12 | .24 | .16 |
| 22. MEIMA | .08 | -.09 | -.14 | .02 | .29* |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p < .05$, **$p < .01$.

A significant positive correlation was found between the MEIM exploration scale and the EAT-26 dieting scale ($r = .25$, $p < .05$) indicating that greater ethnic identity exploration was associated with more dieting behaviors. Significant positive correlations were also found between the MEIM exploration and COPE denial ($r = .32$, $p < .01$) and between the MEIM affirmation and body dissatisfaction ($r = .29$, $p < .05$). This suggests that greater ethnic identity exploration is associated with emotion-oriented coping, and that feelings of belonging to one's ethnic group is associated with higher rates of body dissatisfaction among the American participants (see Appendix O for a complete summary of intercorrelations).

***European sample.*** Similar relationships were seen in the European ($n = 8$) regional ethnic group (see Table 13). Again, the EAT-26 total score was significantly correlated with the dieting ($r = .97$, $p < .01$) and oral control ($r = .79$, $p < .05$) scales. There were no significant correlations between the EAT-26 total scale and body dissatisfaction or any COPE scales, which may be due to the small sample size ($n = 8$), but there were some relationships of interest. Specifically, the EAT-26 total score was positively correlated with the self-distraction ($r = .62$, $p = .10$), positive reframing ($r = .60$, $p = .11$), and acceptance ($r = .70$, $p = .05$) scales. Self-distraction is an emotion-oriented coping style, and this relationship remains similar to that of the American group. The other two scales, however, are problem-oriented coping styles. Body dissatisfaction was not significantly correlated with BMI in this sample, but the relationship approached significance ($r = .67$, $p = .14$).

Table 13

*Select Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "European" Participants (n=8)*

| Measures | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. EATD | — | | | | |
| 2. EATB | .31 | — | | | |
| 3. EATO | .75* | -.19 | — | | |
| 4. EATT | .97** | .37 | .79* | — | |
| 5. BD | .42 | .93** | -.13 | .47 | — |
| 6. SD | .63 | -.02 | .63 | .62 | -.22 |
| 14. PR | .53 | .08 | .69 | .60 | .34 |
| 17. A | .65 | .16 | .68 | .70 | .15 |
| 20. BMI | .06 | .75* | -.26 | .12 | .67 |
| 21. MEIME | .06 | .62 | -.30 | .08 | .63 |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p < .05$, **$p < .01$.

No significant correlations were found between the MEIM subscales and disordered eating, although the relationship between the MEIM exploration scale and the EAT-26 bulimia and food preoccupation ($r = .62$, $p = .10$) scale and BMI ($r = .62$, $p = .10$) are of note. This

suggests that higher rates of ethnic identity exploration are associated with more bingeing symptoms, and it is also associated with higher BMI (see Appendix P for a complete summary of intercorrelations).

***Central/South American sample.*** Among those participants who selected Central/South American ($n$ = 5) as their regional ethnicity, similar patterns of disordered eating and coping styles to those of other groups were seen (see Table 14). Specifically, the EAT-26 total scale was significantly correlated with the dieting ($r$ = .96, $p$ < .01) and bulimia and food preoccupation ($r$ = .98, $p$ < .01) scales. No significant correlation was found between the EAT-26 total score and body dissatisfaction. Significant positive correlations were found between the EAT-26 total score and the COPE substance use ($r$ = .95, $p$ < .05), use of emotional support ($r$ = .95, $p$ < .05), and planning ($r$ = .95, $p$ < .05) subscales. While substance use is an emotion-oriented coping style, use of emotional support and planning are both problem-oriented coping styles. There were several correlations that did not reach significance due to the sample size ($n$ = 5), but are of note. The EAT-26 total score was correlated with the COPE self-distraction ($r$ = .79), use of instrumental support ($r$ = .78), positive reframing ($r$ = .61), humor ($r$ = -.74), and self-blame ($r$ = -.68). The COPE self-distraction and self-blame scales are emotion-oriented coping styles, while the use of instrumental support, positive reframing, and humor scales are problem-oriented styles. Of note is the negative correlation between the EAT-26 total score and the emotion-oriented self-blame scale, as well as between the total score and the problem-oriented humor scale. In this sample, the correlation between body dissatisfaction and BMI ($r$ = .82) was not significant.

Table 14
*Select Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "Central/South American" Participants (n=5)*

| Measures | 1 | 2 | 4 | 5 | 21 | 22 |
|---|---|---|---|---|---|---|
| 1. EATD | — | | | | -.31 | .16 |
| 2. EATB | .92* | — | | | .67 | .56 |
| 3. EATO | -.32 | -.07 | | | .43 | .28 |
| 4. EATT | .96** | .98** | — | | .54 | .34 |
| 5. BD | -.57 | -.43 | -.54 | — | .05 | -.21 |
| 9. SU | .85 | .94* | .95* | -.65 | .63 | .51 |
| 10. ES | .85 | .94* | .95* | -.65 | .63 | .51 |
| 11. IS | .65 | .73 | .78 | -.79 | .50 | .48 |
| 12. CBD | -.21 | -.40 | -.41 | .65 | -.54 | -.67 |
| 14. PR | .61 | .57 | .61 | -.93* | .19 | .51 |
| 15. P | .85 | .94* | .95* | -.65 | .63 | .51 |
| 16. H | -.52 | -.75 | -.74 | .40 | -.79 | -.56 |
| 19. SB | -.40 | -.57 | -.61 | .31 | -.59 | -.25 |
| 20. BMI | -.82 | -.62 | -.68 | .82 | .06 | -.14 |
| 21. MEIME | -.31 | .67 | .54 | .05 | — | .81 |
| 22. MEIMA | .16 | .56 | .34 | -.21 | .81 | — |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$, MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p < .05$, **$p < .01$.

There were several interesting, but not significant relationships between the MEIM subscales and disordered eating symptoms and coping styles. Specifically, among Central/South American participants ($n$ = 5), there was a positive relationship between the MEIM exploration subscale and the EAT-26 bulimia and food preoccupation ($r$ = .67, $p$ = .22) scale, as well as between exploration and the COPE substance use ($r$ = .63, $p$ = .25), use of emotional support ($r$ = .63, $p$ = .25), planning ($r$ = .63, $p$ = .25), and humor ($r$ = -.79, $p$ = .12). This indicates that greater rates of ethnic identity exploration are associated with higher rates of bingeing behaviors, as seen in the European sample, greater use of emotional support and planning, both of which are problem-oriented coping styles, and less use of humor, also a problem-oriented coping strategy. There was a negative relationship of note, although not significant, between the MEIM affirmation scale and the COPE behavioral disinhibition scale ($r$ = -.67, $p$ = .22), indicating that higher rates of feelings of belonging and acceptance of ethnic identity were associated with lower rates of emotion-oriented coping, specifically behavioral disinhibition (see Appendix Q for a complete summary of intercorrelations).

***African American/Caribbean sample.*** Correlational analyses were also performed within the sample of those who selected African American/Caribbean ($n$ = 10) as their regional ethnic group (see Table 15). In this sample, the EAT-26 total score was only significantly correlated with the dieting ($r$ = .94, $p$ < .01) scale. No significant correlation was found between the EAT-26 total score and body dissatisfaction, although it approached significance ($r$ = .68). Significant correlations were found between the EAT-26 total scale and the COPE self-distraction ($r$ = .76, $p$ < .05), substance use ($r$ = .84, $p$ < .01), and religion ($r$ = -.65, $p$ < .05). There were no other correlations of note. Both self-distraction and substance use are emotion-oriented coping styles. Religion is a problem-oriented coping style, and was negatively correlated with disordered eating

symptoms. Within this sample, body dissatisfaction was significantly correlated with BMI ($r$ = .88, $p < .05$).

Table 15

*Select Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "African American/Caribbean" Participants (n=10)*

| Measures | 1 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | .06 | -.13 | -.38 |
| 2. EATB | -.11 | | | | .02 | -.19 | .32 |
| 3. EATO | .29 | — | | | -.14 | .75* | .35 |
| 4. EATT | .94** | .56 | — | | .01 | .15 | -.13 |
| 5. BD | .66 | .18 | .68 | — | .88* | .10 | .22 |
| 6. SD | .76* | .12 | .76* | .61 | -.37 | -.18 | -.24 |
| 9. SU | .81** | .31 | .84** | .56 | -.01 | -.09 | -.14 |
| 10. ES | .46 | .09 | .37 | -.32 | -.51 | -.41 | -.76* |
| 11. IS | .26 | -.11 | .13 | -.45 | -.40 | -.38 | -.69* |
| 16. H | .34 | -.50 | .15 | .20 | -.11 | -.73* | -.70* |
| 17. A | .49 | -.23 | .32 | .24 | -.11 | -.82* | -.76* |
| 18. R | -.59 | -.14 | -.65* | -.88* | -.13 | -.21 | -.29 |
| 19. SB | .24 | -.36 | .08 | -.11 | -.54 | -.68* | -.59 |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, 20 = BMI, 21 = MEIM exploration, 22 = MEIM affirmation, *$p < .05$, **$p < .01$.

Significant positive correlations were also found between the MEIM exploration scale and the EAT-26 oral control scale ($r$ = .75, $p < .05$). Significant negative correlations were found

between the exploration scale and the COPE humor ($r$ = -.73, $p$ < .05), acceptance ($r$ = -.82, $p$ < .05), and self-blame ($r$ = -.68, $p$ < 05) scales. This suggests that greater ethnic identity exploration is associated with greater concern and control over food intake, and less frequent use of humor, acceptance, and self-blame as coping strategies. While humor and acceptance are both problem-oriented, self-blame is an emotion-oriented coping strategy. Additionally, there were significant negative correlations between the MEIM affirmation scale and the COPE use of emotional support ($r$ = -.76, $p$ < .05), use of instrumental support ($r$ = -.69, $p$ < .05), humor ($r$ = -.70, $p$ < .05), and acceptance ($r$ = -.76, $p$ < .05) scales. This indicates that, unlike the Central/South American sample, in the African/Caribbean sample higher rates of ethnic identity acceptance and feelings of belonging are associated with less use of problem-oriented coping styles, such as use of emotional and instrumental support, humor, and acceptance (see Appendix R for a complete summary of intercorrelations).

***Asian sample.*** The same analyses were performed with the sample of participants who selected Asian ($n$ = 8) as their regional ethnic group (see Table 16). Within this sample, the EAT-26 total score was significantly correlated with the dieting ($r$ = .90, $p$ < .01) and oral control ($r$ = .80, $p$ < .05) scales. The EAT-26 total score was not significantly correlated with body dissatisfaction. The EAT-26 total score was significantly correlated with the COPE self-distraction ($r$ .72, $p$ < .05) scale, which is an emotion-oriented coping style. Because of the small sample size ($n$ = 8), no other correlations were found to be statistically significant. There were some correlations that were of note. Specifically, the EAT-26 total score was negatively correlated with the use of emotional support scale ($r$ = -.69) and positively correlated with the planning ($r$ = .66) and self-blame ($r$ = .65) scales. The use of emotional support and planning scales are both problem-oriented coping styles, while self-blame is an emotion-oriented coping

style. No significant correlation was found in this sample between body dissatisfaction and BMI ($r$ = .65).

Table 16

*Select Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "Asian" Participants (n=8)*

| Measures | 1 | 2 | 3 | 4 | 21 | 22 |
|---|---|---|---|---|---|---|
| 1. EATD | — | | | | -.19 | -.33 |
| 2. EATB | -.26 | | | | -.32 | .26 |
| 3. EATO | .56 | — | | | -.53 | -.43 |
| 4. EATT | .90** | .80* | — | | -.40 | -.33 |
| 5. BD | .18 | .08 | .14 | — | .35 | .49 |
| 6. SD | .70 | .54 | .72* | .44 | -.46 | -.24 |
| 10. ES | -.64 | -.51 | -.69 | .06 | -.01 | .08 |
| 14. PR | -.10 | -.32 | -.12 | .50 | .51 | .85** |
| 15. P | .61 | .31 | .66 | .38 | -.01 | .33 |
| 16. H | -.37 | -.43 | -.52 | .42 | .75* | .56 |
| 19. SB | .59 | .57 | .65 | -.48 | -.79* | -.85** |
| 20. BMI | -.14 | -.51 | -.31 | .65 | .37 | .57 |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, ES = COPE Emotional support, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p$ < .05, **$p$ < .01.

Significant correlations were found between the MEIM exploration scale and the COPE humor ($r$ = .75, $p$ < .05) and self-blame ($r$ = -.79, $p$ < .05) scales. This suggests that higher rates

of ethnic identity exploration are associated with higher rates of problem oriented coping, such as humor, and lower rates of emotion-oriented coping, such as self-blame. Significant correlations were also found between the MEIM affirmation scale and the COPE positive reframing ($r$ = .85, $p$ < .01) and self-blame ($r$ -.85, $p$ < .01) scales. Again, suggesting that more feelings of belonging and acceptance of ethnic identity are associated with higher rates of problem oriented coping, such as positive reframing, and lower rates of emotion-oriented coping, such as self-blame (see Appendix S for a complete summary of intercorrelations).

***South Asian sample.*** Finally, correlational analysis was performed within the sample of participants who selected South Asian ($n$ = 6) as their regional ethnic group (see Table 17). Within this sample, the EAT-26 total score was only significantly correlated with the oral control scale ($r$ = .85, $p$ < .05), although the correlation with the bulimia and food preoccupation scale was noteworthy ($r$ = .80). This may be due to the small sample size ($n$ = 6). No significant correlation was found between the EAT-26 total score and body dissatisfaction. Significant correlations were found between the EAT-26 total score and the COPE planning ($r$ = -.94, $p$ < .05), acceptance ($r$ = .97, $p$ < .01), and religion ($r$ = .66, $p$ < .05) scales. All three of these scales represent problem-oriented coping styles. The relationship between body dissatisfaction and BMI was not significant ($r$ = .86).

Table 17

*Select Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "South Asian" Participants (n=6)*

| Measures | 4 | 5 | 21 | 22 |
|---|---|---|---|---|
| 4. EATT | — | | .29 | .35 |
| 5. BD | .45 | — | -.22 | .20 |
| 6. SD | .11 | .54 | .80 | .82* |
| 7. AC | -.80 | -.65 | .69 | .39 |
| 8. D | -.53 | .[b] | .81 | .68 |
| 9. SU | .62 | .47 | .52 | .89* |
| 10. ES | -.48 | -.13 | .74 | .65 |
| 11. IS | -.42 | .13 | .64 | .51 |
| 12. CBD | .34 | .21 | .78 | .93* |
| 15. P | -.94* | -.65 | .52 | .12 |
| 17. A | .97** | -.47 | .11 | -.33 |
| 18. R | .66* | .16 | .58 | .80 |
| 19. SB | -.92 | -.81 | .54 | .06 |

*Note:* EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$, MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p < .05$, **$p < .01$.

There were no significant correlations between the MEIM exploration scale and any EAT-26 or COPE scales, but there were some relationships of note. Specifically, the relationship

between exploration and the EAT-26 oral control ($r$ = .63, $p$ = .18) indicates that greater ethnic identity exploration may be associated with more fixation and control of food intake. Additionally, the relationship between exploration and the COPE self-distraction ($r$ = .80, $p$ = .05), denial ($r$ = .81, $p$ = .09), behavioral disinhibition ($r$ = .78, $p$ = .12), use of emotional support ($r$ = .74, $p$ = .16), active coping ($r$ = .69, $p$ = .20), and use of instrumental support ($r$ = .64, $p$ = .25) suggest a complicated picture. Specifically, greater ethnic identity exploration seems to be related to higher rates of emotion-oriented coping such as self-distraction, denial, and behavioral disinhibition. It also appears to be related to higher rates of problem-oriented coping such as active coping and the use of instrumental and emotional support. There were several significant positive relationships between the MEIM affirmation scale and the COPE subscales. Specifically, acceptance was significantly correlated with the COPE self-distraction ($r$ = .82, $p$ < .05), substance use ($r$ = .89, $p$ < .05), and behavioral disinhibition ($r$ = .93, $p$ < .05) scales, all of which are emotion-oriented coping styles. It appears that, among the South Asian participants, greater ethnic identity affirmation was associated with greater use of emotion-oriented coping strategies (see Appendix T for a complete summary of intercorrelations).

*Summary.* Overall, many of the same coping strategies are related to disordered eating symptoms for all ethnicities. Interestingly, for the American sample, the only coping styles related to disordered eating symptoms were emotion-oriented coping styles. For the other ethnicities, both the problem- and emotion-oriented coping styles were associated with disordered eating. Additionally, different coping strategies were related to disordered eating symptoms among the different regional ethnicity groups. While the small sample sizes make drawing conclusions difficult, it does suggest that the relationship between coping styles and disordered eating is different for those individuals who do not identify as American.

**Exploratory Analyses**

**Graphic analyses.** The relationship between disordered eating and coping styles was explored for all participants using two different groupings: a) Caucasian and Non-Caucasian, and b) American, European, Central/South American, African/Caribbean, Asian, and South Asian. Scatterplots showing the EAT-26 total score and each of the Brief COPE subscales were examined using best-fit lines to see group similarities and differences. The graphs (Appendix U) show each relationship with both groupings.

Examination of each pair of scatterplots shows that the differences in the relationship between the EAT-26 total score and each of the COPE subscales among the regional ethnicity groups are more varied than those between the larger Caucasian/Non-Caucasian grouping. Figures for the relationship between disordered eating and self-distraction coping (Figures U.1. and U.2.) show what seems to be no differences between the Caucasian and Non-Caucasian groups, but when the participants are separated out by regional ethnicity identification, the relationship between disordered eating and self-distraction coping (an emotion-oriented coping style) seem to vary greatly.

Likewise, the two groupings seem to produce different relationships (Figures U.3 and U.4) for the relationship between disordered eating and active coping. For the Caucasian and Non-Caucasian grouping, the relationship between disordered eating and active coping (a problem-oriented coping style) seems to be the same. When grouped by regional ethnicity, however, it is easy to see the relationship between disordered eating and active coping differs greatly across different ethnic groups. This pattern continues (see Appendix U) for the remaining coping styles. Even when there appears to be a difference in the relationship between disordered eating and coping style by Caucasian and Non-Caucasian grouping (Figure V.5), those

differences appear to be more complex when viewed across regional ethnicity groups (Figure V.6).

**Discriminant analyses.** Although differences in the relationships between regional ethnicity groups could be seen visually, discriminant anlysis was used to determine if the regional ethnicity groups were statistically adequate grouping variables within the study sample. As seen in Table 18, the regional ethnicity groups (i.e., a) American, b) European, c) Central/South American, d) African/Caribbean, e) Asian, and f) South Asian) were the only statistically appropriate groupings for the study sample in the relationship between disordered eating and the use of instrumental support ($\chi^2 = 18.95(10)$, $p = .04$), which is a problem-oriented coping style. Additionally, the grouping was signifcant for the relationship between disordered eating and religion ($\chi^2 = 21.94(10)$, $p = .01$), which can be considered to be an emotion-oriented coping style. For all other coping styles, the groupings of regional ethnicity did not adequately capture the differences between and among participants. Discriminant analysis shows that more than half of the participants in each group were correctly classified by the regional ethnicity grouping (63.6% to 69.6%).

Discriminant analysis was also run using the Caucasian/non-Caucasian grouping. Table 19 shows that none of the coping styles produced significantly adequate grouping classification. Additionally, the percent of participants who were correctly classified by the Caucasian/non-Caucasian grouping was higher on the whole (71.6% to 73%). When one examines predicted membership in each group, however, it is evident that the predictive power of both groupings is minimal. Appendices W and X present predicted and actual group memberships of the sample for both the Regional Ethnicity grouping (Appendix V) and the Caucasian/Non-Caucasian grouping (Appendix W). While only 70% of the sample was Caucasian (American or European),

both groupings created predicted membership of 100% in these groups. The resulting correct classifications for both models were based merely on the actual membership in the American/European and Caucasian groups.

