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LOYOLA UNIVERSITY CHICAGO

EXAMINING THE MODERATING ROLE OF SPECIFIC COPING STRATEGIES ON
THE RELATIONSHIP BETWEEN BODY IMAGE AND EATING DISORDERS IN
COLLEGE-AGE WOMEN

A THESIS SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
MASTER OF ARTS

PROGRAM IN CLINICAL PSYCHOLOGY

BY

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CHICAGO, ILLINOIS

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ABSTRACT

A sample of college age women assessed at three time points (Time 1: Baseline, assessed before college, Time 2: End of first semester, Time 3: End of first year of college) completed measures of disordered eating, coping, and body image. Results indicated that neither adaptive (problem-focused coping or social support seeking) nor maladaptive coping styles (active emotional coping or avoidant coping) as measured at Time 1 or Time 2 moderated the significant predictive relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3, when adjusting for disordered eating attitudes and BMI at Time 1. However, significant main effects of certain coping strategies indicate that while coping does not moderate the relationship between body image and disordered eating, coping may still be an important area for intervention. Future research needs to continue to examine the complex relationship between coping, body image, and disordered eating.

CHAPTER ONE

INTRODUCTION

The transition to college represents an important developmental milestone that is characterized by increased pressures, changing roles, and new developmental demands including relationship changes, mental health issues, personal exploration, and identity development (Abouserie, 1994; Arnett, 2000; Dusselier, Dunn, Wang, Shelley, & Whalen, 2005; Sax, 1997; Schulenberg, Bryant, & O'Malley, 2004; Schulenberg, Sameroff, & Cicchetti, 2004; Schulenberg & Zarrett, 2006). This transition, and the increased stress that accompanies it, can put students at an increased risk for mental health problems (Fisher & Hood, 1987). Specifically, the college experience seems to represent a pivotal time for mental health issues, including eating disorders.

Eating disorders continue to be a major mental health concern as increasing numbers of people are being diagnosed (Bulik, Sullivan, Tozzi, Furberg, Lchentenstin, Pederson, 2006; Garner, Olmstead, & Polivy, 1983). The stressful transition to college might be especially important in the development of pathological eating behaviors as they typically develop around age 18 (Heatherton, Nichols, Mahamedi, & Keel, 1995; Sassaroli & Ruggiero, 2005; Striegel-Moore, Silberstein, & Rodin, 1986; Thelen, Mann, Pruitt, & Smith, 1987). Additionally, eating and body image issues have become normative on college campuses, with close to 90% of students reporting that they worry about how their body looks (Delene & Brogowicz, 1990) and 50-80% reporting that they

engage in moderate to severe dieting behaviors (American College Health Association [ACHA], 2012; Striegel-Moore, Silberstein, Grunberg, & Rodin, 1990). Discovering risk and protective factors for the development of eating disorders is necessary to create successful treatment and prevention programs within the college community.

Body image has been widely implicated as a risk factor for the development of clinical and subclinical eating issues (Altabe & Thompson, 1992; Cooley & Toray, 1996; Lawrence & Thelen, 1995; Thompson, Coover, Richards, Johnson, Cattarin, 1995). However, few studies have considered the role of additional risk factors or more complex models (Ball & Lee, 2000). Given that coping is linked to mental health functioning (Aldwin & Revenson, 1987), that the transition to college results in increased stress (Abouserie, 1994; Cooley & Toray, 1996; Dusselier et al., 2005; Sax, 1997; Towbes & Cohen, 1996), and that research has linked maladaptive coping and disordered eating (Caffary, 1987; Hawkins & Clement, 1984; Soukup, Beiler, & Terrell, 1990), the role of coping in the body image and disordered eating relationship should be examined. This study examines disordered eating behaviors during the transition to college with a focus on body image and coping styles as potential risk and protective factors.