Table 18

*Discriminant Analysis of Regional Ethnicity Grouping*

| Relationship | Model | Eigenvalue | Wilks' λ | $\chi^2$ | *df* | Sig. | Correctly Classified (%) |
|---|---|---|---|---|---|---|---|
| EAT-26 Total by Acceptance | | | | | | | |
| | 1 | .15 | .84 | 16.94 | 10 | .08 | 63.6 |
| | 2 | .05 | .96 | 4.19 | 4 | .38 | |
| EAT-26 Total by Religion | | | | | | | |
| | 1 | .22 | .80 | 22.03 | 10 | .01* | 69.6 |
| | 2 | .03 | .97 | 2.72 | 4 | .61 | |
| EAT-26 Total by Planning | | | | | | | |
| | 1 | .06 | .92 | 7.91 | 10 | .64 | 65.3 |
| | 2 | .02 | .98 | 1.81 | 4 | .77 | |
| EAT-26 Total by Positive Reframing | | | | | | | |
| | 1 | .07 | .90 | 10.35 | 10 | .41 | 64.4 |
| | 2 | .04 | .96 | 3.87 | 4 | .42 | |
| EAT-26 Total by Instrumental Support | | | | | | | |
| | 1 | .16 | .82 | 19.17 | 10 | .04* | 65.3 |
| | 2 | .06 | .95 | 5.12 | 4 | .27 | |
| EAT-26 Total by Active Coping | | | | | | | |
| | 1 | .15 | .85 | 15.23 | 10 | .12 | 66.0 |
| | 2 | .02 | .98 | 2.14 | 4 | .71 | |
| EAT-26 Total by Emotional Support | | | | | | | |
| | 1 | .07 | .90 | 10.42 | 10 | .41 | 64.4 |
| | 2 | .04 | .96 | 3.51 | 4 | .48 | |
| EAT-26 Total by Humor | | | | | | | |
| | 1 | .11 | .88 | 12.55 | 10 | .25 | 65.0 |
| | 2 | .03 | .98 | 2.45 | 4 | .65 | |
| EAT-26 Total by Self-Distraction | | | | | | | |
| | 1 | .08 | .90 | 10.09 | 10 | .43 | 64.7 |
| | 2 | .03 | .97 | 2.71 | 4 | .61 | |

*Table 11 continues*

*Table 18 continued*

| Relationship | Model | Eigenvalue | Wilks' λ | $\chi^2$ | *df* | Sig. | Correctly Classified (%) |
|---|---|---|---|---|---|---|---|
| EAT-26 Total by Denial | | | | | | | |
| | 1 | .07 | .89 | 11.49 | 10 | .32 | 65.0 |
| | 2 | .06 | .94 | 5.45 | 4 | .24 | |
| EAT-26 Total by Substance Use | | | | | | | |
| | 1 | .07 | .93 | 7.46 | 10 | .68 | 65.3 |
| | 2 | .01 | .99 | .88 | 4 | .93 | |
| EAT-26 Total by Emotional Support | | | | | | | |
| | 1 | .07 | .90 | 10.42 | 10 | .41 | 64.4 |
| | 2 | .04 | .96 | 3.51 | 4 | .48 | |
| EAT-26 Total by Behavioral Disengagement | | | | | | | |
| | 1 | .12 | .88 | 12.44 | 10 | .26 | 65.3 |
| | 2 | .01 | .99 | 1.25 | 4 | .87 | |
| EAT-26 Total by Venting | | | | | | | |
| | 1 | .08 | .87 | 13.18 | 10 | .21 | 65.3 |
| | 2 | .06 | .94 | 5.63 | 4 | .23 | |
| EAT-26 Total by Self-Blame | | | | | | | |
| | 1 | .09 | .91 | 9.33 | 10 | .50 | 64.4 |
| | 2 | .01 | .99 | .75 | 4 | .94 | |

* indicates $p < .05$

Table 19

*Discriminant Analysis of Caucasian/Non-Caucasian Grouping*

| Relationship | Eigenvalue | Wilks' λ | $\chi^2$ | *df* | Sig. | Correctly Classified (%) |
|---|---|---|---|---|---|---|
| EAT-26 Total by Self-Distraction | .03 | .98 | 2.48 | 2 | .29 | 71.6 |
| EAT-26 Total by Active Coping | .01 | .99 | .58 | 2 | .75 | 73.0 |
| EAT-26 Total by Denial | .05 | .95 | 4.91 | 2 | .09 | 75.0 |
| EAT-26 Total by Substance Use | .01 | .99 | .93 | 2 | .63 | 72.3 |
| EAT-26 Total by Emotional Support | .01 | .99 | 1.17 | 2 | .56 | 72.3 |
| EAT-26 Total by Instrumental Support | .02 | .98 | 1.90 | 2 | .39 | 72.3 |
| EAT-26 Total by Behavioral Disengagement | .02 | .98 | 2.13 | 2 | .35 | 72.3 |
| EAT-26 Total by Venting | .02 | .98 | 2.00 | 2 | .37 | 72.3 |
| EAT-26 Total by Positive Reframing | .01 | .99 | .87 | 2 | .65 | 72.3 |
| EAT-26 Total by Planning | .01 | .99 | 1.01 | 2 | .60 | 72.3 |
| EAT-26 Total by Humor | .01 | .99 | 1.11 | 2 | .56 | 72.0 |
| EAT-26 Total by Acceptance | .01 | .99 | .87 | 2 | .65 | 72.7 |
| EAT-26 Total by Religion | .03 | .97 | 3.02 | 2 | .22 | 71.6 |
| EAT-26 Total by Self-Blame | .01 | .99 | .87 | 2 | .65 | 72.3 |

* indicates $p < .05$

Taken together, the exploratory analyses indicate that grouping participants by Caucasian/Non-Caucasian hides significant differences between ethnic groups. When grouped by regional ethnicity group, differences in the relationships between disordered eating and coping style appears to be clearer, although only statistically significant for two of the coping styles. It is important to note that there were very few participants in most of the regional ethnicity groups. For example, there were only 5 participants in the Central/South American group, and they self-identified as three different specific ethnicities (Cuban, Guyanese, Salvadoran) with one unspecified. This pattern was repeated for the other ethnicity groups. As such, any statistical significance must be interpreted with caution, and a clearer picture of appropriate groupings may be seen with a larger study sample.

**Conclusions**

Finally, the results suggest that different relationships exist between disordered eating attitudes and behaviors and coping styles among participants of different regional ethnic groups. While the exploratory nature of this study precluded formal hypotheses, I expected to see different rates of both disordered eating attitudes and behaviors and coping styles between regional ethnic groups. I also expected to see different rates of emotion and problem-oriented coping styles. Furthermore, I expected to see different relationships between disordered eating attitudes and behaviors and coping styles for non-Caucasian participants. The results of these analyses suggest that the relationship between these variables is different among non-Caucasian participants of different regional ethnicity groups than for Caucasian participants, but final conclusions await larger samples.

# Chapter V

## Discussion

This chapter describes the findings obtained from the statistical analysis of the present study. It also presents potential implications of these findings, limitations of the study, and suggestions for future research related to the area of study.

### Key Findings

The overall goal of this study was to explore the presentation of disordered eating in ethnically diverse female college students. More specifically, the focus of the study was on the relationship between disordered eating attitudes and behaviors and coping styles among an ethnically diverse female college population. The aim was to determine if the relationship between the constructs often seen in Caucasian samples (Denisoff & Endler, 2000; Garcia-Grau et al., 2002, 2004) was present among other ethnicity groups. Finally, exploratory analyses were used to determine if cultural differences within ethnic groups were masking true differences in the presentation of disordered eating.

**Key findings pertaining to major constructs.** The current study found no significant differences in overall disordered eating attitudes and behaviors or coping styles when comparing the Caucasian to non-Caucasian participants, nor when comparing specific regional ethnicity groups. There have been inconsistent findings in the literature. Some previous research has found significant differences in both prevalence and type of disordered eating symptoms (Cummins & Simmons, 2005; Fitzgibbon et al., 1998; French & Story, 1997; Gilbert, 2006; Pratt, Phillips, Greydanus, & Patel, 2003; Striegel-Moore, 2000; Striegel-Moore & Schrieber, 2000). Other research failed to find

differences in disordered eating symptoms (Demarest & Allen, 2000; Gluck, 2002; Mitchell & Mazzeo, 2004; Shaw et al., 2004; Su-Jin Yang & Yoon, 2010).

The findings of the current study support the latter argument that there are not appreciable differences in disordered eating symptoms between ethnic groups. This may be due to small sample size of many of the ethnicity groups. Another explanation is the fact that the sample population was recruited from colleges in large metropolitan areas, such as New York City. While the diversity of the sample was similar to both the ethnic diversity of New York State (U.S. Census, 2010) and to the ethnic make-up of female college students (www. http://colleges.usnews.rankingsandreviews.com/best-colleges/rankings/regional-universities-north/campus-ethnic-diversity), it is possible that individuals living in large metropolitan areas are more exposed to and influenced by the dominant culture, regardless of their individual cultural background.

The similarity in results among the groups may also be due to the fact that participants were college students. Several of the studies that found no differences between ethnic groups recruited participants from among female college students (Franko, Becker, Thomas, & Herzog, 2007; Mitchell & Mazzeo, 2004), while many of the studies that found significant differences in symptoms between ethnic groups had as participants women who were either older (Alegria et al., 2007; Fitzgibbon et al., 1998) or younger (Pernick et al., 2006; Striegel-Moore & Schrieber, 2000; Bisaga, Whitaker, Davies, Chuang, Feldman, & Walsh, 2005) and not in college or not yet college age. When attending college, women tend to spend more time with their peers than with their families. It is possible that this exposure to peers, even those of different ethnic

backgrounds, yields greater similarities among college students than are found among older and younger women.

With regard to coping styles, the current study found no significant differences in the use of emotion- and problem-oriented coping styles when comparing Caucasian and non-Caucasian participants. Significant differences were found, however, in use of problem-oriented coping styles when the regional ethnicity groups were compared. This suggests that cultural group membership affects coping style to a greater extent than simple racial differences.

As described in the second chapter of this dissertation, most reported differences in coping styles have focused on the use of emotion-oriented coping in non-Caucasian women (Habarth et al., 2008; Prelow et al., 2000; Miyazaki et al., 2008). The current study, however, did not find any significant differences in the use of emotion-oriented coping styles among groups. Differences were seen between groups in rates of acceptance, religion, and use of instrumental support: all of which are problem-oriented coping styles. The most interesting aspect of these findings, keeping in mind very small sample sizes, is the fact that for both the use of acceptance and instrumental support coping styles, the greatest difference was seen between the Asian and South Asian participants. In the current literature, Asian participants tend to be grouped together (Miyazaki et al., 2008; Prelow et al., 2000), which may explain the inconsistent findings in the current study. One explanation is that differences seen between these groups are often masked when they are combined and compared to other ethnic groups. This highlights the importance in multicultural research of using meaningful group characteristics to break participants down into smaller groups. The racial categories of

Caucasian and non-Caucasian are not as useful as are the more culturally-oriented categories of specific regional ethnicities. Because of small sample sizes, it was not possible to analyze differences based on specific countries of origin. Small sample sizes could also have contributed to differences between Asian and South Asian participants, because the individuals involved may not be truly representative of their regional ethnic groups.

**Key findings in the relationship between the major constructs.** When examined as a whole sample, the relationship between disordered eating attitudes and behaviors and coping styles was similar to that found in the literature described in the second chapter of this dissertation. Significant positive correlations were found between disordered eating symptoms and emotion-oriented coping, and significant negative correlations were found between disordered eating symptoms and problem-oriented coping, as seen in the literature (Bennett & Cooper, 2001; Blocks et al., 2001; Denisoff & Endler, 2000; Koff, 1997; Paterson et al., 2007; Spoor et al., 2007; Sulkowski et al., 2011). When the sample was separated into Caucasian and non-Caucasian participants, those relationships remained significant.

When the correlations were examined for each regional ethnicity group, however, some differences emerged. While the small sample size makes it difficult to draw conclusions, trends within each regional ethnicity group suggest that the relationship between disordered eating symptoms and coping styles may be more complicated than previously thought. Specifically, the American group showed similar correlations to the Caucasian group, as well as to findings from existing literature (Bennett & Cooper, 2001; Blocks et al., 2001; Denisoff & Endler, 2000; Koff, 1997; Paterson et al., 2007; Spoor et

al., 2007; Sulkowski et al., 2011). Positive relationships were seen between disordered eating symptoms and several styles of emotion-oriented coping, including self-distraction, denial, and self-blame.

Among the European participants, non-significant positive relationships were seen between disordered eating and emotion-oriented coping styles, specifically self-distraction. Positive non-significant relationships were also found, however, between disordered eating symptoms and problem-oriented coping styles, including positive reframing and acceptance. This finding is inconsistent with the current literature in that it represents a positive relationship between disordered eating and problem-oriented coping within a presumably Caucasian sample. One explanation of this is the very small sample size of the European group that may not be representative of the group from which it was drawn. Another possible explanation is that individuals who indicated that their ethnic group was European (Armenian, Belarusian, Czech, etc.) do not identify with the dominant culture, but with their specific regional cultural group. Therefore, the relationships that have been seen previously in the literature between disordered eating and coping styles may be more due to the dominant culture of the participants than the classification of “Caucasian.” In addition, when one examines the scatterplots (see Appendix U) showing the relationships between eating disorders and coping styles, the slopes for the American and European groups are consistently different. It is possible that the effects of cultural membership are more important in the presentation of disordered eating and coping styles than are the more broad racial categories (e.g., Caucasian) that have been used previously in the literature.

Of interest is the fact that, among African American and Caribbean participants, the relationship between disordered eating symptoms and coping styles was similar to that seen among Caucasian participants. Specifically, within this sample there were significant positive relationships between disordered eating symptoms and emotion-oriented coping styles, and significant negative relationships between disordered eating symptoms and problem-oriented coping. Of the 10 participants in this sample, 4 identified as African American, 2 as Jamaican, 2 as Nigerian, and 1 as Trinidadian and Tobagonian. One explanation for the relationships seen is that those individuals who identified as African American may be assimilated into the dominant American culture, and thus exhibit similar relationships between the two constructs. Therefore, it appears that, among individuals who identify as African American or Caribbean, the positive relationship between disordered eating symptoms and emotion-oriented coping styles that has been found previously for Caucasian populations (Bennett & Cooper, 2001; Blocks et al., 2001; Denisoff & Endler, 2000; Koff, 1997; Paterson et al., 2007; Spoor et al., 2007; Sulkowski et al., 2011) holds true for this population as well.

Among the participants who self-identified as Central or South American, a complicated picture arose. While disordered eating was significantly positively associated with the emotion-oriented coping style of substance use, it was also significantly positively associated with several problem-oriented coping styles (use of emotional support and planning). There were also trends showing positive and negative relationships between disordered eating and several emotion-oriented and problem-oriented coping scales. This suggests that, within the Central/South American sample, the relationship between the two constructs is complicated. One explanation is, again, the

small sample size ($n$ = 5). The relationship between these two constructs has not, as yet, been explored in the literature for Central/South Americans. It is possible that the relationship commonly seen in Caucasian samples (Bennett & Cooper, 2001; Blocks et al., 2001; Denisoff & Endler, 2000; Koff, 1997; Paterson et al., 2007; Spoor et al., 2007; Sulkowski et al., 2011) does not hold true for other ethnicity groups. Again, the scatterplots in Appendix U show that the relationship between disordered eating symptoms and coping styles is very different from the American and European samples for some coping styles but similar to the American and European samples for others. This suggests, as the present study has hypothesized, that the relationship between disordered eating and emotion-oriented coping styles is more complicated among ethnicities and cultures where emotion-oriented coping may be more common and more accepted.

One of the most interesting finding of this study was the difference seen between the Asian and the South Asian samples with regard to the relationship between disordered eating symptoms and emotion-oriented coping styles. Within the Asian sample, a complicated picture emerged, with disordered eating symptoms positively (although not significantly) correlating with the use of self-blame and planning, and negatively (while not significantly) correlating with the use of emotional support. Self-blame is an emotion-oriented coping style, while planning and use of emotional support are both problem-oriented coping styles. This suggests that those in the Asian sample behaved similarly to those in the American and African American samples in this study. Among the South Asian participants, a significant negative correlation was seen between disordered eating symptoms and planning, which is a problem-oriented coping style. This is similar to the Asian subgroup, in that higher rates of disordered eating was associated with lower rates

of problem-oriented coping. There were also, however, positive significant correlations between disordered eating symptoms and acceptance and planning, both of which are also problem-oriented coping styles. Thus, among the South Asian participants, higher rates of disordered eating were associated with higher rates of some problem-oriented coping styles, and lower rates of others.

In the current state of the literature, Asian and South Asian participants are often categorized together as racial "Asian" group (Alegria et al., 2007; Bisaga et al., 2005; Franko et al., 2007). It is possible that the current understanding of Asian participants' disordered eating and coping behaviors has been complicated by the fact that these two groups are often examined together. As hypothesized by the current study, using broad categories to analyze the relationships between the two constructs may mask differences based on ethnicity group and cultural background. As seen in Appendix U, the relationship between the two constructs is sometimes similar and sometimes different between the Asian and South Asian groups. More research is needed to determine the presentation of disordered eating symptoms and coping styles in these two groups.

Finally, the relationship between ethnic identity exploration and affirmation and disordered eating and coping styles appears to be a complicated one. Across the ethnicity groups, higher levels of ethnic identity exploration were associated with higher rates of disordered eating (with the exception of the Asian subgroup). Interestingly, exploration seems to have different relationships with emotion and problem-oriented coping for the different ethnicity groups. While higher rates of exploration were associated with higher rates of emotion-oriented coping in the American, Central/South American, and South Asian groups, they were also associated with lower rates of emotion-oriented coping in

the African American/Caribbean and Asian groups. Additionally, higher rates of exploration were associated with higher rates of problem-oriented coping in the Central/South American, Asian, and South Asian groups, but with lower rates of problem-oriented coping in the African American/Caribbean group. The relationships among ethnic identity exploration and affirmation and coping styles appear to be complicated and deserve further study with larger samples.

Ethnic identity affirmation also appeared to have a complicated relationship with disordered eating thoughts and behaviors and coping styles across ethnicity groups. Affirmation was associated with higher rates of body dissatisfaction in the American group, and lower rates of body dissatisfaction in the Central/South American group. Additionally, affirmation was associated with higher rates of emotion-oriented coping in the South Asian group, but not in any other groups, and was associated with lower rates of emotion-oriented coping in the African American/Caribbean, and Asian groups. Finally, affirmation was associated with higher rates of problem-oriented coping in the Asian group, and with lower rates of problem-oriented coping in the African American/Caribbean group. Because this relationship has never been explored among different ethnicity groups, it is difficult to draw conclusions from this dissertation. The small sample size makes the results hard to interpret. It is clear, however, that the relationship between disordered eating and coping styles is complicated, and is made all the more complicated by the differing effects of ethnic identity exploration and affirmation within these ethnicity groups. Future research should be aimed at elucidating these relationships and the effects that ethnic identity has on them.

**Implications for College-Based Psychologists**

Disordered eating is of pressing concern on college campuses. As long as 20 years ago, up to 90% of female college students admitted to trying to control their weight through dieting or other means (Shisslak, Crago, & Estese, 1995). Furthermore, 95% of those with disordered eating diagnoses are between the ages of 12 and 25 years (Adolescent Medicine Committee, Canadian Paediatric Society, 1998). While disordered eating has emerged as an issue of concern in secondary education, it remains a major concern in colleges across the country (SAMHSA). Research has focused on the presentation of disordered eating symptoms and coping styles in female Caucasian college students. Positive relationships between disordered eating symptoms and emotion-oriented coping styles have been found (Bennett & Cooper, 2001; Bloks et al., 2001; Denisoff & Endler, 2000; Koff, 1997; Paterson et al., 2007; Spoor et al., 2007; Sulkowski et al., 2011), and current treatment has focused on increasing problem-oriented coping to ameliorate disordered eating symptoms (Bloks, Furth, & Callewaert, 2004). No research to date, however, has determined if this relationship holds true for female non-Caucasian college students.

The findings of this dissertation indicate that the relationship between disordered eating symptoms and emotion-oriented coping is more complicated among female college students of non-Caucasian ethnicities. While those students who self-identified as American and African American/Caribbean exhibited similar relationships between disordered eating symptoms and coping styles, the other participants showed a more complicated relationship between the two constructs. These results suggest that treatment that emphasizes strengthening problem-solving coping skills may not be appropriate for

all college women with eating disorders. In fact, it is possible that in some cases, problem-solving coping may exacerbate disordered symptoms.

The implications of these findings are that current treatment plans, which focus on increasing problem-oriented coping styles as a means of reducing disordered eating symptoms may not be appropriate for all college students. In fact, based on the findings that there may be relationships between greater disordered eating and problem-oriented coping, this treatment may be harmful to individuals of different ethnic backgrounds. For example, encouraging a young woman from a non-western ethnic group to stand up for herself to change a stressful situation without first exploring possible ramifications within the family and community may cause more harm than good. In some communities, it is preferable for the individual to be in distress than for that individual to challenge the status quo. Therefore, encouraging a student to challenge her community's social structure may cause unforeseen ramifications. Mental health professionals should explore possible consequences of any actions within their clients' cultures, and work within cultural beliefs and social strata to find ways to ameliorate symptoms.

**Limitations of the Current Study and Suggestions for Future Research**

There are several limitations of the current study. The first is the very small sample size, particularly for some of the regional ethnicities. Although the ethnic breakdown of study participants mirrors the ethnic breakdown of the nation and New York State (U.S. Census, 2012), the disproportionate number of participants who selected "American" as their ethnicity group made it difficult to draw conclusions about other ethnicities. The other ethnicity groups (European, Central/South American, African American/Caribbean, Asian, South Asian) had sample sizes of 10 or fewer. Additionally,

there were two ethnicity groups (Middle Eastern and North American (Native American)) with zero participants.

The use of word of mouth recruitment may have affected results as well. Emails were sent out to participants with the request that they be forwarded to friends. This may have resulted in a self-selected group of college students who were experiencing similar disordered eating symptoms, or who were otherwise self-selecting to be in the study. As such, any significant findings must be interpreted with caution. Future research should focus on each of these specific ethnicity groups in order to determine if the relationships found in the current study hold true. Additionally, the current study aimed to explore the effect of specific country of origin on these relationships. Because of the small sample size, this was not possible. Future research should aim to explore the effect specific country of origin and the cultural membership that engenders on the relationship between disordered eating and coping style.

The use of online, anonymous surveys is another limitation. Because the participants completed the surveys alone and without supervision, questions may have been misunderstood or omitted. If the surveys had required answers to every question, these errors may have been avoided. Specifically, many participants omitted the FRS, which assesses body dissatisfaction. This may have affected the statistical analyses. Furthermore, the BAS queried participants about how often they engage in ethnicity-group specific activities, such as speaking in the language, eating food, and observing holidays. Ambiguous wording may have led many American participants to erroneously complete the BAS scale for “other language” as if they were completing it for English. Because they were not given an opportunity to write which language they were using as a

reference, there is no way of knowing if the responses to this scale are valid. Future research should clarify this confusing language, and possibly use forced answers to guarantee that participants complete each question before continuing to the next page.

Further limitations that may have played a role in this study include social desirability bias and self-selection. Participants may have self-selected based on their feelings about disordered eating. Specifically, college students who recognize they have disordered eating may have been hesitant to participate. Conversely, college students who have very few disordered eating symptoms may not have participated because they did not feel a connection to the research. For those participants who did participate, it is possible that their answers were not truthful, and that they responded in a socially desirable way to the survey questions. Because height and weight were assessed by self-report, and no medical information was collected, there is no way of knowing how truthful participants were about these variables.

Finally, based on the current state of the literature, it is possible that the measures used to assess disordered eating symptoms and coping styles are not sensitive to women of diverse ethnic backgrounds. Because most of the disordered eating literature has focused on Caucasian, western women, the measures commonly used have also been developed with these women (and their symptom profiles) in mind. It is quite possible that these instruments are simply not attuned to disordered eating symptom clusters among women of different ethnic and cultural backgrounds. Further research should focus on developing assessments that are sensitive to different patterns of symptoms and to different patterns of healthy eating.

Exploratory analyses were used, which make it difficult to draw any conclusions about the results found in this study. Discriminant analysis was used to determine if the commonly used ethnic groups were appropriate categories for the participants in the current study. Because of the small sample size, it was very difficult to determine if these categories are in fact appropriate. Because of the nature of discriminant analysis, groupings appeared to be appropriate simply due to the overwhelming numbers of Caucasian participants. Future research should focus on determining if the findings of these groups were appropriate for both Caucasian/Non-Caucasian and the regional ethnicity groups hold true for larger samples.

A significant limitation in the current study was the ethnic classification system that was used. Because so little is known about the relationship between coping styles and disordered eating in different cultures, the focus of this study was the cultural group membership. As a result, the information collected from the participants was not complete. Using “American” as an ethnic group was problematic for many reasons. Women were free to choose “American” regardless of their ethnic or racial background. Because of the wide array of individuals who consider themselves to be American, this group may be made up of women from many different cultural and ethnicity groups who identify enough with American culture to consider themselves to be “American.” They may, however, still be influenced by diverse cultural beliefs without being attuned to the influence their cultural background has on their behavior.

Future research should focus on eating behaviors, both healthy and unhealthy, in larger groups of women from diverse ethnic and cultural backgrounds in diverse countries. By exploring the baseline cultural differences in healthy eating, researchers

will be able to determine culturally-specific disordered eating symptoms, which may differ from those found among Caucasian, Western individuals. Furthermore, expanding the study to women of all ages, younger and older, would help to add to our understanding of eating and disordered eating among diverse women. Finally, having a much larger sample that would allow groups of participants to be categorized by specific cultural group membership rather than country of origin or region of origin would further elucidate the effects of culture on the presentation of disordered eating.

**Conclusion**

The purpose of this study was to explore the relationship between disordered eating symptoms and coping styles among an ethnically diverse female college population. The author aimed to extend the existing literature showing a positive relationship between disordered eating symptoms and emotion-oriented coping seen in Caucasian women to women of different ethnicity groups. This was an important area of study because of the high prevalence of disordered eating among female college students (Neumark-Sztainer, 2005), as well as the current trend of treatments used in school settings, which focus on increasing problem-oriented coping as a way to decrease disordered eating symptoms (Bloks, Furth, & Callewaert, 2004).

Based on the current body of literature, it was expected that women from diverse ethnicity groups would exhibit different relationships between disordered eating symptoms and coping styles. It was expected that the positive relationship between disordered eating symptoms and emotion-oriented coping seen in Caucasian women (Bennett & Cooper, 2001; Koff, 1997; Paterson et al., 2007; Skinner, Edge, & Altman, 2003; Spoor et al., 2007; Sulkowski et al., 2011) would not hold true for women from

different ethnicity groups. This was borne out in the analyses, although the small sample size makes interpretation difficult. It appears that the relationship between disordered eating symptoms and emotion and problem-oriented coping is more complicated among women from diverse cultural backgrounds. This may be due to cultural differences in the level of independence the individual is expected to have, or to cultural norms regarding reactions to stressful situations. Regardless of the causes, the implications of the current findings suggest that commonly used treatments in college settings, which train individuals to increase problem-oriented coping strategies as a way of decreasing disordered eating symptoms, may be inappropriate for many students.

As previously discussed, this has important implications for mental health workers in college settings. Counselors who aim to treat disordered eating symptoms must take ethnicity group and cultural norms into account when determining the best course of treatment. For female college students of many ethnicity groups, increasing problem-oriented coping strategy use may not help to decrease disordered eating symptoms. In fact, in some groups it may serve to increase those symptoms, as the relationship between the two constructs is not well understood. If mental health professionals do not focus on their patient's cultural and ethnic background when treating disordered eating symptoms, they may unwittingly slow progress or even cause an increase in disordered eating symptoms.

Appendix A

**Recruitment Email**

Dear Student,

I am currently conducting research regarding the cross-cultural presentation of eating attitudes and behaviors and coping styles. I am looking for female students to complete a brief online survey about their cultural background, coping attitudes, and eating behaviors.

Please follow the link below to view a full description of the study and to determine if you would like to participate.

www.tinyurl.com/clairegolden

Please share this link with friends (of any cultural or ethnic backgrounds) you believe would be interested in participating.

Thank you so much for your time,

Claire Golden

Cgolden@gc.cuny.edu

Gilleece Fellow

Appendix B

**Final Page of Survey Introducing Raffle**

Thank you for your participation! As a reward, you may enter to win one of two $25 gift cards! To enter, please email the primary investigator at cgolden@gc.cuny.edu. Use the subject heading "raffle" and simply type "survey" in the body of the email. There will be no way for me to connect your email address to your survey. Thank you again for taking the time to complete the survey!

Appendix C

## ANOVA Tables of Participant and Demographic Data

Table C.1.

*One-Way ANOVA of Family Demographics*

| | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Family Income | Between Groups | 18.26 | 5 | 3.65 | 1.87 | .11 |
| | Within Groups | 187.23 | 96 | 1.95 | | |
| | Total | 205.49 | 101 | | | |
| Mother's Highest | Between Groups | 36.06 | 5 | 7.21 | 2.11 | .07 |
| Education | Within Groups | 328.61 | 96 | 3.42 | | |
| | Total | 364.68 | 101 | | | |
| Father's Highest | Between Groups | 35.70 | 5 | 7.14 | 1.751 | .13 |
| Education | Within Groups | 391.67 | 96 | 4.08 | | |
| | Total | 427.37 | 101 | | | |

Table C.2.

*One-Way ANOVA of Participant Demographics*

| | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Age | Between Groups | 3.79 | 5 | .76 | .16 | .98 |
| | Within Groups | 455.23 | 96 | 4.742 | | |
| | Total | 459.02 | | | | |
| Height (in.) | Between Groups | 94.73 | 5 | 18.95 | 2.15 | .07 |
| | Within Groups | 845.99 | 96 | 8.81 | | |
| | Total | 940.72 | 101 | | | |
| Weight (lbs.) | Between Groups | 9471.80 | 5 | 1895.36 | 1.65 | .16 |
| | Within Groups | 109292.05 | 95 | 1150.44 | | |
| | Total | 118763.84 | 100 | | | |
| BMI | Between Groups | 273.07 | 5 | 54.61 | 1.77 | .13 |
| | Within Groups | 2940.34 | 95 | 30.95 | | |
| | Total | 3213.41 | 100 | | | |

Appendix D

**Demographic Survey**

Date of Birth:

Height (in feet and inches):

Weight (in pounds):

Annual Family Income:

a. Below 25,000
b. 25,000-50,000
c. 50,000-75,000
d. 75,000-100,000
e. Above 100,000

Mother's highest education

1. Less than high school
2. Finished high school (or GED)
3. Some College
4. Finished College
5. Technical School
6. Some Graduate School
7. Finished Graduate School

Father's highest education

1. Less than high school
2. Finished high school (or GED)
3. Some College
4. Finished College
5. Technical School
6. Some Graduate School
7. Finished Graduate School

Appendix E

## Eating Attitudes Test (EAT-26)

EAT-26

These questions focus on how you feel about your body and eating food in general. Please answer as honestly as you can. For each statement, say how often you find yourself feeling or doing what is mentioned.

(1) Always (2) Usually (3) Often (4) Sometimes (5) Rarely (6) Never

1. Am terrified about being overweight
2. Avoid eating when I am hungry
3. Find myself preoccupied with food
4. Have gone on eating binges where I feel I may not be able to stop
5. Cut my food into small pieces
6. Aware of calorie content of foods I eat
7. Particularly avoid food with a high carbohydrate content (bread, rice, potatoes, etc.)
8. Feel that others would prefer if I ate more
9. Vomit after I have eaten
10. Feel extremely guilty after eating
11. Am preoccupied with a desire to be thinner
12. Think about burning up calories when I exercise
13. Other people think I'm too thin
14. Am preoccupied with the thought of having fat on my body
15. Take longer than others to eat my meals
16. Avoid foods with sugar in them
17. Eat diet foods
18. Feel that food controls my life
19. Display self-control around food
20. Feel that others pressure me to eat
21. Give too much time and thought to food
22. Feel uncomfortable after eating sweets
23. Engage in dieting behavior
24. Like my stomach to be empty
25. Have the impulse to vomit after meals
26. Enjoy trying new rich foods

In the past 6 months have you:

(1) Never (2) Once a month or less (3) 2-3 times a month (4) Once a week (5) 2-6 times a week (6) Once a day or more

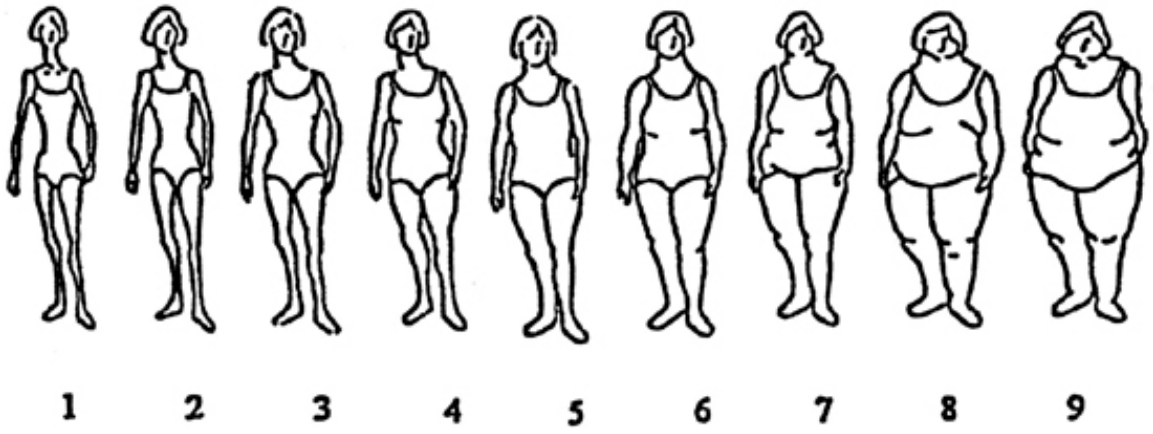
1. Gone on eating binges where you feel that you may not be able to stop?
2. Ever made yourself sick (vomited) to control your weight or shape?

3. Ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape?
4. Exercised more than 60 minutes a day to lose or to control your weight?
5. Lost 20 pounds or more in the past 6 months? (yes/no)

Appendix F

**Figure Rating Scale (FRS)**

FRS




1. Which figure most closely matches how you look right now?

2. Which figure most closely matches how you would like to look?

Appendix G

## Brief COPE

Brief COPE

These items deal with ways you've been coping with stress in your life. There are many ways to try to deal with stress. These items ask what you've been doing to cope recently. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not – just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1=I haven't been doing this at all
2=I've been doing this a little bit
3=I've been doing this a medium amount
4=I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself, "this isn't real".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.

27. I’ve been praying or meditating.
28. I’ve been making fun of the situation.

Appendix H

**Multi-Ethnic Identity Measure (MEIM)**

MEIM

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

Please fill in: In terms of ethnic group, I consider myself to be

_____

Use the numbers below to indicate how much you agree or disagree with each statement.

**(4) Strongly Agree (3) Agree (2) Disagree (1) Strongly Disagree**

1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs
2. I am active in organizations or social groups that include mostly members of my own ethnic group.
3. I have a clear sense of my ethnic background and what it means for me.
4. I think a lot about how my life will be affected by my ethnic group membership.
5. I am happy that I am a member of the group I belong to.
6. I have a strong sense of belonging to my own ethnic group.
7. I understand pretty well what my ethnic group membership means to me.
8. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.
9. I have a lot of pride in my ethnic group.
10. I participate in cultural practices of my own group, such as special food, music, or customs.
11. I feel a strong attachment towards my own ethnic group.
12. I feel good about my cultural or ethnic background

Appendix I

**Behavioral Acculturation Scale (BAS)**

To what extent are the following statements true about **the things that you do**? Again, we use the term «ethnic gropu» to refer to the culture shared by your family's identified ethnic group.

| How much do you speak ***English:*** | **Not at all** | | | **Very much** |
|---|---|---|---|---|
| 1. at home? ..... ..... | 1 | 2 | 3 | 4 |
| 2. at school? ..... | 1 | 2 | 3 | 4 |
| 3. with friends?..... | 1 | 2 | 3 | 4 |
| How much do you: | | | | |
| 4. read ***American*** books, newspapers, or magazines?..... | 1 | 2 | 3 | 4 |
| 5. listen to ***American*** songs?..... | 1 | 2 | 3 | 4 |
| 6. watch ***American*** movies (on TV,VCR, etc)?..... | 1 | 2 | 3 | 4 |
| 7. eat ***American*** food?..... | 1 | 2 | 3 | 4 |
| 8. have ***American*** friends?.... ..... | 1 | 2 | 3 | 4 |
| 9. attend ***American*** clubs or parties?..... | 1 | 2 | 3 | 4 |
| How much do you speak ***the language of your ethnic group***: | | | | |
| 10. at home? ..... | 1 | 2 | 3 | 4 |
| 11. at school? ..... | 1 | 2 | 3 | 4 |
| 12. with friends? ..... | 1 | 2 | 3 | 4 |
| How much do you do in the language of your ethnic group: | | | | |
| 13. read books, newspapers, or magazines?..... | 1 | 2 | 3 | 4 |
| 14. listen to songs? ..... | 1 | 2 | 3 | 4 |
| 15. watch movies (on TV, VCR, etc.)?..... | 1 | 2 | 3 | 4 |
| 16. eat food specific to your ethnic group..... | 1 | 2 | 3 | 4 |
| 17. have friends who belong to your ethnic group?..... | 1 | 2 | 3 | 4 |
| 18. attend ***ethnic group-specific*** clubs or parties? ..... | 1 | 2 | 3 | 4 |

Appendix J

## Information Sheet

### Patterns of Coping Styles and Disordered Eating Symptoms in Minority Female College Students Consent Form

**Purpose of the Study:** To examine the relationship between eating attitudes and behaviors and coping styles among female college students.

**What will be done:** You will be asked to complete a survey, which will take 30-40 minutes to complete. The survey includes questions about your socio-economic status, acculturation level, coping styles, and eating patterns. We also will ask for some demographic information (e.g., age, height and weight, annual family income, and parental education) so that we can accurately describe the general traits of the group of women who participate in the study.

**Benefits of this Study:** You will be contributing to knowledge about the relationship between coping styles and eating patterns in college aged women.

**Risks or discomforts:** No risks or discomforts are anticipated from taking part in this study. If you feel uncomfortable with a question, you can skip that question or withdraw from the study altogether. If you decide to quit at any time before you have finished the questionnaire, your answers will NOT be recorded. If you feel upset or concerned after completing these questionnaires, you may contact the Queens College Counseling and Resource Center at 718-997-5420.

**Confidentiality:** Your responses will be kept completely confidential. We will NOT know your IP address when you respond to the Internet survey, and your responses will be labeled only with a number. Only the researcher will see your individual survey responses. Because of the small number of participants, no tabulations of the data collected will be shown in order to protect your confidentiality.

**Decision to quit at any time:** Your participation is voluntary; you are free to withdraw your participation from this study at any time. If you do not want to continue, you can simply leave this website. If you do not click on the "submit" button at the end of the survey, your answers and participation will not be recorded. You also may choose to skip any questions that you do not wish to answer.

**How the findings will be used:** The results of the study will be used for scholarly purposes only. The results from the study will be presented in educational settings and at professional conferences, and the results might be published in a professional journal in the field of psychology.

**Contact information:** If you have concerns or questions about this study, please contact Claire Golden at CGolden@gc.cuny.edu.

Appendix K

Table K.1

*Summary of Intercorrelations for Scores on Body Dissatisfaction, EAT-26, Brief COPE, and MEIM Subscales for Total Sample*

| Measures | 1 | 2 | 3 | 4 | 5 | 20. BMI | 21. MEIME | 22. MEIMA |
|---|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | | .12 | .11 | .03 |
| 2. EATB | .57** | — | | | | .18 | .18 | .11 |
| 3. EATO | .34** | .01 | — | | | -.19 | -.01 | -.10 |
| 4. EATT | .94** | .67** | .54** | — | | .07 | .17 | .06 |
| 5. BD | .47** | .35** | -.11 | .38** | — | .66** | .13 | .26* |
| 6. SD | .40** | .27** | .04 | .36** | .26* | .09 | .04 | -.04 |
| 7. AC | .07 | .09 | -.12 | .05 | -.05 | .01 | .05 | -.04 |
| 8. D | .23* | .19 | .01 | .22* | .16 | .14 | .25* | .13 |
| 9. SU | .06 | .12 | -.05 | .07 | .11 | .04 | .10 | .06 |
| 10. ES | -.13 | .09 | -.21* | -.12 | .05 | .05 | -.01 | -.02 |

*Table K.1 continues*

*Table K.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20. BMI | 21. MEIME | 22. MEIMA |
|---|---|---|---|---|---|---|---|---|
| 11. IS | -.13 | .05 | -.24* | -.14 | .01 | -.01 | -.09 | -.04 |
| 12. CBD | .10 | .07 | .11 | .12 | .06 | .05 | .01 | -.02 |
| 13. V | -.01 | .18 | -.14 | .01 | .10 | .02 | -.06 | -.13 |
| 14. PR | -.01 | -.01 | .11 | .05 | -.05 | .05 | .05 | .07 |
| 15. P | .03 | .13 | -.13 | .04 | .02 | -.07 | -.04 | -.01 |
| 16. H | .16 | .19 | -.10 | .12 | .25* | .23* | .01 | .01 |
| 17. A | -.05 | -.04 | .03 | -.03 | .05 | .07 | -.13 | -.04 |
| 18. R | -.02 | .08 | .01 | .02 | .02 | -.03 | .12 | .06 |
| 19. SB | .36** | .26** | .09 | .34** | .22* | -.03 | -.07 | -.15 |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height (in)$^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p$ < .05, **$p$ < .01.

Table K.2

*Summary of Intercorrelations for Scores Brief COPE Subscales for Total Sample*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SD | — | | | | | | | | | | | | | |
| 2. AC | .24* | — | | | | | | | | | | | | |
| 3. D | .20 | .11 | — | | | | | | | | | | | |
| 4. SU | .08 | -.08 | .01 | — | | | | | | | | | | |
| 5. ES | .20* | .15 | .05 | .25* | — | | | | | | | | | |
| 6. IS | .14 | .08 | .08 | .19 | .74** | — | | | | | | | | |
| 7. CBD | .23* | -.05 | .16 | .16 | .08 | -.04 | — | | | | | | | |
| 8. V | .36** | .16 | .02 | .19 | .52** | .48** | .28** | — | | | | | | |
| 9. PR | .15 | .33** | -.02 | -.04 | .23* | .14 | -.02 | .04 | — | | | | | |
| 10. P | .15 | .40** | .13 | .07 | .29** | .35** | .06 | .28** | .37** | — | | | | |

*Table K.2 continues*

*Table K.2 continued*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11. H | .37** | -.01 | .12 | .06 | .36** | .26** | .22* | .37** | .24* | .07 | — | | | |
| 12. A | .24* | .31** | .03 | .11 | .33** | .24* | .20* | .34** | .45** | .39** | .28** | — | | |
| 13. R | -.06 | .03 | .05 | -.08 | .09 | .04 | -.15 | .08 | .09 | .10 | -.05 | .01 | — | |
| 14. SB | .27** | .03 | .26* | .02 | .10 | .09 | .44* | .29** | -.15 | .39** | .19 | .15 | -.03 | — |

*Note:* SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, *$p < .05$, **$p < .01$.

Appendix L

Table L.1

*Summary of Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for Caucasian Participants (n=73)*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | | .13 | -.07 | -.10 |
| 2. EATB | .59** | — | | | | -.06 | .20 | .35 |
| 3. EATO | .44** | .03 | — | | | -.27 | .41* | .10 |
| 4. EATT | .96** | .66** | .60** | — | | -.02 | .18 | .13 |
| 5. BD | .45** | .38** | -.09 | .37** | — | .75** | .04 | .21 |
| 6. SD | .37** | .22 | .00 | .31** | .25* | .01 | .02 | -.02 |
| 7. AC | .10 | .12 | -.20 | .04 | -.03 | -.14 | .09 | .06 |
| 8. D | .31* | .28* | .04 | .30* | .19 | .08 | .08 | .02 |
| 9. SU | -.02 | .08 | -.09 | -.02 | .07 | .04 | .11 | .11 |

*Table L.1 continues*

*Table L.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 10. ES | -.20 | .12 | -.29* | -.19 | .18 | -.08 | -.21 | -.33 |
| 11. IS | -.21 | .04 | -.29* | -.29 | .13 | -.02 | -.29 | -.30 |
| 12. CBD | .07 | .03 | .18 | .11 | -.06 | .19 | -.01 | -.20 |
| 13. V | -.05 | .17 | -.14 | -.03 | .15 | .06 | -.37 | -.41* |
| 14. PR | -.03 | -.08 | .09 | -.01 | -.07 | .07 | .07 | .27 |
| 15. P | -.04 | .12 | -.18 | -.03 | .08 | -.19 | -.15 | -.03 |
| 16. H | .17 | .27* | -.03 | .17 | .23 | .35 | -.26 | -.17 |
| 17. A | -.12 | -.03 | .04 | -.08 | .06 | .10 | -.54** | -.48* |
| 18. R | .10 | .18 | -.01 | .11 | .19 | -.25 | -.11 | -.17 |
| 19. SB | .29 | -.05 | -.24 | .12 | .01 | -.11 | -.53** | -.45* |
| 20. BMI | .13 | -.06 | -.27 | -.02 | .75** | — | .01 | .16 |

*Table L.1 continues*

*Table L.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 21. MEIME | -.07 | .20 | .41* | .18 | .04 | .01 | — | .77* |
| 22. MEIMA | -.10 | .35 | .10 | .13 | .21 | .16 | .77* | — |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p < .05$, **$p < .01$.

Table L.2 *Summary of Intercorrelations for Scores Brief COPE Subscales for Caucasian Participants*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SD | — | | | | | | | | | | | | | |
| 2. AC | .23 | — | | | | | | | | | | | | |
| 3. D | .25* | .11 | — | | | | | | | | | | | |
| 4. SU | -.03 | -.07 | .04 | — | | | | | | | | | | |
| 5. ES | .19 | .23 | .09 | .19 | — | | | | | | | | | |
| 6. IS | .13 | .07 | -.04 | .24* | .76** | — | | | | | | | | |
| 7. CBD | .20 | -.03 | .27* | .10 | -.00 | -.11 | — | | | | | | | |
| 8. V | .36** | .21 | .05 | .18 | .54** | .44** | .30* | — | | | | | | |
| 9. PR | .13 | .35* | .07 | -.14 | .25* | .11 | -.00 | -.00 | — | | | | | |
| 10. P | -.01 | .38* | .03 | .03 | .32** | .32** | .09 | .25* | .33** | — | | | | |

*Table L.2 continues*

*Table L.2 continued*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11. H | .48** | .06 | .15 | .01 | .36** | .23* | .10 | .38** | .27* | .05 | — | | | |
| 12. A | .19 | .27* | .03 | .04 | .31** | .15 | .25* | .28* | .48** | .29* | .30* | — | | |
| 13. R | -.25 | .12 | .00 | .06 | .28* | .10 | -.09 | .17 | .21 | .16 | .15 | .07 | — | |
| 14. SB | .46* | .12 | .25 | -.05 | .28 | .28 | .32 | .22 | -.07 | .51** | .30 | .49** | -.04 | — |

*Note:* SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, *$p < .05$, **$p < .01$.