Transition to College

Major life transitions can cause lasting change in mental health (Schulenberg et al., 2004). Research indicates that the transition from adolescence to adulthood includes developmental challenges related to personal exploration, contextual and relationship changes, and increasing mental health concerns (Arnett, 2000; Aseltine & Gore, 1993;

Schulenberg et al., 2004; Schulenberg & Zarrett, 2006). Close to 70% of adolescents now attend college immediately after high school, marking the college transition as an important, normative developmental milestone (U.S. Department of Labor, 2011). As students attend college, they are transitioning not only from adolescence to emerging adulthood, but also into an entirely new environment and with this change come new challenges and issues. The transition to college marks a developmental transition in which participants face changing demands and roles, new stressors, gains in independence, and greater autonomy and expectations (Abouserie, 1994; Dusselier et al., 2005; Sax, 1997). This transition represents a key period as emerging adults are faced with new risks while also having the opportunity to demonstrate resilience (Cooley & Toray, 1996; Schulenberg et al., 2004; Schulenberg & Zarrett, 2006).

The first year of college, specifically, while filled with new opportunities, also is filled with increased avenues of stress and complications (Cooley & Toray, 1996). This increase in stressors is demonstrated across many domains including social, academic, and familial (Abouserie, 1994; Brougham, Zail, Mendoza & Miller, 2009; D’Zurilla & Sheedy, 1991; Dusselier et al., 2005; Dyson & Renk, 2006; Sax, 1997; Towbes & Cohen, 1996). Across the college years, students report the highest levels of chronic stress during the first year of college, indicating that the transition to college and the first year are especially challenging (Towbes & Cohen, 1996).

These increases in stress, obstacles, and changes, can put students at an increased risk for developing mental health issues related to depression, anxiety, and other forms of

psychopathology (Eisenberg, Gollust, Golberstein, & Hefner, 2007; Fisher & Hood, 1987; Furr, Westefeld, McConnell, & Jenkins, 2001; Sax, 1997; Surtees, Wainwright, & Pharoah, 2002). This rise in mental health issues demonstrates that this transition represents a key time, when resilience rather than psychopathology can be exhibited (Schulenberg et al., 2004; Schulenberg & Zarrett, 2006). Research has demonstrated that college students report greater experiences of psychological distress than non-college students, and in comparison to earlier periods of life (Alfred-Liro & Sigelman, 1998; Eisenberg et al., 2007). When responding to a broad national survey, 45% of college students report feeling hopeless within the past year, 86% report feeling overwhelmed, 57% report feeling very lonely, 50% report overwhelming anxiety, 60% report feeling very sad with 30% reporting that they felt so depressed it was difficult to function during the previous year (ACHA, 2012). Worsening over recent decades, the mental health issues that are facing college students are broad and severe, with 41% of students meeting criteria for at least one Axis I disorder (Benton, Robertson, Tseng, Newton, & Benton, 2003; Svanum & Zody, 2001).

Gender plays an important role in the transition to college, as males and females experience different rates of stress during the transition and throughout their college careers. During the transition to college, women experience greater decrements in self-esteem and self-image, compared to their male counterparts (Hesse-Biber & Marino, 1991; Hood et al., 1986), which could put them at increased risk for body image and eating issues. Further, females adapt more slowly during the transition to college (Stewart

et al., 1986) and have been shown to experience greater levels of stress and psychological disturbance throughout college (Fisher & Hood, 1988). Previous research has shown that stress might relate to increases in eating disorder behavior in non-clinical populations (Sassaroli & Ruggiero, 2005). Given the complex mental health challenges facing adolescents as they transition to college, it is imperative that researchers examine risk and protective factors related to mental health in this population.

Eating Disorders during the Transition to College

Over the past few decades, eating disorder prevalence rates have continued to rise and have become a research focus for psychologists (Bulik et al., 2006; Garner et al., 1983; Levine, Smolak, & Striegel-Moore, 1996). Eating disorders are especially dangerous, with anorexia nervosa having the highest mortality rate of any mental health issue (Garner et al., 1983; Keel, Dorer, Eddy, Franko, Charatan, & Herzog, 2003; Park, 2007). As awareness of the serious medical and mental health consequences of eating disorders increases, understanding the etiology of these disorders has become of greater interest (Ball & Lee, 2000; Slade, 1982; Striegel-Moore, 1995).