Appendix M

Table M.1

*Summary of Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for Non-Caucasian Participants (n=29)*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | | .13 | .20 | .09 |
| 2. EATB | .47* | — | | | | -.06 | .20 | .03 |
| 3. EATO | -.20 | -.06 | — | | | -.27 | .02 | -.04 |
| 4. EATT | .87** | .72** | .15 | — | | -.01 | .20 | .05 |
| 5. BD | .52** | .22 | -.22 | .41* | — | .75** | .21 | .31* |
| 6. SD | .47** | .33 | .23 | .56** | .22 | .00 | .08 | -.03 |
| 7. AC | -.04 | .00 | .24 | .04 | -.16 | -.14 | .03 | -.09 |
| 8. D | .19 | .10 | -.15 | .14 | .17 | .08 | .32** | .18 |
| 9. SU | .35 | .22 | .11 | .39* | .26 | .04 | .10 | .04 |

*Table M.1 continues*

*Table M.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 10. ES | .03 | .00 | .06 | .04 | -.27 | -.08 | .11 | .13 |
| 11. IS | .07 | .05 | -.08 | .06 | -.31 | -.02 | .04 | .11 |
| 12. CBD | .20 | .17 | -.18 | .16 | .50* | .19 | .04 | -.01 |
| 13. V | .08 | .16 | -.17 | .07 | -.06 | .06 | .12 | .02 |
| 14. PR | .06 | .21 | .23 | .19 | -.04 | .07 | .04 | -.01 |
| 15. P | .24 | .15 | .03 | .25 | -.15 | -.19 | .04 | .01 |
| 16. H | .16 | -.04 | -.41* | -.01 | .39 | .35 | .14 | .09 |
| 17. A | .21 | -.08 | -.04 | .13 | .02 | .10 | .07 | .17 |
| 18. R | -.32 | -.13 | .07 | -.28 | -.44* | -.25 | .23 | .17 |
| 19. SB | .29 | -.05 | -.24 | .14 | .01 | -.11 | .15 | -.01 |
| 20. BMI | .13 | -.06 | -.27 | -.00 | .75** | — | .18 | .25* |

*Table M.1 continues*

*Table M.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 21. MEIME | .20 | .20 | .02 | .20 | .21 | .18 | — | .73* |
| 22. MEIMA | .09 | .03 | -.04 | .05 | .31* | .25* | .73** | — |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p < .05$, **$p < .01$.

Table M.2

*Summary of Intercorrelations for Scores Brief COPE Subscales for Non-Caucasian Participants*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SD | — | | | | | | | | | | | | | |
| 2. AC | .28 | — | | | | | | | | | | | | |
| 3. D | .17 | .10 | — | | | | | | | | | | | |
| 4. SU | .34 | -.09 | -.03 | — | | | | | | | | | | |
| 5. ES | .20 | -.05 | -.01 | .37 | — | | | | | | | | | |
| 6. IS | .15 | .13 | .29 | .06 | .72** | — | | | | | | | | |
| 7. CBD | .27 | -.14 | .03 | .31 | .29 | .12 | — | | | | | | | |
| 8. V | .34 | .03 | .00 | .20 | .47* | .57** | .19 | — | | | | | | |
| 9. PR | .19 | .26 | -.18 | .27 | .20 | .23 | -.10 | .16 | — | | | | | |

*Table M.2 continues*

*Table M.2 continued*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. P | .46* | .46* | .29 | .15 | .25 | .42* | -.03 | .32 | .32 | — | | | | |
| 11. H | .12 | -.20 | .05 | .17 | .35 | .33 | .59** | .38* | .15 | .12 | — | | | |
| 12. A | .35 | .44* | .04 | .29 | .36 | .45* | .04 | .50** | .38* | .61** | | — | | |
| 13. R | -.25 | -.21 | .07 | -.36 | -.22 | -.04 | -.25 | -.03 | -.18 | .02 | -.45* | -.11 | — | |
| 14. SB | .46* | .12 | .25 | -.05 | .28 | .28 | .32 | .22 | -.07 | .51** | .30 | .49** | -.04 | — |

*Note:* SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, *$p < .05$, **$p < .01$.

Appendix N

Table N.1

One-Way ANOVA of EAT-26 Scales and Body Dissatisfaction by Regional Ethnicity Group

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| EAT-26 dieting scale | Between Groups | 342.78 | 5 | 68.56 | 1.61 | .17 |
| | Within Groups | 4096.63 | 96 | 42.67 | | |
| | Total | 4439.41 | 101 | | | |
| EAT-26 bulimia and food preoccupation scale | Between Groups | 43.00 | 5 | 8.60 | 1.45 | .22 |
| | Within Groups | 571.32 | 96 | 5.95 | | |
| | Total | 614.32 | 101 | | | |
| EAT-26 oral control scale | Between Groups | 27.67 | 5 | 5.54 | .68 | .64 |
| | Within Groups | 782.29 | 96 | 8.15 | | |
| | Total | 809.96 | 101 | | | |
| EAT-26 total score | Between Groups | 566.60 | 5 | 113.32 | 1.28 | .28 |
| | Within Groups | 8489.57 | 96 | 88.43 | | |
| | Total | 9056.17 | 101 | | | |

*Table N.1 continues*

*Table N.1 continued*

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Body dissatisfaction | Between Groups | 16.15 | 5 | 3.23 | 2.63 | .03* |
| | Within Groups | 105.85 | 86 | 1.23 | | |
| | Total | 122.00 | 91 | | | |

*Note.* * indicates $p < .05$

Table N.2

One-Way ANOVA of COPE Scales and BMI by Regional Ethnicity Group

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Self-distraction | Between Groups | 15.79 | 5 | 3.16 | 1.10 | .37 |
| | Within Groups | 275.62 | 96 | 2.87 | | |
| | Total | 291.41 | 101 | | | |
| Active coping | Between Groups | 21.18 | 5 | 2.06 | 1.21 | .31 |
| | Within Groups | 211.73 | 94 | 2.25 | | |
| | Total | 232.91 | 99 | | | |

*Table N.2 continues*

*Table N.2 continued*

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Denial | Between Groups | 10.29 | 5 | 2.06 | 1.21 | .31 |
| | Within Groups | 160.30 | 94 | 1.71 | | |
| | Total | 170.59 | 99 | | | |
| Substance use | Between Groups | 3.30 | 5 | .66 | .24 | .95 |
| | Within Groups | 266.90 | 95 | 2.81 | | |
| | Total | 270.20 | 100 | | | |
| Use of emotional support | Between Groups | 12.77 | 5 | 2.55 | .80 | .55 |
| | Within Groups | 302.94 | 95 | 2.81 | | |
| | Total | 315.70 | 100 | | | |
| Use of instrumental support | Between Groups | 40.80 | 5 | 8.16 | 2.54 | .03* |
| | Within Groups | 305.74 | 95 | 3.22 | | |
| | Total | 346.54 | 100 | | | |
| Behavioral disengagement | Between Groups | 11.61 | 5 | 2.32 | 1.51 | .20 |
| | Within Groups | 146.39 | 95 | 1.54 | | |

*Table N.2 continues*

*Table N.2 continued*

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Total | 158.00 | 100 | | | |
| Venting | Between Groups | 17.59 | 5 | 3.52 | 1.46 | .21 |
| | Within Groups | 229.74 | 95 | 2.42 | | |
| | Total | 247.33 | 100 | | | |
| Positive reframing | Between Groups | 12.33 | 5 | 2.47 | .85 | .52 |
| | Within Groups | 275.11 | 95 | 2.90 | | |
| | Total | 287.45 | 100 | | | |
| Planning | Between Groups | 4.68 | 5 | .94 | .37 | .87 |
| | Within Groups | 244.01 | 95 | 2.57 | | |
| | Total | 248.69 | 100 | | | |
| Humor | Between Groups | 29.11 | 5 | 5.82 | 1.50 | .20 |
| | Within Groups | 365.65 | 94 | 3.89 | | |
| | Total | 394.76 | 99 | | | |
| Acceptance | Between Groups | 27.75 | 5 | 5.55 | 2.38 | .04* |

*Table N.2 continues*

*Table N.2 continued*

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Within Groups | 2 | | 2.33 | | |
| | Total | 244.73 | 98 | | | |
| Religion | Between Groups | 63.56 | 5 | 12.71 | 3.25 | .01* |
| | Within Groups | 376.02 | 96 | 3.92 | | |
| | Total | 439.58 | 101 | | | |
| Self-blame | Between Groups | 22.37 | 5 | 4.47 | 1.19 | .32 |
| | Within Groups | 358.62 | 95 | 3.78 | | |
| | Total | 380.99 | 100 | | | |
| BMI | Between Groups | 273.07 | 5 | 54.61 | 1.77 | .13 |
| | Within Groups | 2940.34 | 95 | 30.95 | | |
| | Total | 3213.41 | 100 | | | |

*Note.* * indicates $p < .05$

Table N.3

One-Way ANOVA of MEIM and BAS Scales by Regional Ethnicity Group

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| MEIM exploration | Between Groups | 3.97 | 5 | .80 | .99 | .43 |
| | Within Groups | 76.05 | 95 | .80 | | |
| | Total | 80.02 | 100 | | | |
| MEIM affirmation | Between Groups | 2.95 | 5 | .59 | .57 | .73 |
| | Within Groups | 99.14 | 95 | 1.04 | | |
| | Total | 102.09 | 100 | | | |
| BAS English | Between Groups | 256.68 | 5 | 51.34 | 8.03 | .000** |
| | Within Groups | 568.86 | 89 | 6.39 | | |
| | Total | 825.54 | 94 | | | |
| BAS other language | Between Groups | 1453.13 | 5 | 290.63 | 3.81 | .004** |
| | Within Groups | 6028.12 | 79 | 76.31 | | |
| | Total | 7481.25 | 84 | | | |

*Note.* * indicates $p < .05$, ** indicates $p < .01$

Appendix O

Table O.1

*Summary of Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "American" Participants (n=65)*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | | .10 | .25* | .08 |
| 2. EATB | .65** | — | | | | .13 | .17 | -.09 |
| 3. EATO | .33** | .07 | — | | | -.16 | .12 | -.14 |
| 4. EATT | .96** | .72** | .53** | — | | .06 | .24 | .02 |
| 5. BD | .46** | .30* | -.10 | .36** | — | .61** | .16 | .29* |
| 6. SD | .33** | .27* | -.15 | .26* | .29* | .19 | .17 | .04 |
| 7. AC | .23 | .22 | -.17 | .16 | .02 | -.03 | .04 | -.11 |
| 8. D | .28* | .28* | -.02 | .26* | .18 | .16 | .32** | .17 |
| 9. SU | .01 | .08 | -.05 | .01 | .05 | .04 | .07 | .03 |

*Table O.1 continues*

*Table O.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 10. ES | -.14 | .12 | -.23 | -.13 | .17 | .14 | .19 | .23 |
| 11. IS | -.19 | .02 | -.26* | -.20 | .08 | .02 | .05 | .14 |
| 12. CBD | .08 | .05 | .20 | .12 | -.04 | -.06 | .06 | .01 |
| 13. V | .07 | .19 | -.02 | .09 | .17 | -.01 | .21 | .16 |
| 14. PR | -.11 | -.08 | -.04 | -.11 | -.10 | .07 | .06 | -.04 |
| 15. P | .03 | .12 | -.13 | .01 | .06 | -.03 | -.02 | -.06 |
| 16. H | .12 | .24 | -.06 | .13 | .19 | .25* | .20 | .13 |
| 17. A | -.22 | -.01 | -.06 | -.17 | .06 | .08 | .03 | .15 |
| 18. R | .14 | .11 | .07 | .15 | .14 | .06 | .20 | .16 |
| 19. SB | .44** | .43** | .18 | .47** | .32* | .03 | .19 | -.01 |
| 20. BMI | .10 | .13 | -.16 | .06 | .61** | —. | | |

*Table O.1 continues*

*Table O.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 21. MEIME | .25* | .17 | .12 | .24 | .16 | | — | |
| 22. MEIMA | .08 | -.09 | -.14 | .02 | .29* | | | — |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height (in)$^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p$ < .05, **$p$ < .01.

Table O.2

*Summary of Intercorrelations for Scores Brief COPE Subscales for "American" Participants*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SD | — | | | | | | | | | | | | | |
| 2. AC | .28* | — | | | | | | | | | | | | |
| 3. D | .31* | .18 | — | | | | | | | | | | | |
| 4. SU | -.02 | -.07 | .07 | — | | | | | | | | | | |
| 5. ES | .25* | .28* | .22 | .17 | — | | | | | | | | | |
| 6. IS | .19 | .13 | .05 | .22 | .72** | — | | | | | | | | |
| 7. CBD | .24 | -.05 | .25* | .15 | .08 | -.02 | — | | | | | | | |
| 8. V | .44** | .30* | .15 | .16 | .49** | .41** | .40** | — | | | | | | |
| 9. PR | .11 | .39** | .07 | -.17 | .29* | .10 | .03 | .07 | — | | | | | |

*Table O.2 continues*

*Table O.2 continued*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. P | .05 | .44** | .09 | -.01 | .30* | .28* | .15 | .26* | .37** | — | | | | |
| 11. H | .48** | .07 | .20 | .01 | .34** | .20 | .16 | .43** | .26* | .08 | — | | | |
| 12. A | .18 | .22 | -.01 | .04 | .49** | .28* | .28* | .49** | .44** | .37** | .34** | — | | |
| 13. R | .07 | .13 | .04 | .01 | .24 | .03 | -.05 | .11 | .20 | .13 | .11 | .06 | — | |
| 14. SB | .22 | .06 | .32** | .05 | .01 | -.03 | .53** | .36** | -.18 | .34** | .18 | .08 | .02 | — |

*Note:* SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, *$p < .05$, **$p < .01$.

Appendix P

Table P.1

*Summary of Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "European" Participants (n=8)*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | | .06 | .06 | .10 |
| 2. EATB | .31 | — | | | | .75* | .62 | .47 |
| 3. EATO | .75* | -.19 | — | | | -.26 | -.30 | -.10 |
| 4. EATT | .97** | .37 | .79* | — | | .12 | .08 | .14 |
| 5. BD | .42 | .93** | -.13 | .47 | — | .67 | .63 | .48 |
| 6. SD | .63 | -.02 | .63 | .62 | -.22 | -.50 | -.46 | -.44 |
| 7. AC | -.41 | -.15 | -.29 | -.40 | -.54 | -.10 | -.13 | .14 |
| 8. D | .51 | .34 | .30 | .51 | .41 | .71* | .34 | .28 |
| 9. SU | -.25 | .38 | -.36 | -.20 | .67 | .12 | .45 | .26 |

*Table P.1 continues*

*Table P.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 10. ES | -.45 | .09 | -.50 | -.45 | .32 | -.16 | -.27 | -.30 |
| 11. IS | -.33 | .09 | -.42 | -.34 | .60 | -.16 | -.02 | -.04 |
| 12. CBD | -.03 | -.13 | .11 | -.01 | -.47 | .37 | -.09 | -.05 |
| 13. V | -.52 | .11 | -.49 | -.48 | .04 | -.02 | -.26 | -.52 |
| 14. PR | .53 | .08 | .69 | .60 | .34 | -.14 | -.10 | .22 |
| 15. P | -.52 | .09 | -.48 | -.49 | .38 | .01 | .51 | .50 |
| 16. H | .40 | .40 | .05 | .37 | .53 | -.11 | -.22 | -.16 |
| 17. A | .65 | .16 | .68 | .70 | .15 | .06 | .16 | .50 |
| 18. R | -.04 | .76* | -.28 | .05 | .67 | .34 | .40 | .30 |
| 19. SB | -.26 | -.68 | .01 | -.32 | -.75 | -.64 | -.15 | -.21 |
| 20. BMI | .06 | .75* | -.26 | .12 | .67 | — | .62 | .49 |

*Table P.1 continues*

*Table P.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 21. MEIME | .06 | .62 | -.30 | .08 | .63 | .62 | — | .15 |
| 22. MEIMA | .10 | .47 | -.10 | .14 | .48 | .49 | .15 | — |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height (in)$^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p$ < .05, **$p$ < .01.

Table P.2

*Summary of Intercorrelations for Scores Brief COPE Subscales for "European" Participants*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SD | — | | | | | | | | | | | | | |
| 2. AC | -.14 | — | | | | | | | | | | | | |
| 3. D | -.21 | -.40 | — | | | | | | | | | | | |
| 4. SU | -.22 | 0.45 | -.33 | — | | | | | | | | | | |
| 5. ES | -.11 | .04 | -.60 | .53 | — | | | | | | | | | |
| 6. IS | -.22 | -.18 | -.51 | .71* | .90** | — | | | | | | | | |
| 7. CBD | -.18 | .33 | .55 | -.75* | -.66 | .84** | — | | | | | | | |
| 8. V | -.03 | -.21 | -.50 | .56 | .73* | .54 | -.34 | — | | | | | | |
| 9. PR | .33 | -.09 | .04 | .04 | .06 | .20 | -.35 | -.35 | — | | | | | |

*Table P.2 continues*

*Table P.2 continued*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. P | -.52 | -.04 | -.44 | .82* | .44 | .66 | -.61 | .27 | .03 | — | | | | |
| 11. H | .50 | .07 | -.22 | .04 | .52 | .44 | -.50 | .11 | .40 | -.18 | — | | | |
| 12. A | .32 | .24 | .32 | -.41 | -.54 | -.43 | .18 | -.81* | .70 | -.27 | .18 | — | | |
| 13. R | .02 | -.13 | -.25 | .77* | .55 | .55 | -.58 | .51 | .21 | .51 | .43 | -.09 | — | |
| 14. SB | -.09 | -.40 | -.39 | .33 | .13 | .35 | -.45 | .13 | -.08 | .44 | -.36 | -.41 | -.29 | — |

*Note:* SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, *$p < .05$, **$p < .01$.

Appendix Q

Table Q.1

*Summary of Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "Central/South American" Participants (n=5)*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | | -.82 | -.31 | .16 |
| 2. EATB | .92* | — | | | | -.62 | .67 | .56 |
| 3. EATO | -.32 | -.07 | — | | | .52 | .43 | .28 |
| 4. EATT | .96** | .98** | -.07 | — | | -.68 | .54 | .34 |
| 5. BD | -.57 | -.43 | .01 | -.54 | — | .82 | .05 | -.21 |
| 6. SD | .91* | .78 | -.65 | .79 | -.50 | .89* | .16 | .18 |
| 7. AC | .52 | .40 | -.72 | .37 | .31 | -.26 | .01 | -.29 |
| 8. D | .39 | .53 | .74 | .59 | -.48 | -.11 | .52 | .29 |
| 9. SU | .85 | .94* | .17 | .95* | -.65 | -.63 | .63 | .51 |

*Table Q.1 continues*

*Table Q.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 10. ES | .85 | .94* | .17 | .95* | -.65 | -.63 | .63 | .51 |
| 11. IS | .65 | .73 | .41 | .78 | -.79 | -.55 | .50 | .48 |
| 12. CBD | -.21 | -.40 | -.67 | -.41 | .65 | .23 | -.54 | -.67 |
| 13. V | .45 | .37 | -.41 | .37 | .40 | -.03 | .05 | -.43 |
| 14. PR | .61 | .57 | -.08 | .61 | -.93* | -.85 | .19 | .51 |
| 15. P | .85 | .94* | .17 | .95* | -.65 | -.63 | .63 | .51 |
| 16. H | -.52 | -.75 | -.61 | -.74 | .40 | .18 | -.79 | -.56 |
| 17. A | .28 | .09 | -.76 | .09 | .42 | -.11 | -.29 | -.54 |
| 18. R | -.25 | .04 | .41 | -.07 | .79 | .74 | .58 | .15 |
| 19. SB | -.40 | -.57 | -.72 | -.61 | .31 | .02 | -.59 | -.25 |
| 20. BMI | -.82 | -.62 | .52 | -.68 | .82 | — | .06 | -.14 |

*Table Q.1 continues*

*Table Q.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 21. MEIME | -.31 | .67 | .43 | .54 | .05 | .06 | — | .81 |
| 22. MEIMA | .16 | .56 | .28 | .34 | -.21 | -.14 | .81 | — |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height (in)$^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p$ < .05, **$p$ < .01.

Table Q.2

*Summary of Intercorrelations for Scores Brief COPE Subscales for "Central/South American" Participants*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SD | — | | | | | | | | | | | | | |
| 2. AC | .62 | — | | | | | | | | | | | | |
| 3. D | .01 | -.38 | — | | | | | | | | | | | |
| 4. SU | .65 | .08 | .74 | — | | | | | | | | | | |
| 5. ES | .65 | .08 | .74 | 1.00** | — | | | | | | | | | |
| 6. IS | .40 | -.29 | .87 | .92* | .92* | — | | | | | | | | |
| 7. CBD | .01 | .68 | -.80 | -.67 | -.67 | -.87 | — | | | | | | | |
| 8. V | .40 | .91* | -.11 | .10 | .10 | -.22 | .61 | — | | | | | | |
| 9. PR | .62 | -.23 | .38 | .72 | .72 | .78 | -.68 | -.42 | — | | | | | |

*Table Q.2 continues*

*Table Q.2 continued*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. P | .65 | .08 | .74 | 1.00** | 1.00** | .92* | -.67 | .10 | .72 | — | | | | |
| 11. H | -.20 | .20 | .92* | -.87 | -.87 | -.86 | .79 | .02 | -.44 | -.87 | — | | | |
| 12. A | .42 | .94* | -.56 | -.22 | -.22 | -.54 | .87 | .87 | -.42 | -.22 | .47 | — | | |
| 13. R | -.40 | .20 | .11 | -.10 | -.10 | -.25 | .15 | .41 | -.69 | -.10 | -.25 | .13 | — | |
| 14. SB | .01 | .23 | -.98* | -.72 | -.72 | -.78 | .68 | -.07 | -.23 | -.72 | .93* | .42 | -.29 | — |

*Note:* SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, *$p < .05$, **$p < .01$.

Appendix R

Table R.1

*Summary of Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "African American/Caribbean" Participants (n=10)*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | | .06 | -.13 | -.38 |
| 2. EATB | -.11 | — | | | | .02 | -.19 | .32 |
| 3. EATO | .29 | -.38 | — | | | -.14 | .75* | .35 |
| 4. EATT | .94** | -.05 | .56 | — | | .01 | .15 | -.13 |
| 5. BD | .66 | .33 | .18 | .68 | — | .88* | .10 | .22 |
| 6. SD | .76* | .34 | .12 | .76* | .61 | -.37 | -.18 | -.24 |
| 7. AC | .07 | .48 | .48 | .35 | .80* | .52 | .53 | .70 |
| 8. D | .27 | -.22 | -.18 | .13 | .45 | -.11 | -.29 | -.33 |
| 9. SU | .81** | .19 | .31 | .84** | .56 | -.01 | -.09 | -.14 |

*Table R.1 continues*

*Table R.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 10. ES | .46 | -.26 | .09 | .37 | -.32 | -.51 | -.41 | -.76* |
| 11. IS | .26 | -.26 | -.11 | .13 | -.45 | -.40 | -.38 | -.69* |
| 12. CBD | .14 | -.08 | -.01 | .10 | -.03 | -.44 | -.16 | -.27 |
| 13. V | .24 | .28 | -.43 | .09 | -.11 | -.46 | -.64 | -.61 |
| 14. PR | .11 | .02 | .49 | .28 | .02 | -.13 | .07 | .05 |
| 15. P | .23 | .15 | -.22 | .14 | .04 | -.46 | -.65 | -.54 |
| 16. H | .34 | .29 | -.50 | .15 | .20 | -.11 | -.73* | -.70* |
| 17. A | .49 | .05 | -.23 | .32 | .24 | -.11 | -.82* | -.76* |
| 18. R | -.59 | -.48 | -.14 | -.65* | -.88* | -.13 | -.21 | -.29 |
| 19. SB | .24 | .05 | -.36 | .08 | -.11 | -.54 | -.68* | -.59 |
| 20. BMI | .06 | .02 | -.14 | .01 | .88* | — | .03 | .16 |

*Table R.1 continues*

*Table R.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 21. MEIME | -.13 | -.19 | .75* | .15 | .10 | -.03 | — | .81** |
| 22. MEIMA | -.38 | .32 | .35 | -.13 | .22 | .16 | .81** | — |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height (in)$^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p$ < .05, **$p$ < .01.

Table R.2

*Summary of Intercorrelations for Scores Brief COPE Subscales for "African American/Caribbean" Participants*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SD | — | | | | | | | | | | | | | |
| 2. AC | .10 | — | | | | | | | | | | | | |
| 3. D | .12 | -.21 | — | | | | | | | | | | | |
| 4. SU | .78** | .35 | -.17 | — | | | | | | | | | | |
| 5. ES | .48 | -.50 | -.21 | .43 | — | | | | | | | | | |
| 6. IS | .36 | -.74* | .40 | -.03 | .71* | — | | | | | | | | |
| 7. CBD | .31 | -.21 | -.03 | .19 | .68* | .53 | — | | | | | | | |
| 8. V | .59 | -.51 | .45 | .08 | .45 | .74* | .40 | — | | | | | | |
| 9. PR | .21 | .37 | -.11 | .38 | -.02 | -.19 | -.27 | -.05 | — | | | | | |

*Table R.2 continues*

*Table R.2 continued*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. P | .51 | -.20 | .31 | .30 | .42 | .43 | .43 | .77* | .42 | — | | | | |
| 11. H | .49 | -.32 | .42 | .12 | .43 | .65* | .32 | .89* | -.18 | .65* | — | | | |
| 12. A | .42 | -.10 | .23 | .50 | .43 | .27 | .11 | .49 | .59 | .78* | .65 | — | | |
| 13. R | -.58 | -.58 | .19 | -.68* | .01 | .32 | -.08 | .08 | .16 | .15 | -.05 | .04 | — | |
| 14. SB | .50 | -.45 | .12 | .33 | .61 | .47 | .66* | .70* | .08 | .86* | .56 | .61 | .05 | — |

*Note:* SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, *$p < .05$, **$p < .01$.

Appendix S

Table S.1

*Summary of Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "Asian" Participants (n=8)*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | | -.14 | -.19 | -.33 |
| 2. EATB | -.26 | — | | | | -.14 | -.32 | .26 |
| 3. EATO | .56 | .13 | — | | | -.51 | -.53 | -.43 |
| 4. EATT | .90** | .10 | .80* | — | | -.31 | -.40 | -.33 |
| 5. BD | .18 | -.12 | .08 | .14 | — | .65 | .35 | .49 |
| 6. SD | .70 | -.04 | .54 | .72* | .44 | .30 | -.46 | -.24 |
| 7. AC | .53 | .30 | .19 | .56 | -.35 | -.07 | -.32 | -.12 |
| 8. D | -.33 | -.13 | -.52 | -.46 | -.76* | -.25 | -.22 | -.46 |
| 9. SU | -.02 | -.28 | -.20 | -.15 | .73* | .73* | .39 | .24 |

*Table S.1 continues*

*Table S.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 10. ES | -.64 | -.09 | -.51 | -.69 | .06 | .06 | -.01 | .08 |
| 11. IS | -.34 | .20 | -.55 | -.39 | -.27 | -.27 | -.12 | .07 |
| 12. CBD | -.21 | -.01 | -.05 | -.19 | .50 | .50 | .47 | .36 |
| 13. V | -.12 | -.39 | -.26 | -.28 | .51 | .51 | -.06 | .02 |
| 14. PR | -.10 | .24 | -.32 | -.12 | .50 | .50 | .51 | .85** |
| 15. P | .61 | .31 | .31 | .66 | .38 | .39 | -.01 | .33 |
| 16. H | -.37 | -.34 | -.43 | -.52 | .42 | .42 | .75* | .56 |
| 17. A | .51 | .09 | .14 | .48 | .36 | .36 | -.44 | -.26 |
| 18. R | .25 | .42 | .76* | .56 | -.18 | -.18 | -.56 | -.36 |
| 19. SB | .59 | -.01 | .57 | .65 | -.48 | -.48 | -.79* | -.85** |
| 20. BMI | -.14 | -.14 | -.51 | -.31 | .65 | — | .37 | .57 |

*Table S.1 continues*

*Table S.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 21. MEIME | -.19 | -.32 | -.53 | -.40 | .35 | .37 | — | .76* |
| 22. MEIMA | -.33 | .26 | -.43 | -.33 | .49 | .57 | .76* | — |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height (in)$^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p$ < .05, **$p$ < .01.

Table S.2

*Summary of Intercorrelations for Scores Brief COPE Subscales for "Asian" Participants*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SD | — | | | | | | | | | | | | | |
| 2. AC | .42 | — | | | | | | | | | | | | |
| 3. D | -.46 | .04 | — | | | | | | | | | | | |
| 4. SU | -.03 | -.64 | -.32 | — | | | | | | | | | | |
| 5. ES | -.24 | -.34 | .24 | .27 | — | | | | | | | | | |
| 6. IS | -.14 | .35 | .40 | -.13 | .71* | — | | | | | | | | |
| 7. CBD | -.39 | -.66 | -.40 | .82* | .17 | -.21 | — | | | | | | | |
| 8. V | .44 | -.30 | -.04 | .36 | .55 | .20 | -.14 | — | | | | | | |
| 9. PR | .12 | .24 | -.52 | .12 | .23 | .38 | .11 | .19 | — | | | | | |

*Table S.2 continues*

*Table S.2 continued*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. P | .65 | .71 | -.62 | -.11 | -.34 | .10 | -.18 | -.07 | .65 | — | | | | |
| 11. H | -.46 | -.53 | -.26 | .63 | .51 | .17 | .72* | .15 | .46 | -.15 | — | | | |
| 12. A | .68 | .34 | -.12 | .33 | .10 | .31 | -.05 | .36 | .09 | .49 | -.24 | — | | |
| 13. R | .30 | .14 | -.18 | -.43 | -.66 | -.62 | -.26 | -.37 | -.47 | .06 | -.74 | -.11 | — | |
| 14. SB | .45 | .59 | .23 | -.44 | -.23 | .09 | -.49 | -.21 | -.52 | .17 | -.65 | .44 | .39 | — |

*Note:* SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, *$p < .05$, **$p < .01$.

Appendix T

Table T.1

*Summary of Intercorrelations for Scores on Body Dissatisfaction, EAT-26 and Brief COPE Subscales for "South Asian" Participants (n=6)*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 1. EATD | — | | | | | .91* | -.36 | -.35 |
| 2. EATB | -.28 | — | | | | -.16 | .27 | .55 |
| 3. EATO | .85* | .51 | — | | | -.66 | .63 | .45 |
| 4. EATT | .25 | .80 | .21 | — | | .39 | .29 | .35 |
| 5. BD | .61 | .10 | -.40 | .45 | — | .86 | -.22 | .20 |
| 6. SD | -.54 | .40 | .55 | .11 | .54 | .61 | .80 | .82* |
| 7. AC | -.31 | -.52 | -.05 | -.80 | -.65 | -.40 | .69 | .39 |
| 8. D | -.26 | -.25 | -.06 | -.53 | .[b] | -.29 | .81 | .68 |
| 9. SU | -.08 | .78 | .17 | .62 | .47 | .05 | .52 | .89* |

*Table T.1 continues*

*Table T.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 10. ES | -.71 | .01 | .52 | -.48 | -.13 | -.56 | .74 | .65 |
| 11. IS | .18 | -.375 | -.49 | -.42 | .13 | .01 | .64 | .51 |
| 12. CBD | -.07 | .56 | .01 | .34 | .21 | -.13 | .78 | .93* |
| 13. V | -.12 | .80 | .32 | .69 | .32 | -.22 | .03 | .11 |
| 14. PR | -.70 | .25 | .74 | -.13 | -.90 | -.78 | .06 | -.25 |
| 15. P | -.33 | -.69 | -.04 | -.94* | -.65 | -.45 | .52 | .12 |
| 16. H | -.20 | -.79 | .01 | -.84 | -.65 | -.35 | -.18 | -.66 |
| 17. A | -.12 | -.91* | -.20 | .97** | -.47 | -.26 | .11 | -.33 |
| 18. R | .06 | .68 | .16 | .66* | .16 | .02 | .58 | .80 |
| 19. SB | -.35 | -.65 | -.02 | -.92 | -.81 | .55 | .54 | .06 |
| 20. BMI | .91* | -.16 | -.66 | .39 | .86 | — | -.29 | -.25 |

*Table T.1 continues*

*Table T.1 continued*

| Measures | 1 | 2 | 3 | 4 | 5 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|
| 21. MEIME | -.36 | .27 | .63 | .29 | -.22 | -.29 | — | .72 |
| 22. MEIMA | -.35 | .55 | .45 | .35 | .20 | -.25 | .72 | — |

*Note:* EATD = EAT-26 Dieting, EATB = EAT-26 Bulimia and food preoccupation, EATO = EAT-26 Oral Control, EATT = EAT-26 Total, BD = Body dissatisfaction, SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, Body Mass Index (BMI) = weight (lb) * 703/height $(in)^{2,}$ , MEIME = MEIM exploration, MEIMA = MEIM affirmation, *$p < .05$, **$p < .01$.

Table T.2

*Summary of Intercorrelations for Scores Brief COPE Subscales for "South Asian" Participants*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. SD | — | | | | | | | | | | | | | |
| 2. AC | .53 | — | | | | | | | | | | | | |
| 3. D | .64 | .93* | — | | | | | | | | | | | |
| 4. SU | .50 | -.07 | .29 | — | | | | | | | | | | |
| 5. ES | .55 | .74 | .79 | .31 | — | | | | | | | | | |
| 6. IS | .52 | .81 | .86 | .20 | .40 | — | | | | | | | | |
| 7. CBD | .78 | .26 | .56 | .88 | .35 | .56 | — | | | | | | | |
| 8. V | .28 | -.65 | -.53 | .37 | -.42 | -.47 | .30 | — | | | | | | |
| 9. PR | .23 | -.20 | -.38 | -.29 | .01 | -.56 | -.28 | .54 | — | | | | | |

*Table T.2 continues*

*Table T.2 continued*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. P | .39 | .96* | .78 | -.35 | .62 | .69 | .01 | -.68 | .05 | — | | | | |
| 11. H | -.18 | .37 | .01 | -.93 | .01 | .01 | -.71 | -.42 | .40 | .62 | — | | | |
| 12. A | .01 | .74 | .46 | -.72 | .29 | .46 | -.41 | -.73 | .01 | .90* | .87 | — | | |
| 13. R | .70 | -.06 | .25 | .85 | .01 | .38 | .93* | .54 | -.25 | -.29 | -.79 | -.61 | — | |
| 14. SB | .46 | .90 | .70 | -.40 | .51 | .65 | .01 | -.52 | .11 | .97** | .68 | .89* | -.25 | — |

*Note:* SD = COPE Self-distraction, AC = COPE Active coping, D = COPE Denial, SU = COPE Substance Use, ES = COPE Emotional support, IS = COPE Instrumental Support, CBD = COPE Behavioral disengagement, V = COPE Venting, PR = COPE Positive reframing, P = COPE Planning, H = COPE Humor, A = COPE Acceptance, R = COPE Religion, SB = COPE Self-Blame, *$p < .05$, **$p < .01$.

Appendix U

**Relationship of Disordered Eating and Coping Styles by Caucasian/non-Caucasian and Regional Ethnicity Grouping**

Figure U.1. EAT-26 Total Score by Self-Distraction grouped by Caucasian/Non-Caucasian

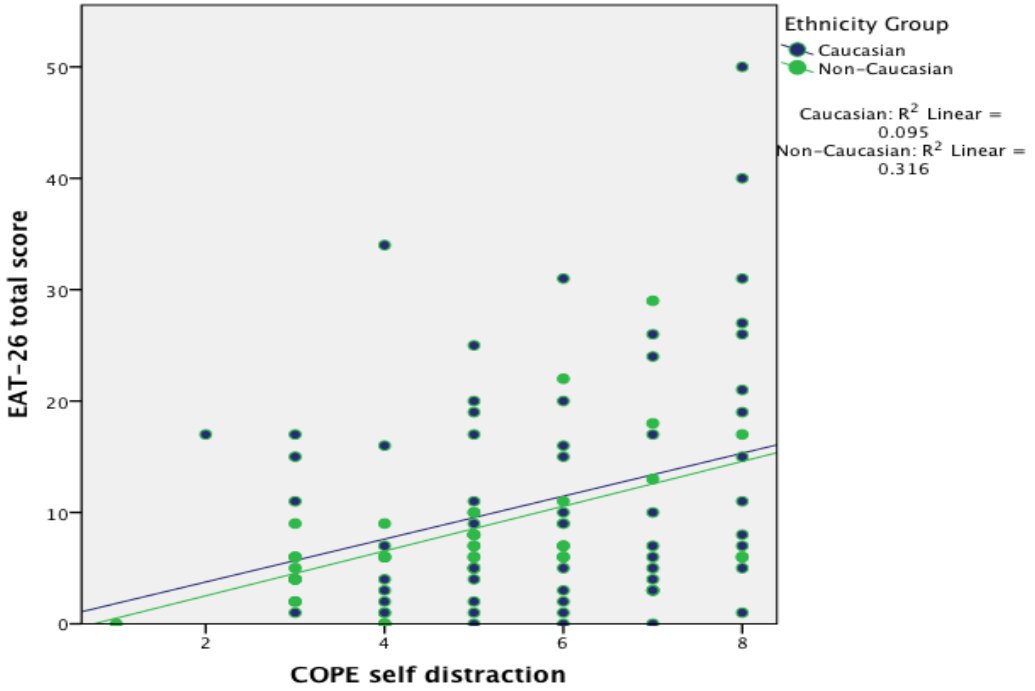



Figure U.2 EAT-26 Total Score by Self- Distraction grouped by Regional Ethnicity

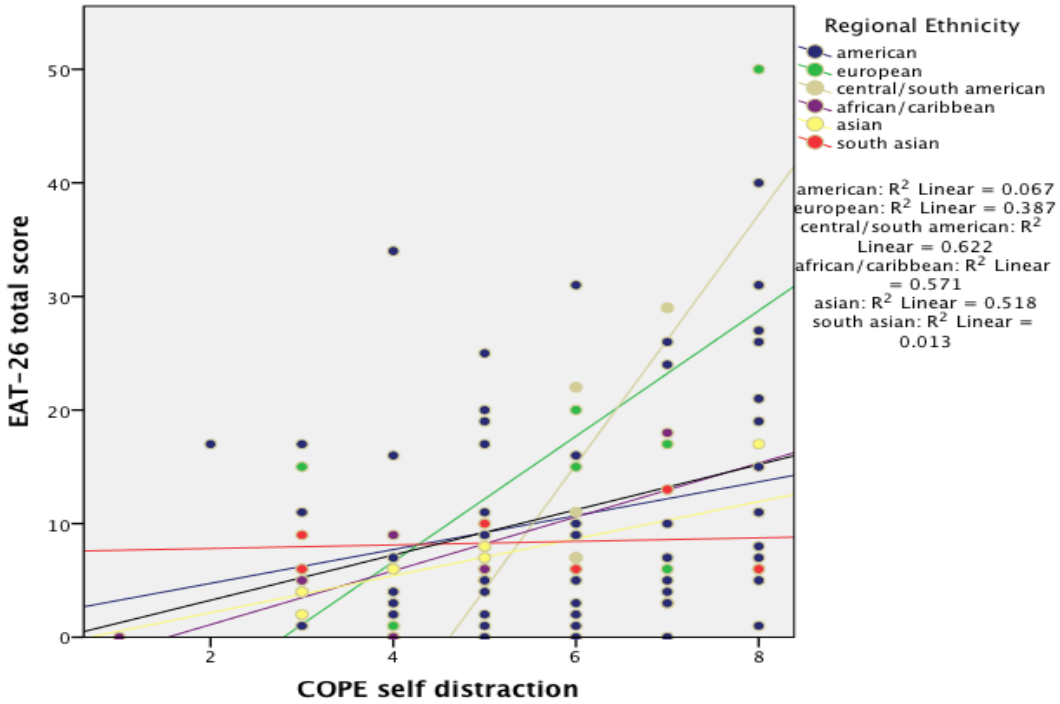


Figure U.3. EAT-26 Total Score by Active Coping Grouped by Caucasian/Non-Caucasian