There are two important developmental milestones that are likely to trigger eating disorder pathology: puberty and the transition into adulthood (Smolak & Levine, 1996). As part of the transition to adulthood for many, transitioning to college might play an important role in the development of eating disorders (Cooley & Toray, 1996; Sassaroli & Ruggiero, 2005). Previous research has shown that eating disorder behaviors increase during times of stress for non-clinical populations (Sassaroli & Ruggiero, 2005), and the

transition to college is characterized by an increase in stress across multiple domains (Cooley & Toray, 1996). Additionally, eating disorders primarily develop at the age of 18 (Thelen et al., 1987), which on average occurs during the first year of college. These factors indicate that the transition to college may represent a critical juncture for females in how they consider and treat their body.

Research has indicated that body dissatisfaction and clinical and subclinical eating disorders are prevalent in college women (Mintz & Betz, 1988). Close to 90% of college students report worrying about how their body looks (Delene & Brogowicz, 1990) and 50-80% report dieting behaviors that range from normative to more severe, including bingeing, vomiting, taking diet pills, and taking laxatives (ACHA, 2011; Striegel-Moore et al., 1990). Over 50% of college students report currently trying to lose weight, and 23% of students report viewing their personal appearance as very difficult for them to handle at some point during the past 12 months (ACHA, 2012). During college, 4-9% of females meet the DSM-IV criteria for anorexia nervosa or bulimia nervosa (Drenowski, Yee, & Krahm, 1988; Pope, Hudson, Yurgelun-Todd, & Hudson, 1984; Pyle, Neuman, Halvorson, & Mitchell, 1990). Many others engage in negative eating behaviors, with only 33% of college women engaging in normal eating habits (Mintz & Betz, 1988).

Many researchers view the college transition as a critical juncture, where women are at an increased risk for developing eating pathology (Heatherton et al., 1995; Striegel-Moore et al., 1986). Research has shown that disordered eating and body issues increase over the first year of college (Delinsky & Wilson, 2008; Vohs, Heather, & Herrin, 2001).

Common issues that one faces in the transition to college, including high stress, emphasis on achievement, and role and identity changes, are also correlates of eating disorders (Rosen, Compas, & Tacy, 1993; Striegel-Moore et al., 1986). Theorists have posited that some of these specific high-stress situations might facilitate the development of eating pathology (Slade, 1982). Additionally, college often is the first time that women have complete control over their meals, including when they eat, what they eat, and how much they eat (Delinsky & Wilson, 2008; Vohs et al., 2001). Thus, this time in life represents a critical juncture in terms of eating pathology, and research needs to further explore changes in pathology across the transition to college.

Research has indicated that clinical and subclinical disordered eating is relatively common among early and late adolescents (Leichner, Arnett, Rallo, Srikameswaran, & Vulcano, 1986). Disordered eating attitudes, and eating disorders themselves, fall on a continuum (Lowe et al., 1996; Mintz & Betz, 1988) rather than fit a diagnostic dichotomy. Further, these attitudes are believed to represent both a necessary precursor and a concurrent component of eating disorders (Fryer, Waller, Stenfert Kroese, 1997; Leichner et al., 1986). With researchers stressing the need to understand this critical transition in terms of eating pathology (Heatherton et al., 1995; Smolak, Levine, Striegel-Moore, 1996; Striegel-Moore et al., 1986;), this study seeks to understand the complex relations among adaptive and maladaptive coping strategies, body image, and the development of disordered eating attitudes and behaviors, across the stressful transition to college.