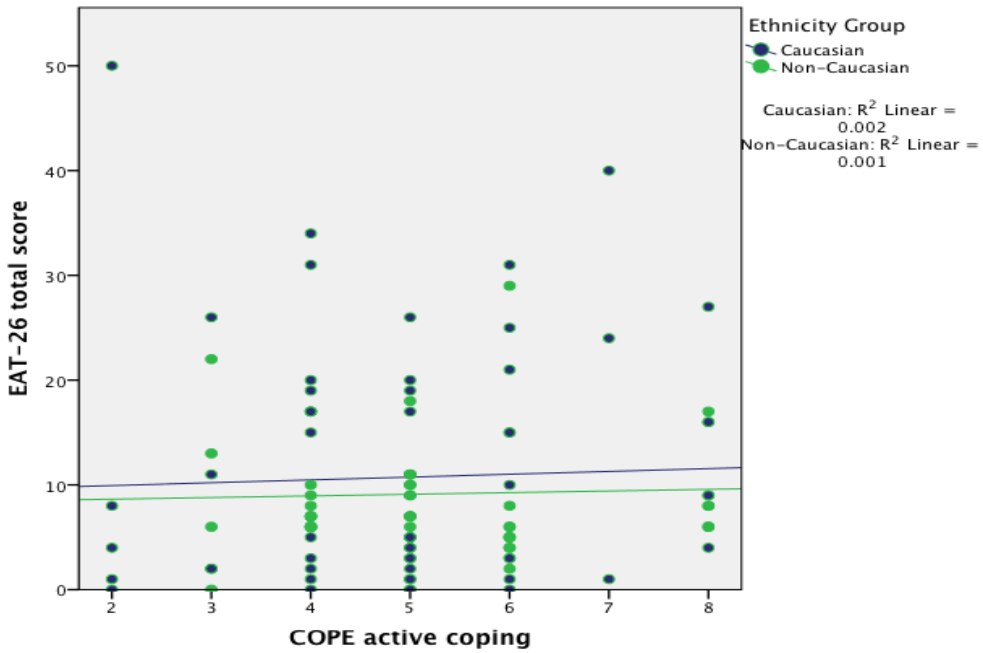



Figure U.4. EAT-26 Total Score by Active Coping Grouped by Regional Ethnicity

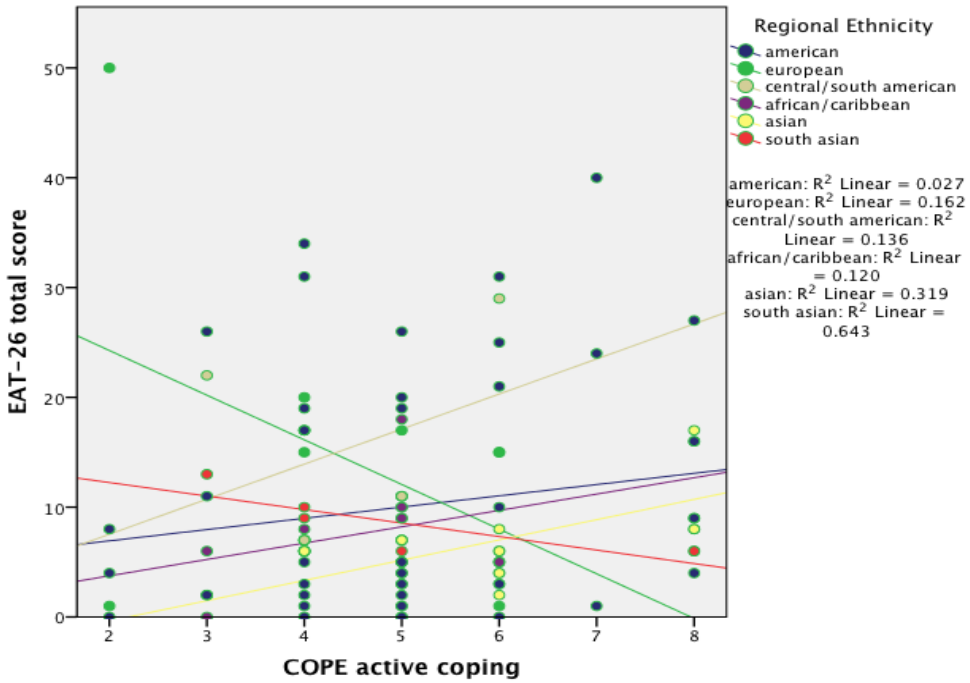


Figure U.5. EAT-26 Total Score by Denial Grouped by Caucasian/Non-Caucasian

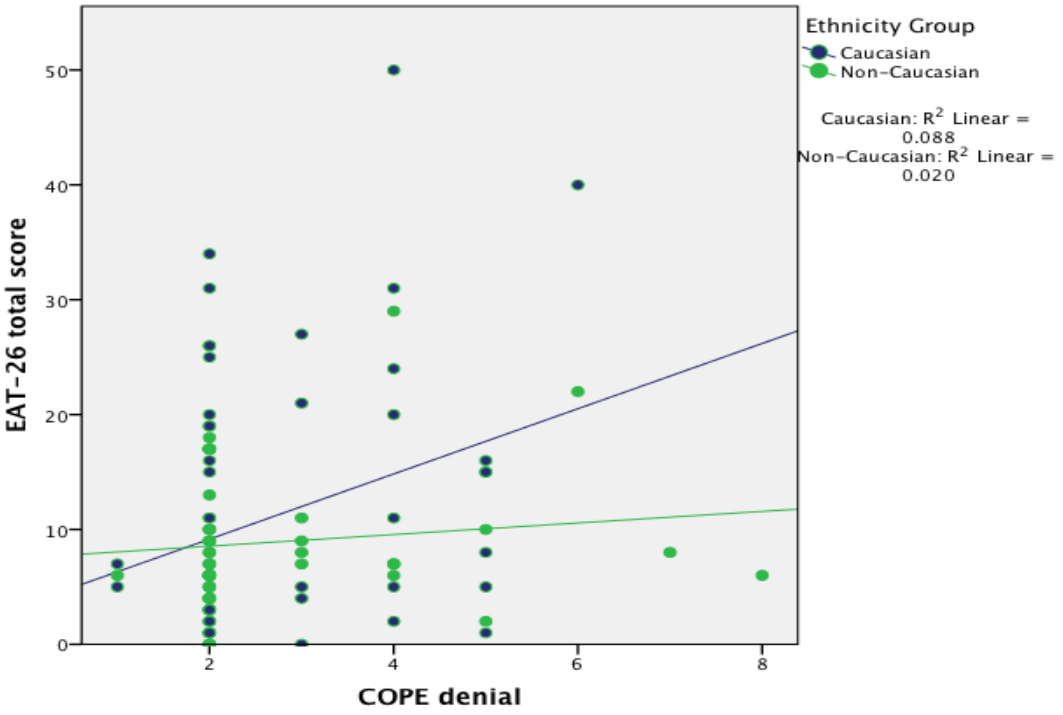



Figure U.6. EAT-26 Total Score by Denial Grouped by Regional Ethnicity

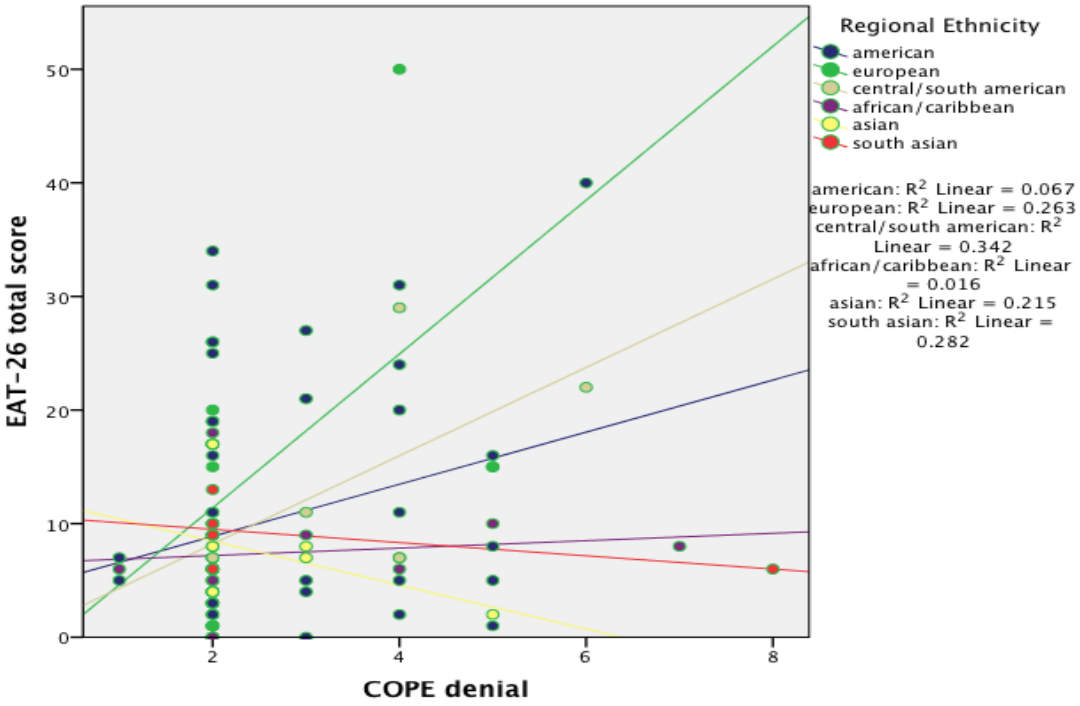


Figure U.7. EAT-26 Total Score by Substance Use Grouped by Caucasian/Non-Caucasian

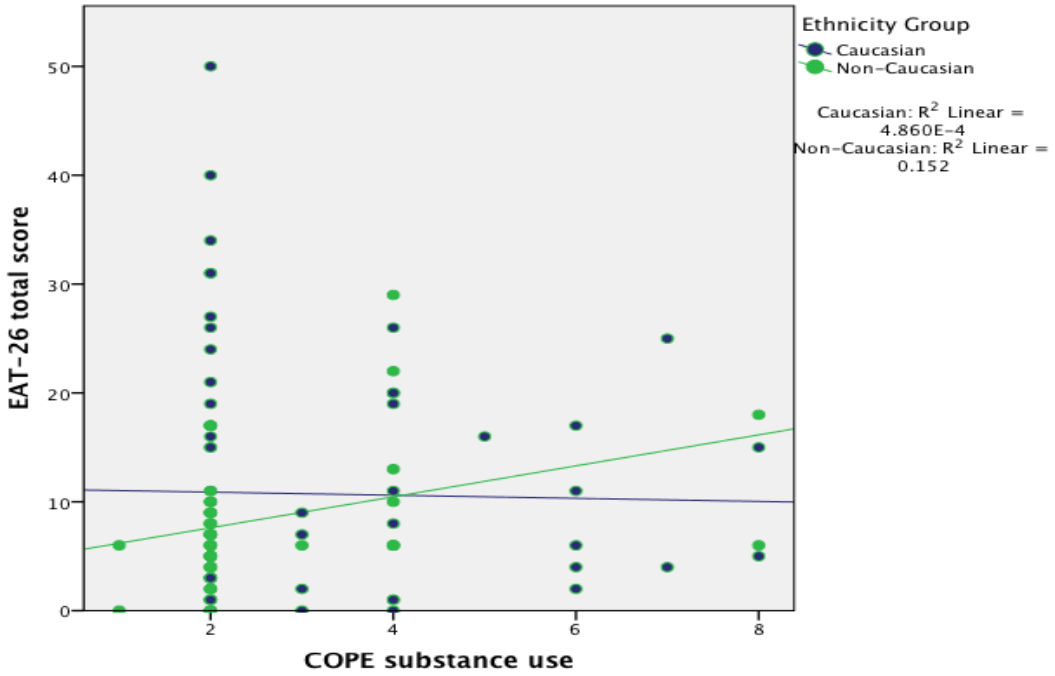



Figure U.8. EAT-26 Total Score by Substance Use Grouped by Regional Ethnicity

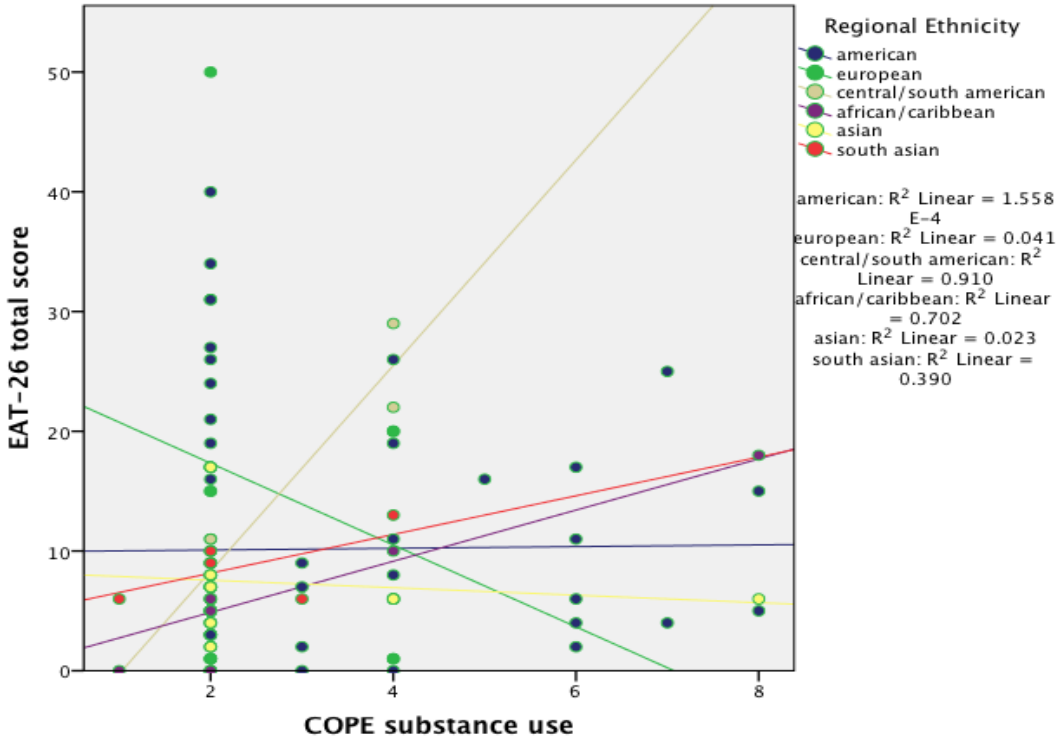


Figure U.9. EAT-26 Total Score by Use of Emotional Support Grouped by Caucasian/Non-Caucasian

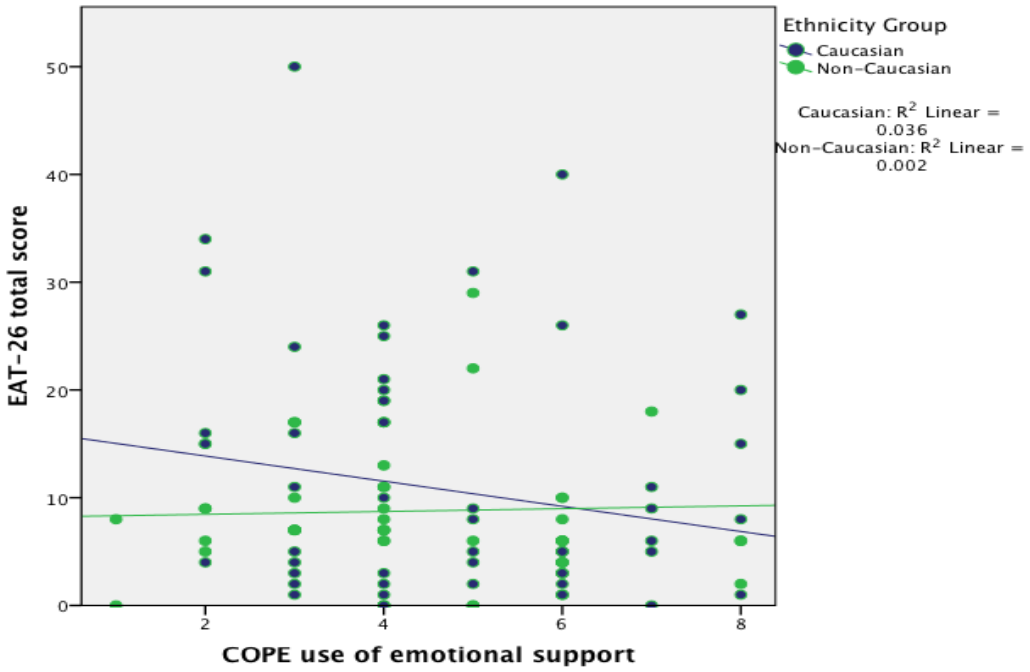



Figure U.10. EAT-26 Total Score by Use of Emotional Support Grouped by Regional Ethnicity

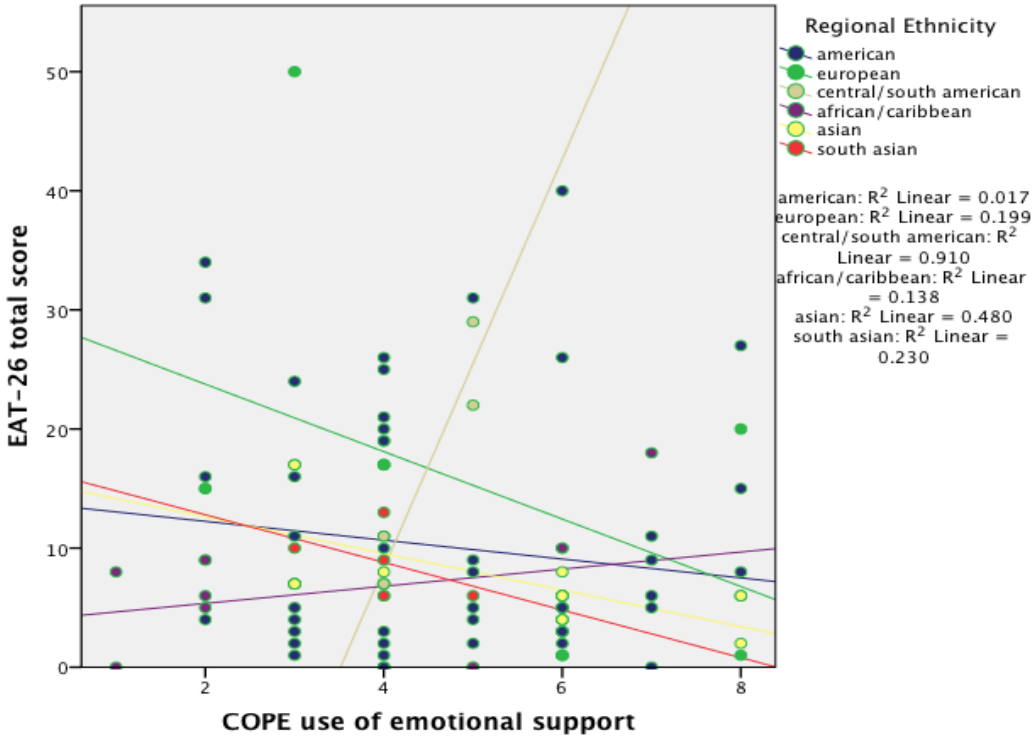


Figure U.11. EAT-26 Total Score by Use of Instrumental Support Grouped by Caucasian/Non-Caucasian

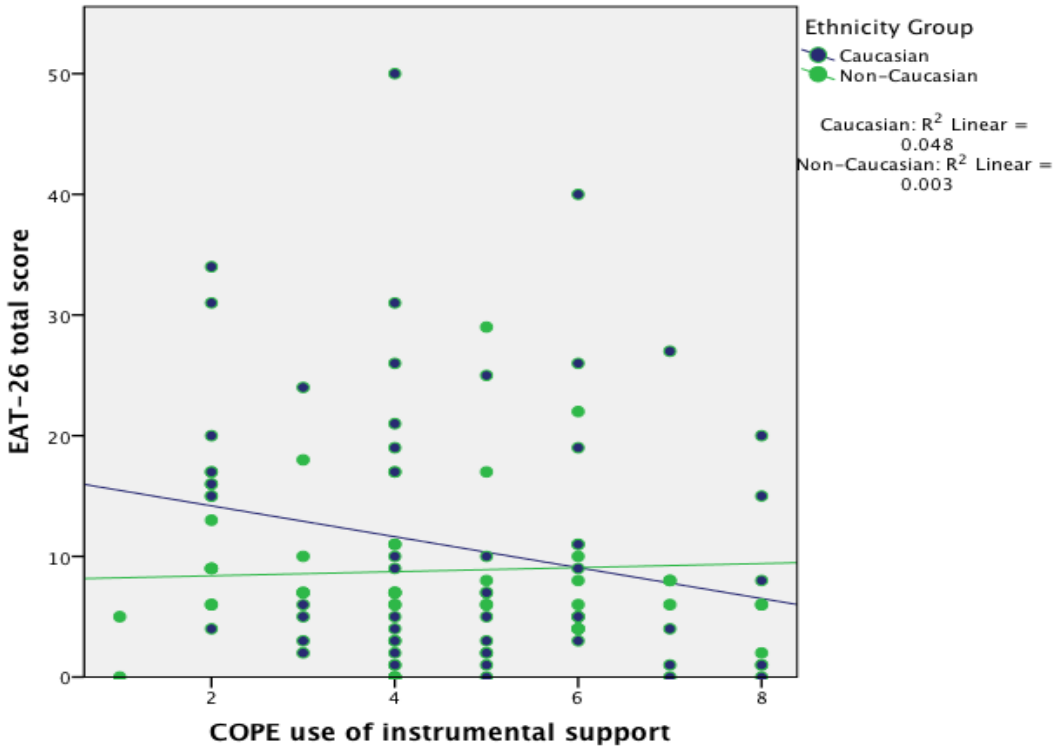



Figure U.12. EAT-26 Total Score by Use of Instrumental Support Grouped by Regional Ethnicity

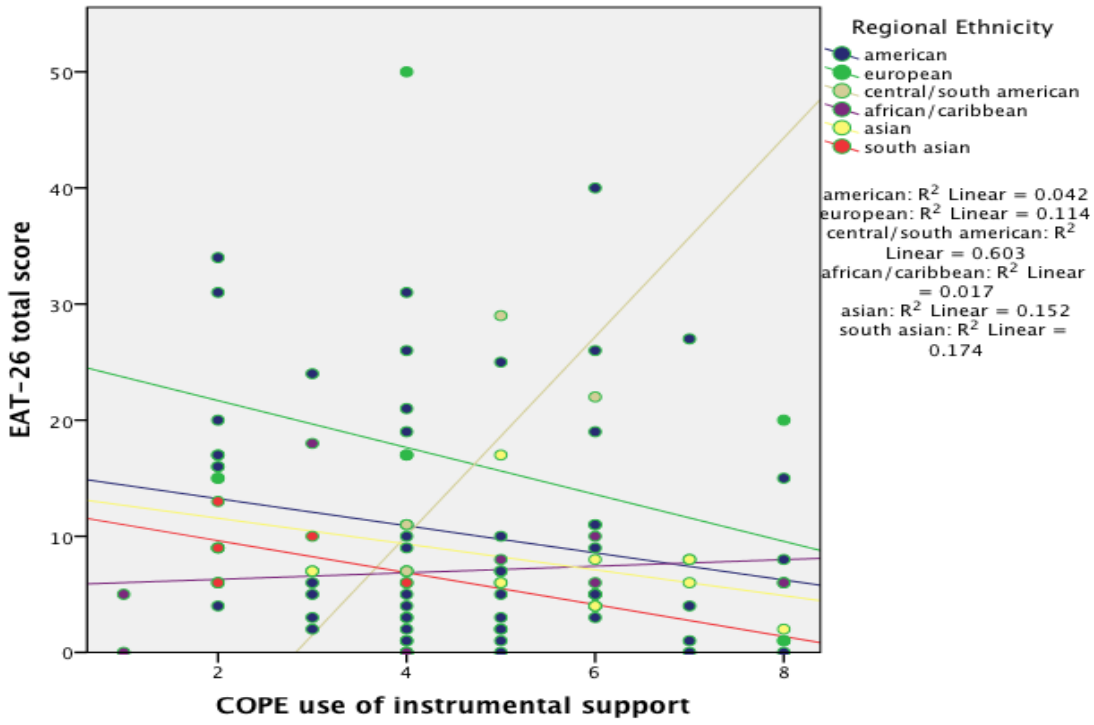


Figure U.13. EAT-26 Total Score by Behavioral Disengagement Grouped by Caucasian/Non-Caucasian

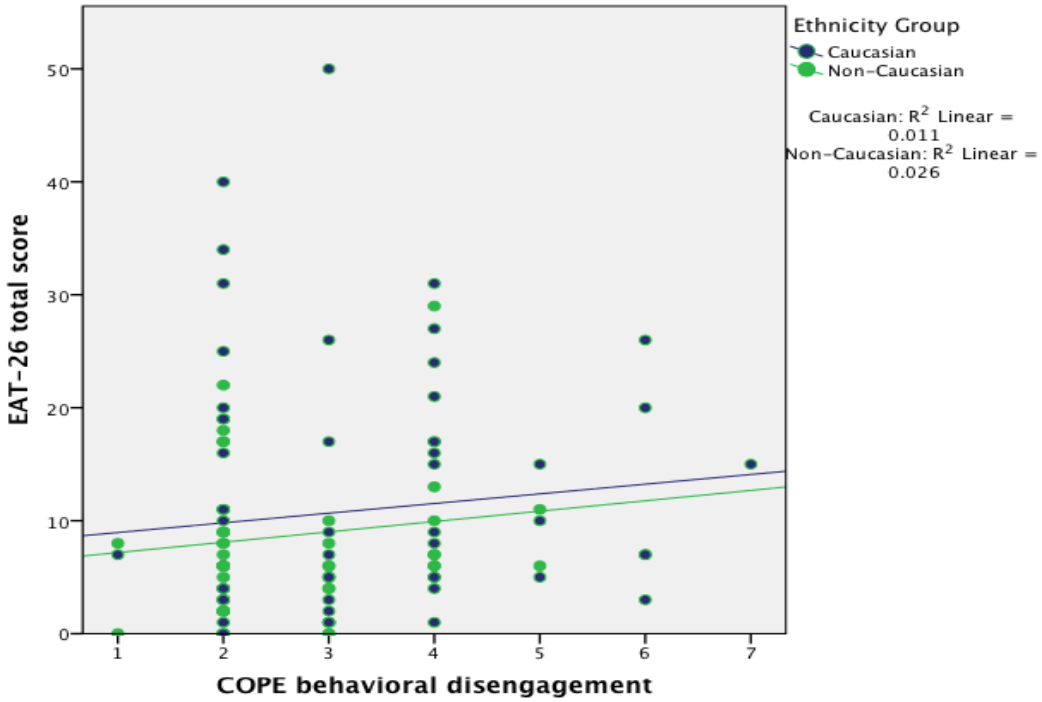



Figure U.14. EAT-26 Total Score by Behavioral Disengagement Grouped by Regional Ethnicity

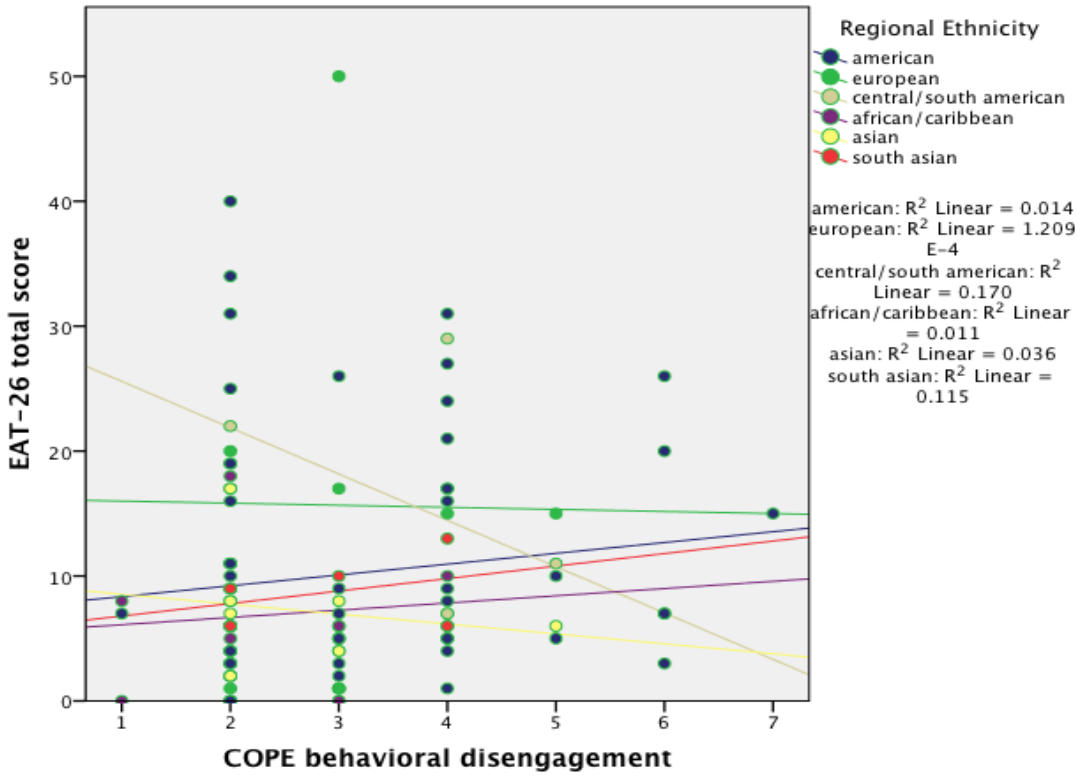


Figure U.15. EAT-26 Total Score by Venting Grouped by Caucasian/Non-Caucasian

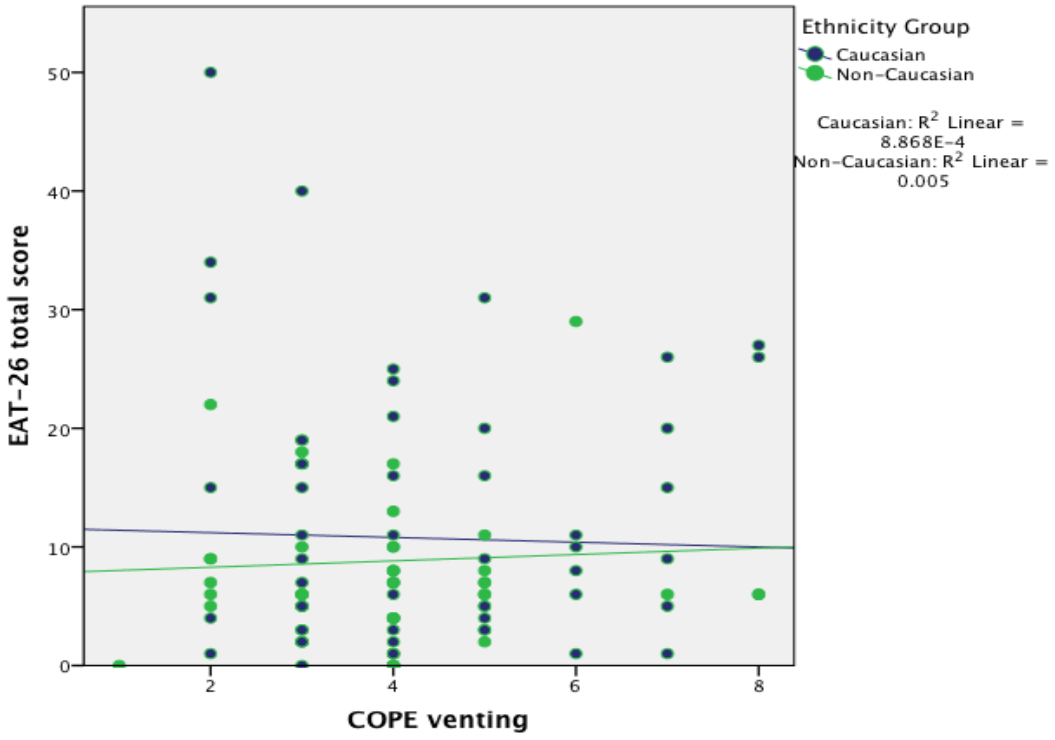



Figure U.16. EAT-26 Total Score by Venting Grouped by Regional Ethnicity

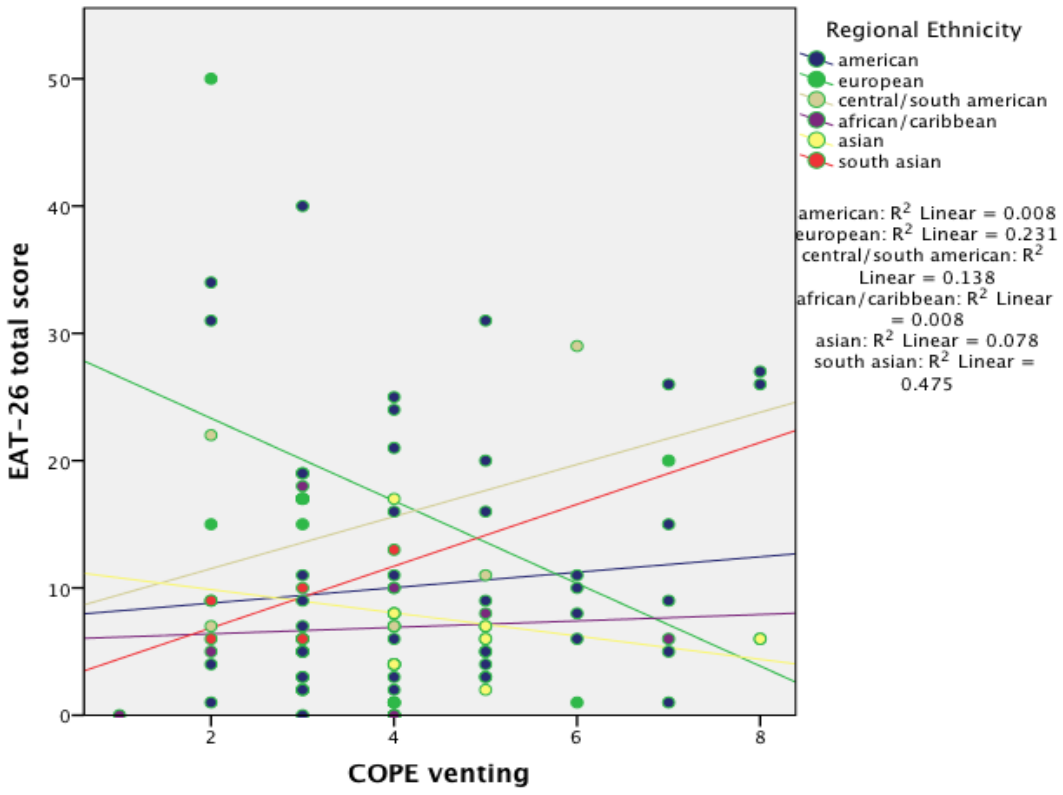


Figure U.17. EAT-26 Total Score by Positive Reframing Grouped by Caucasian/Non-Caucasian

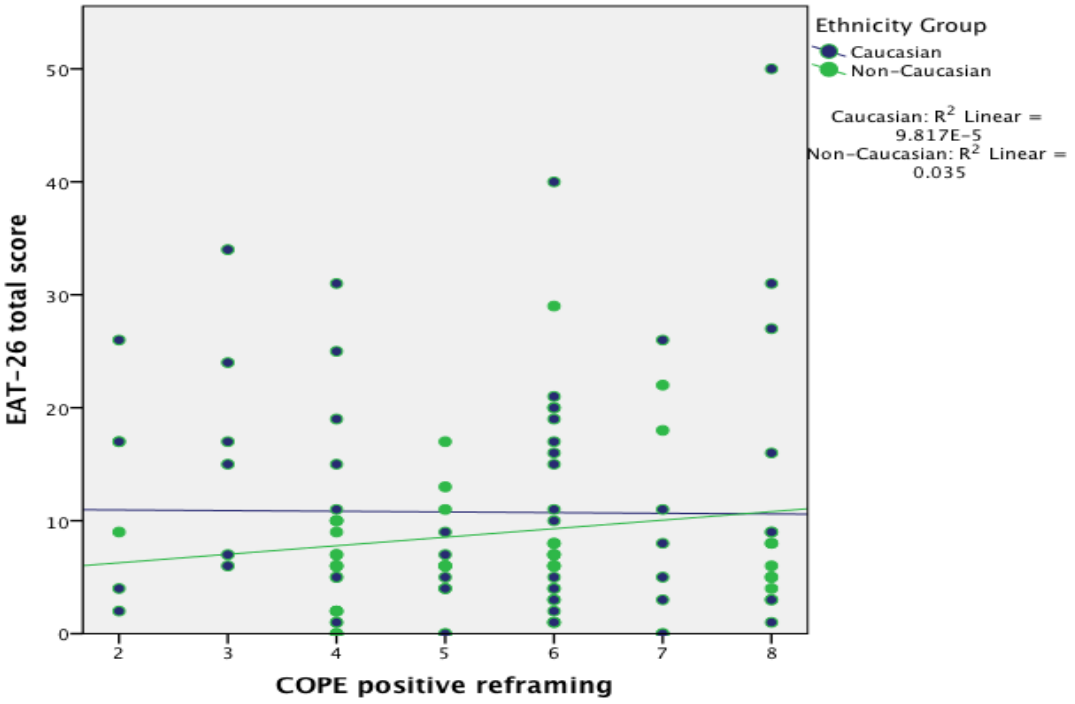



Figure U.18. EAT-26 Total Score by Positive Reframing Grouped by Regional Ethnicity