The Relationship between Body Image and Eating Disorders

Body image is a complex phenomenon that consists of one's attitudes, perceptions, and experiences pertaining to their physical appearance (Cash & Grasso, 2005; Pruzinsky & Cash, 2002). Researchers separate two distinct, independent modalities of body image: perceptual body-size distortion and cognitive-evaluative discontent (Cash & Brown, 1987; Cash & Deagle, 1997; Cash & Grasso, 2005; Garner & Garfinkle, 1981). Perceptual body size distortion exists when someone inaccurately views their body either as larger or smaller than it truly is (Cash & Deagle, 1997). Cognitive-evaluative discontent involves dissatisfaction or unhappiness related to how one's body looks (Cash & Deagle, 1997). Research has shown that this evaluative component is more important in the development of pathological eating than one's actual weight, indicating the importance of body image, especially the evaluative component, in the etiology of pathological eating (Garfinkle, Goldbloom, Davis, Olmsted, Garner, & Halmi, 1992). However, research also has shown that women with clinical eating disorders have greater body dissatisfaction and greater perceptual body distortion than those without eating disorders, indicating that both may be important components of eating disorders (Cash & Deagle, 1997).

Body image is one of the most supported etiological factors of clinical and subclinical eating pathology and maladaptive eating attitudes (Altabe & Thompson, 1992; Cooley & Toray, 1996; Lawrence & Thelen, 1995; Thompson et al., 1995). Longitudinal research has demonstrated that negative body image is predictive of later

eating pathology (Attie & Brooks-Gunn, 1989; Ball & Lee, 2001; Stice, Shaw, & Nemeroff, 1998). Feelings about the body are so central to the symptoms of eating disorders, that the 5^h edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) includes criteria for both anorexia nervosa and bulimia nervosa related to the influence of weight and shape on self-evaluation (Cash & Deagle, 1997). Not only has research revealed an association between body image and problematic eating behaviors, but there is evidence that body image predicts the severity of problematic eating and acts as a precursor for disordered eating (Attie & Brooks-Gunn, 1989; Cash & Brown, 1987; Rosen, 1990; Thompson et al., 1995).

Body image is believed to play a central role in the development of eating disorders, and it is believed that the core component of developing an eating disorder is the degree to which self-esteem is based on shape or weight (Geller, Johnston, Madson, Goldner, Remick, & Birmingham, 1998). It is especially important to understand the influence of body image on disordered eating, as researchers have found that body dissatisfaction is normative. Around 48% of adult women have a negative appearance evaluation and 63% of women are not satisfied with their weight (Cash & Henry, 1995). Understanding the role potential risk and protective factors related to disordered eating, such as body image and coping, is an important step in understanding who may be at risk for an eating disorder.

Understanding the relationship between body image and disordered eating attitudes is particularly relevant during the college transition, as more than 90% of students worry about their body image (Delene & Brogowicz, 1990). Also, many college women at healthy weights express body-related beliefs that are similar to those of women who have eating disorders (Gray & Ford, 1985; Hesse-Biber, 1989; Hesse-Biber, Marion, & Watts-Roy, 1999; Zuckerman, Colby, & Ware, 1984). This suggests that for college women, body image issues may be normative. Previous research has indicated that this transition might be an especially risky time for women in terms of how they feel about their body and the health of their eating habits (Delinsky & Wilson, 2008). Researchers found that as body image worsened over the first year of college, disordered eating increased (Striegel-Moore et al, 1990). Research also has demonstrated that body dissatisfaction was the strongest predictor of worsening eating disorder symptoms over the first year of college (Cooley & Toray, 1996). Understanding the relationship between body image and eating disorders is especially important for college women, an at-risk population.

Coping

Previous research has indicated that coping is strongly related to a person's mental health. Lazarus and Folkman (1984) conceptualized coping as behaviors and efforts made to manage personal demands, either internal or external, that were deemed taxing to the person's available resources. More recent researchers have broadened our understanding of coping to include complex cognitive, behavioral, emotional, and,

biological processes that become active in the face of stress to either retreat from the stressor or manage the stressor (Compas, 2006). Broadly, coping represents any effort to manage a situation that is viewed as burdening by the person experiencing it (Lazarus, 1993). Coping is understood as both cognitive and behavioral, encompassing feelings, emotions, and actions used in reaction to a stressor (Folkman & Moskowitz, 2004; Lazarus & Folkman, 1984). Researchers believe that coping is central in determining one's affective responses to stressful situations, as well as many of the behavioral responses (Compas, 2006; Lazarus, 1999). Coping, in effect, involves multiple processes that allow one to handle the internal or external demands placed on them (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Troop, Holbrey, & Treasure, 1997). Coping also has been considered a survival mechanism that allows one to minimize, avoid, or control the psychological and emotional burdens of a stressor (Compas, 2006; Folkman, & Lazarus, 1998; Pearlin & Schooler, 1978). Coping is related to psychological and physical well-being in response to life events, especially those that represent a challenge or burden (Aldwin & Revenson, 1987).