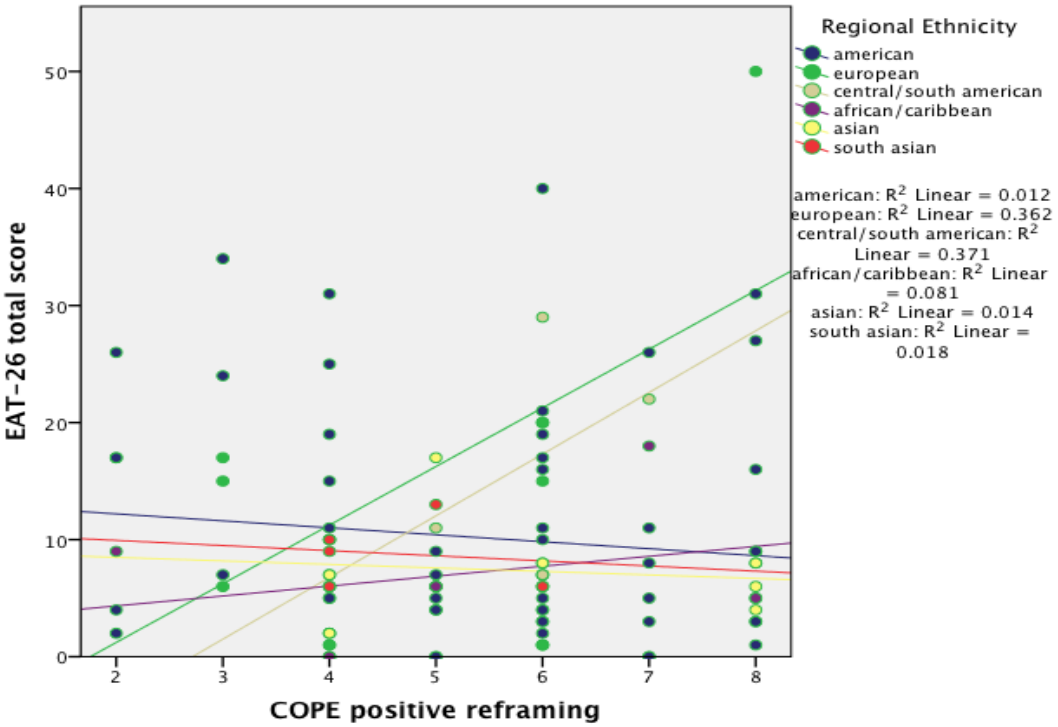


Figure U.19. EAT-26 Total Score by Planning Grouped by Caucasian/Non-Caucasian

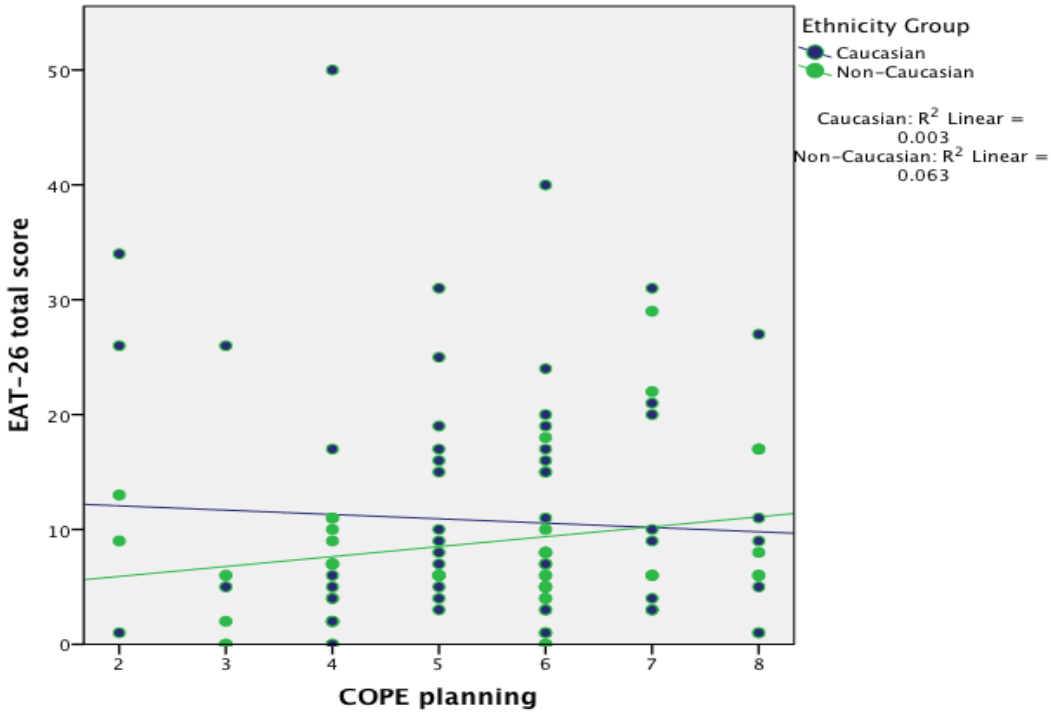



Figure U.20. EAT-26 Total Score by Planning Grouped by Regional Ethnicity

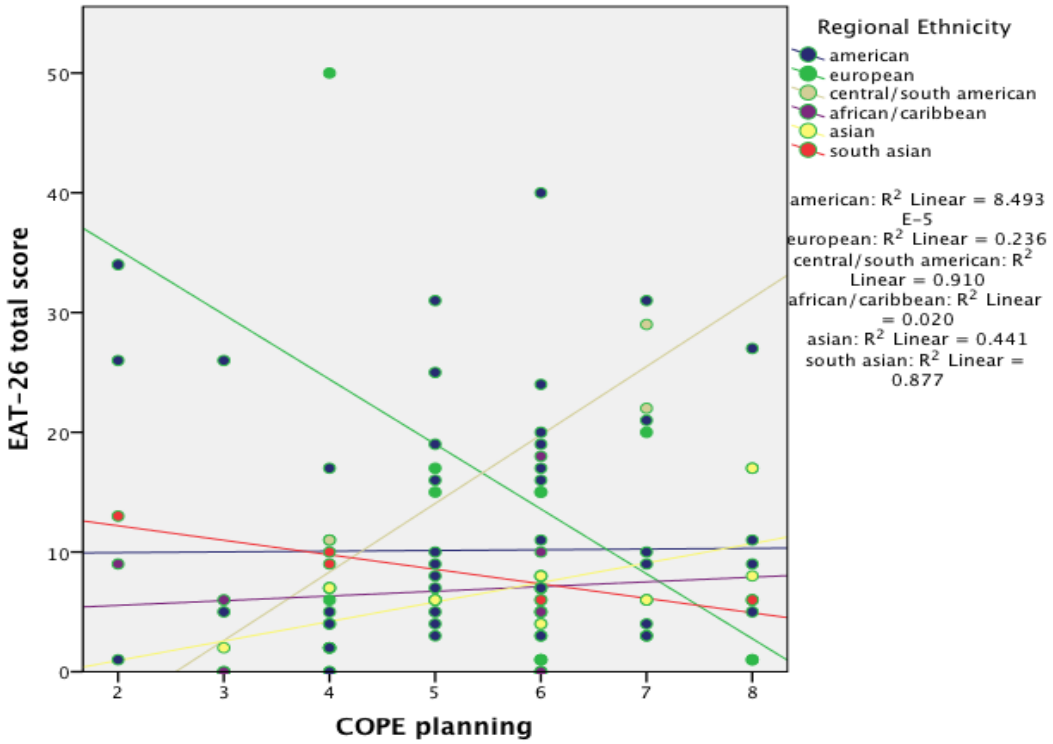


Figure U.21. EAT-26 Total Score by Humor Grouped by Caucasian/Non-Caucasian

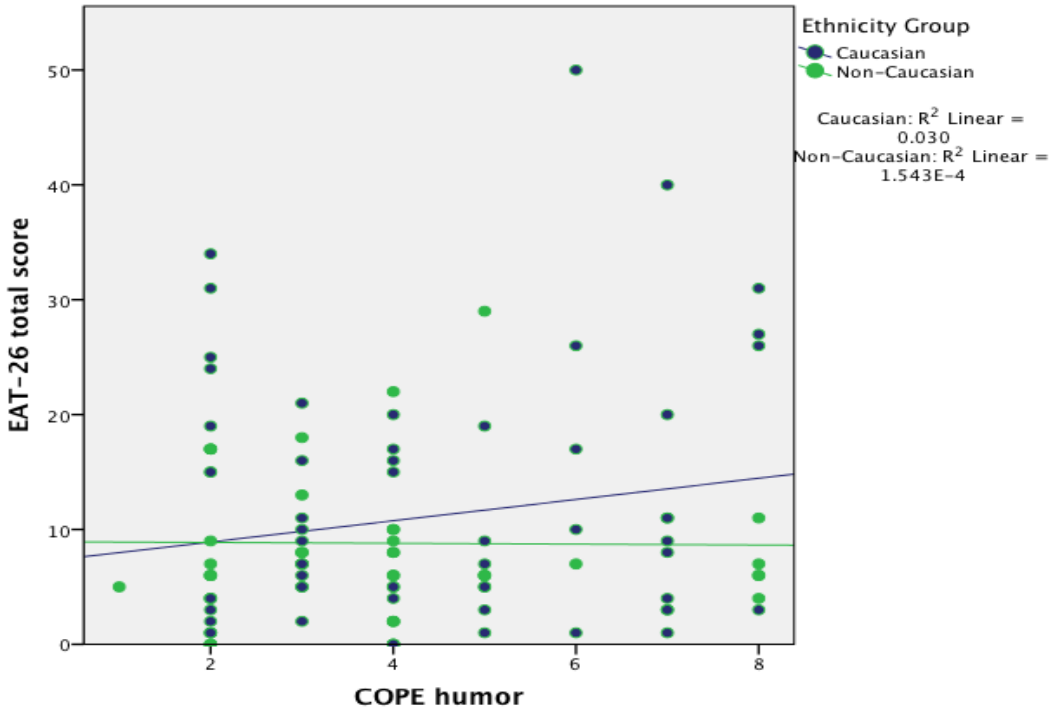



Figure U.22. EAT-26 Total Score by Humor Grouped by Regional Ethnicity

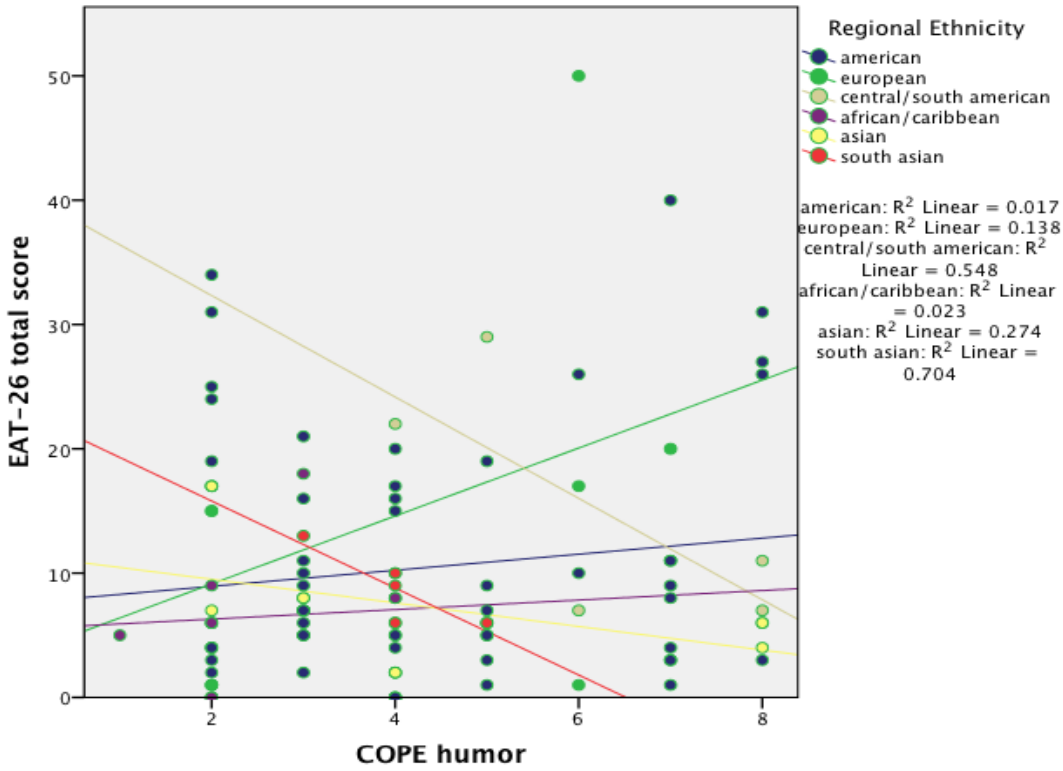


Figure U.23. EAT-26 Total Score by Acceptance Grouped by Caucasian/Non-Caucasian

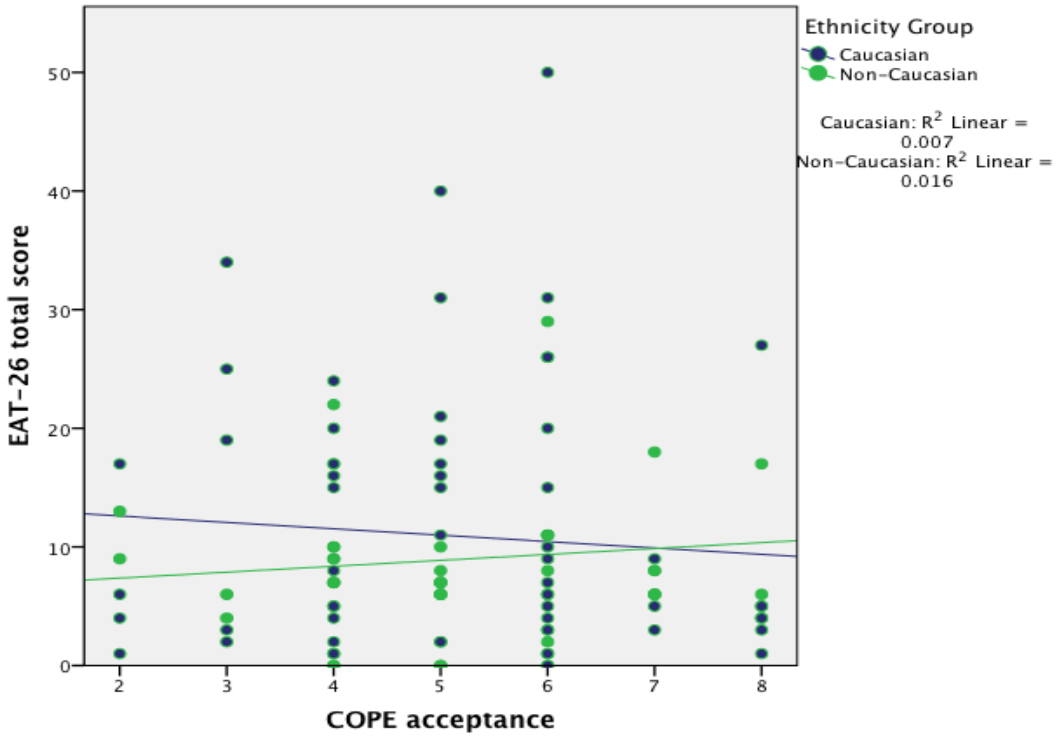



Figure U.24. EAT-26 Total Score by Acceptance Grouped by Regional Ethnicity

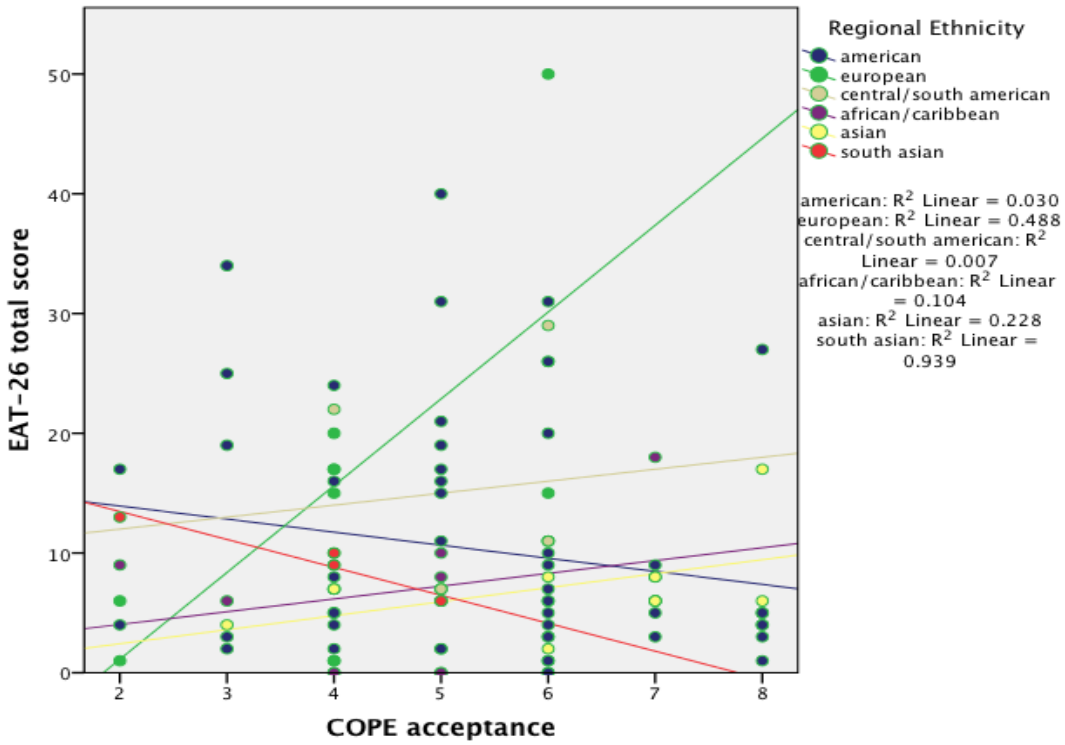


Figure U.25. EAT-26 Total Score by Religion Grouped by Caucasian/Non-Caucasian

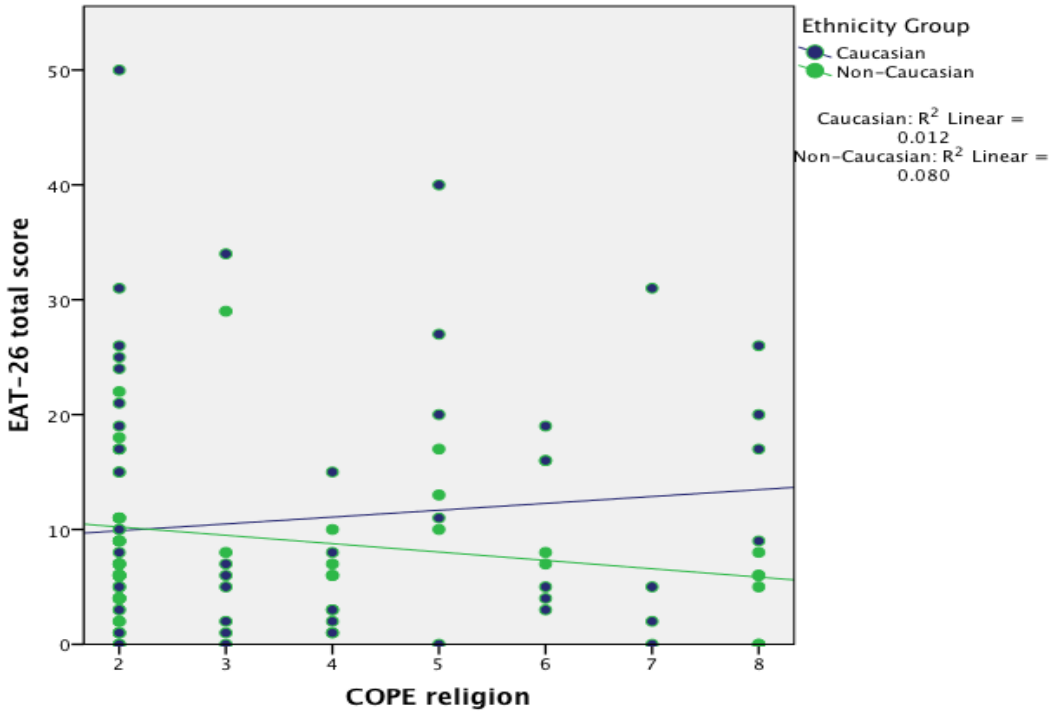



Figure U.26. EAT-26 Total Score by Religion Grouped by Regional Ethnicity

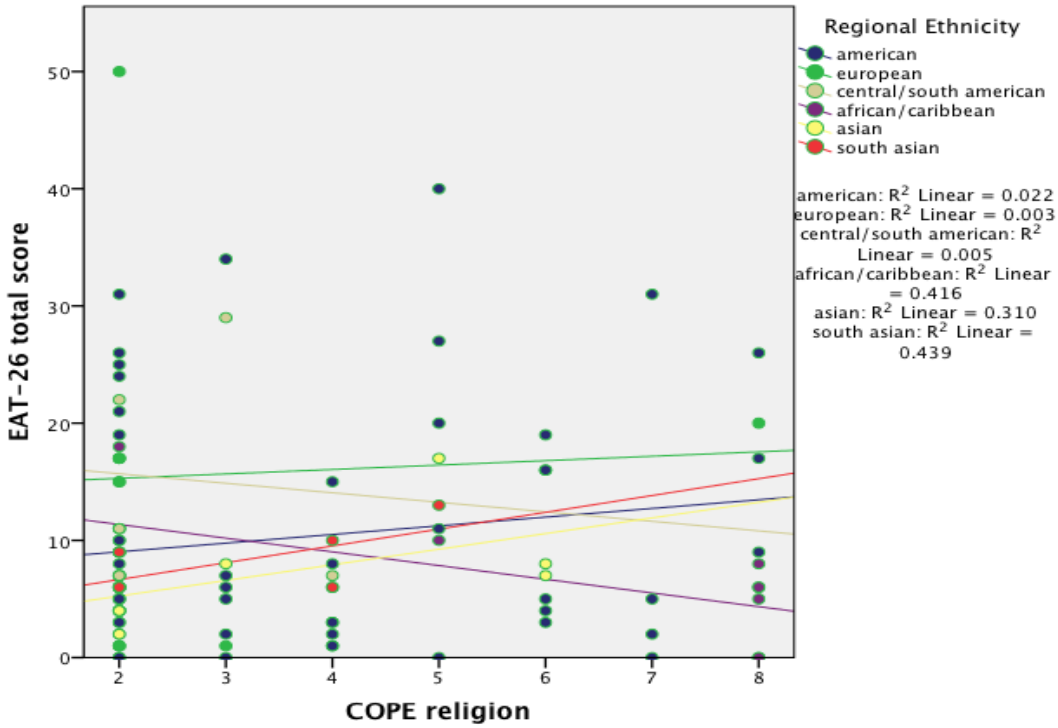


Figure U.27. EAT-26 Total Score by Self-Blame Grouped by Caucasian/Non-Caucasian

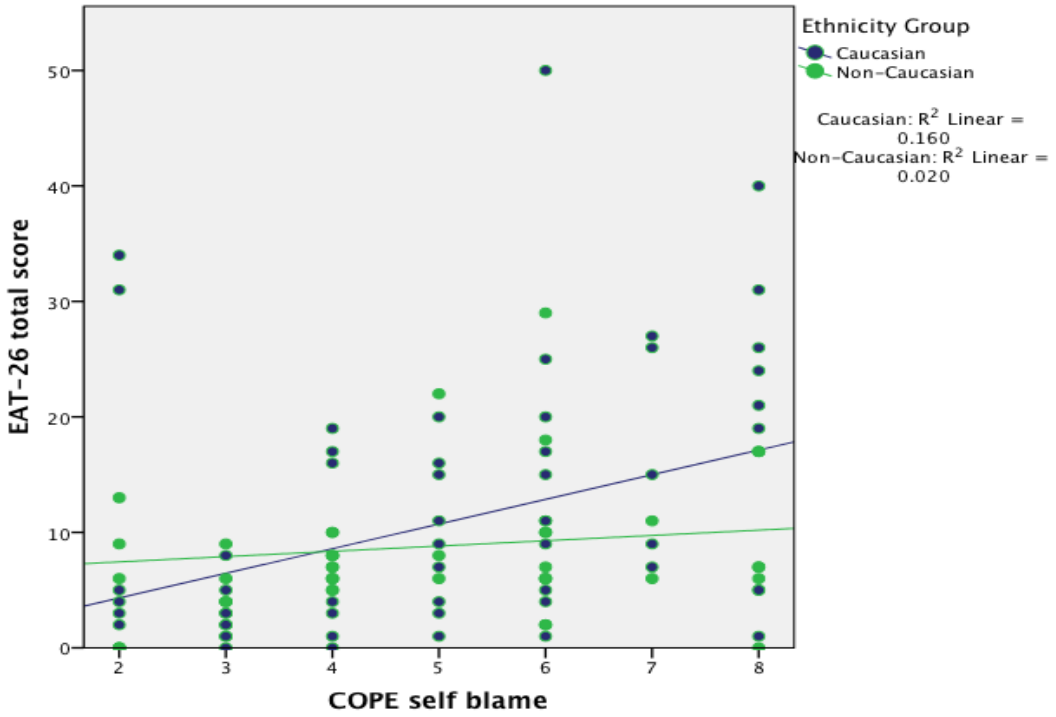
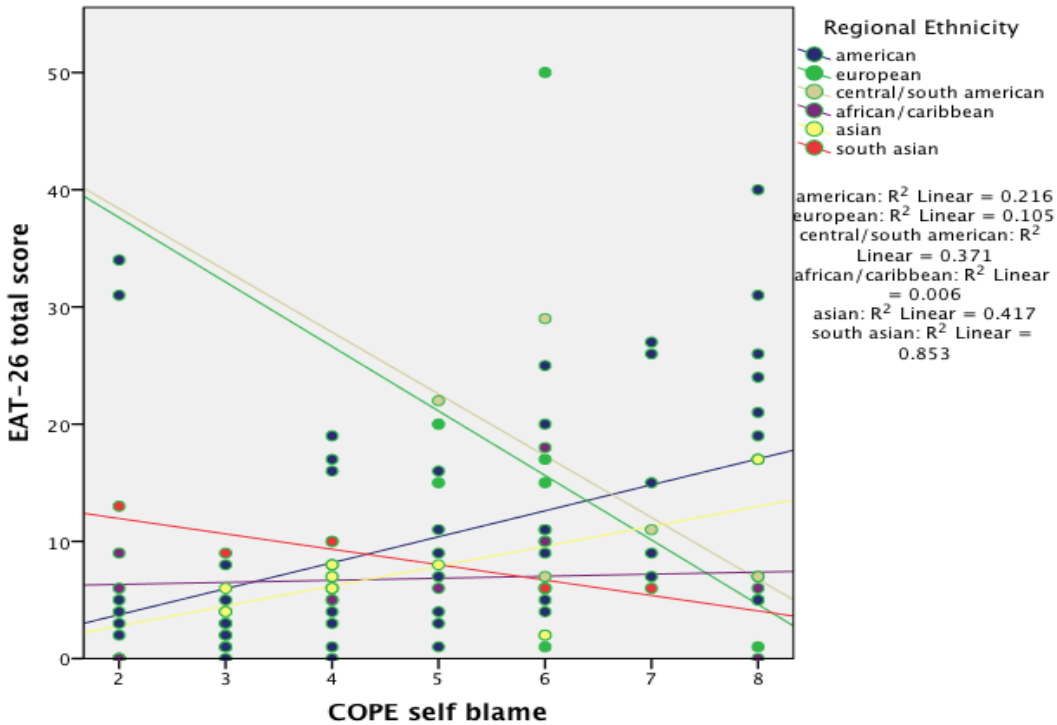



Figure U.28. EAT-26 Total Score by Self-Blame Grouped by Regional Ethnicity



Appendix V

*Predicted Group Membership for Regional Ethnicity*

| Original Group | Predicted Membership | | | | | | Totals |
|---|---|---|---|---|---|---|---|
| | American | European | Central/ South American | African/ Caribbean | Asian | South Asian | |
| EAT-26 total by Self-Distraction | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 6 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 6 |
| EAT-26 Total by Active Coping | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |

*Table V continues*

*Table V continued*

| Original Group | Predicted Membership | | | | | | Totals |
|---|---|---|---|---|---|---|---|
| | American | European | Central/ South American | African/ Caribbean | Asian | South Asian | |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 6 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 6 |
| EAT-26 Total by Denial | | | | | | | |
| American (%) | 64 (98.5) | 0 (0) | 1 (1.5) | 0 (0) | 0 (0) | 0 (0) | 65 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 4 (80) | 0 (0) | 1 (20) | 0 (0) | 0 (0) | 0 (0) | 5 |
| EAT-26 Total by Substance Use | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |

*Table V continues*

*Table V continued*

| Original Group | Predicted Membership | | | | | | Totals |
|---|---|---|---|---|---|---|---|
| | American | European | Central/ South American | African/ Caribbean | Asian | South Asian | |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| EAT-26 Total by Emotional Support | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |

*Table V continues*

*Table V continued*

| Original Group | Predicted Membership | | | | | | Totals |
|---|---|---|---|---|---|---|---|
| | American | European | Central/ South American | African/ Caribbean | Asian | South Asian | |
| EAT-26 Total by Instrumental Support | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| EAT-26 Total by Behavioral Disengagement | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |

*Table V continues*

*Table V continued*

| Original Group | Predicted Membership | | | | | | Totals |
|---|---|---|---|---|---|---|---|
| | American | European | Central/ South American | African/ Caribbean | Asian | South Asian | |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| EAT-26 Total by Venting | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| EAT-26 Total by Positive Reframing | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |

*Table V continues*

*Table V continued*

| Original Group | Predicted Membership | | | | | | Totals |
|---|---|---|---|---|---|---|---|
| | American | European | Central/ South American | African/ Caribbean | Asian | South Asian | |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| EAT-26 Total by Planning | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |

*Table V continues*

*Table V continued*

| Original Group | Predicted Membership | | | | | | Totals |
|---|---|---|---|---|---|---|---|
| | American | European | Central/ South American | African/ Caribbean | Asian | South Asian | |
| EAT-26 Total by Humor | | | | | | | |
| American (%) | 64 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 64 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| EAT-26 Total by Acceptance | | | | | | | |
| American (%) | 63 (98.4) | 1 (1.6) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 64 |
| European (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 9 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 9 |

*Table V continues*

*Table V continued*

| Original Group | Predicted Membership | | | | | | Totals |
|---|---|---|---|---|---|---|---|
| | American | European | Central/ South American | African/ Caribbean | Asian | South Asian | |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| EAT-26 Total by Religion | | | | | | | |
| American (%) | 64 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 64 |
| European (%) | 7 (87.5) | 1 (12.5) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| EAT-26 Total by Self-Blame | | | | | | | |
| American (%) | 65 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 65 |
| European (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |

*Table V continues*

*Table V continued*

| Original Group | Predicted Membership | | | | | | Totals |
|---|---|---|---|---|---|---|---|
| | American | European | Central/ South American | African/ Caribbean | Asian | South Asian | |
| Central/South American (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |
| African/Caribbean (%) | 10 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 |
| Asian (%) | 8 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 8 |
| South Asian (%) | 5 (100) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 5 |

Appendix W

*Predicted Group Membership for Caucasian/Non-Caucasian*

| Original Group | Predicted Membership | | Totals |
|---|---|---|---|
| EAT-26 total by Self-Distraction | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 29 (100) | 0 (0) | 29 |
| EAT-26 Total by Active Coping | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 27 (100) | 0 (0) | 27 |
| EAT-26 Total by Denial | | | |
| Caucasian (%) | 72 (98.6) | 1 (1.4) | 73 |
| Non-Caucasian (%) | 24 (88.9) | 3 (11.1) | 27 |
| EAT-26 Total by Substance Use | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 28 (100) | 0 (0) | 28 |
| EAT-26 Total by Emotional Support | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 28 (100) | 0 (0) | 28 |
| EAT-26 Total by Instrumental Support | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 28 (100) | 0 (0) | 28 |
| EAT-26 Total by Behavioral Disengagement | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 28 (100) | 0 (0) | 28 |
| EAT-26 Total by Venting | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |

*Table W continues*

*Table W continued*

| Original Group | Predicted Membership | | Totals |
|---|---|---|---|
| Non-Caucasian (%) | 28 (100) | 0 (0) | 28 |
| EAT-26 Total by Positive Reframing | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 28 (100) | 0 (0) | 28 |
| EAT-26 Total by Planning | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 28 (100) | 0 (0) | 28 |
| EAT-26 Total by Humor | | | |
| Caucasian (%) | 72 (100) | 0 (0) | 72 |
| Non-Caucasian (%) | 28 (100) | 0 (0) | 28 |
| EAT-26 Total by Acceptance | | | |
| Caucasian (%) | 72 (100) | 0 (0) | 72 |
| Non-Caucasian (%) | 27 (100) | 0 (0) | 27 |
| EAT-26 Total by Religion | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 29 (100) | 0 (0) | 29 |
| EAT-26 Total by Self-Blame | | | |
| Caucasian (%) | 73 (100) | 0 (0) | 73 |
| Non-Caucasian (%) | 28 (100) | 0 (0) | 28 |

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