There are two separate approaches in conceptualizing coping that distinguish between viewing coping as a trait or personality characteristic versus considering coping as a process (Endler, Parker, & Summerfeldt, 1993; Ghaderi & Scott, 2000; Lazarus, 1993). Conceptualizing coping as a personality characteristic or trait, the *inter*-individual approach, requires understanding coping resources as stable and non-situation specific (Endler et al., 1993; Ghaderi & Scott, 2000; Lazarus, 1993). On the other hand, the *intra*-

individual approach considers coping as a process and views coping strategies as both changing over time and dependent upon situation and context (Endler et al., 1993; Ghaderi & Scott, 2000; Lazarus, 1993). Coping is thought of as both a function of one's personality, meaning people have typical coping strategies that they use, and as a function of one's environment, such that people use varied coping strategies depending on the stressor and context (Aldwin & Revenson, 1987). Thus, people may tend use certain, specific strategies, but may tailor a coping response to the situation or change which strategies they typically employ over time.

Coping encompasses the wide variety of strategies that people use to manage the stressors they encounter. To this end, there are many different styles of coping including escapism, minimization, self-blame, instrumental action, denial, substance abuse, negotiation, social support seeking, support mobilization, and others (Aldwin & Revenson, 1987). Given the numerous strategies that people use to handle life's problems, many have tried to classify coping strategies. Although there have been many different models used to classify coping strategies, there are three important ways to distinguish strategies: approach versus avoidance, problem-focused versus emotion-focused, and cognitive versus behavioral (Billings & Moos, 1982; Folkman & Lazarus, 1980; Koff & Sangani, 1997; Suls & Fletcher, 1985). The approach-avoidance dichotomy emphasizes that most coping strategies involve either seeking out and actively engaging the stressor (approach), or avoiding the stressor through denial or distraction (Tobin, Holroyd, Reynolds, & Wigal, 1989). Additionally, researchers have differentiated coping

as either problem-focused or emotion-focused (Folkman & Lazarus, 1980). While problem-focused coping involves actively changing or combating the problem, emotion-focused coping encompasses actions made to regulate or control the distressing emotions associated with the problem (Folkman & Lazarus, 1980). Emotion-focused coping can include actively trying to alter one's emotional response, and also includes avoidant strategies and methods to ignore the stressor as a means to control one's emotions (Parker & Endler, 1996). The final means of classification, cognitive versus behavioral, emphasizes that coping strategies can be either internal, related to how one thinks about the situation or regulates an emotional response, or external, related to the actions one employs to handle a stressor (Billings & Moos, 1982). Additionally, some coping strategies, such as seeking social support, do not fit within the classification dichotomies. While there are different coping strategies that one can use in any situation, researchers have demonstrated that certain strategies may be more effective and adaptive than others.

People have a variety of coping resources available in any situation, and while some maintain positive functioning and represent adaptive responses, others can be maladaptive (Choma et al., 2009; Cooper, Rose, & Turner, 2005). In any situation, there are many ways that people can respond. The result of a coping strategy depends on the individual, the stressor, and the contextual demands (Folkman & Lazarus, 1980).

Previous research has indicated that problem-focused coping is associated with fewer mental health issues, both externalizing and internalizing, and that emotion-focused coping is linked to greater internalizing and externalizing challenges (Compas, MacLane,

& Macaro, 1988). Additionally, approach-oriented strategies that encourage seeking out the stressor have been associated with better psychological outcomes and functioning while avoidance has been associated with greater psychopathology (Endler & Parker, 1990).

However, understanding coping strategies as maladaptive or adaptive may be overly simplistic, and many theorists have stressed that certain strategies are more effective at different stages of a problem and with certain problems (Troop, Holbrey, Trowler, & Treasure, 1994). There are certain points and situations where avoidant strategies may be more adaptive and typically adaptive problem-focused strategies may be ineffective or problematic (Lazarus, 1993; Strentz & Auerbach, 1988). Thus, when given a certain context and stressor, it is important to consider which coping strategies are adaptive and which might exacerbate a stressful, burdening situation.

Understanding the role of coping in the relationship between body image and eating disorders is particularly important because: (1) coping is linked to mental health outcomes, (2) coping can mediate the relationship between situational factors and these outcomes, (3) coping may moderate important psychological relationships, and (4) there are significant sex differences in coping that may play an important role in the development of eating disorders.

Previous research has indicated that how one copes is integral in one's mental health functioning (Aldwin & Revenson, 1987). Thus, coping may be particularly important in determining if one develops an eating disorder during the stressful transition

to college. Additionally, researchers believe that coping, in effect, mediates the relationship between life stress and psychiatric illness including depression, posttraumatic stress disorder, and other disorders (Fairbank, Hansen, & Fitterling, 1991; Troop et al., 1994). Researchers also have identified important gender differences in typically employed coping strategies, which may help explain the different prevalence rates for both depression and eating disorders across genders (Brougham et al., 2009; Howerton & Van Gundy, 2009; Koff & Sangani, 1997). While males typically use more approach strategies, females are more likely to use typically maladaptive emotion-focused strategies (Ben-Zur & Zeidner, 1996; Howerton & Van Gundy, 2009; Kelly, Tyrka, Price, & Carpenter, 2008). Given these findings, it is important to understand the role of coping as a moderator in the relationship between body image and disordered eating attitudes.

Potential Role of Coping in Eating Disorders

Researchers have considered the role of coping in the development, maintenance, and treatment of eating disorders. Studies have indicated that stress and coping are important etiologically, such that negative life events have been shown to precipitate eating disorders (Ball & Lee, 2000). Some researchers have even suggested that eating disorders may be an outcome or outward manifestation of maladaptive coping in the face of high stress (Ball & Lee, 2000). Theorists have suggested that maladaptive coping styles or deficits in coping may make people less able to handle stress and that eating disorders may be a manifestation of this inability (Caffary, 1987; Hawkins & Clement, 1984; Soukup et al., 1990; Troop et al., 1997). Some researchers have even

conceptualized the purging element of bulimia nervosa as a coping mechanism intended to relieve anxiety (Heatherton & Baumeister, 1991; Rosen & Leitenberg, 1985) and anorexic symptoms as a mechanism of asserting control over an aspect of life when encountering outside stress (Slade, 1982). However, researchers have called for more research to consider the role of coping in eating pathology (Ghaderi & Scott, 2000).

Most studies examining the relationship between coping and eating pathology have compared coping strategies that women with and without eating disorders typically employ. Some demonstrated that women with eating disorders are more likely to use typically maladaptive strategies and less likely to use adaptive coping means (Mayhew & Edelman, 1989; Shatford & Evans, 1986; Troop et al., 1994). Specifically, studies have found that patients with eating disorders are more likely to engage in avoidant coping strategies (Bloks, Spinhoven, Callewaert, Willemse-Koning, & Turksma, 2001; Nagata, Matsuyama, Kiriike, Iketani, & Oshima, 2000; Neckowitz & Morrison, 1991; Soukup et al., 1990; Troop et al., 1998; Troop et al., 1994; Yager, Rorty, & Rossotto, 1995) and emotion-focused coping strategies (Koff & Sangani, 1997). Additionally, studies have shown that women with anorexia nervosa or bulimia nervosa are also less likely to use problem-focused strategies (Janzen, Kelly, & Saklofske, 1992; Soukup et al., 1990) and were less likely to seek social support as a means to cope (Troop et al., 1994). These findings have been replicated in non-clinical samples (Koff & Sangani, 1997; Shatford & Evans, 1986).

However, some of these findings have been mixed with some researchers finding no difference in problem-focused coping (Neckowitz & Morrison, 1991) and avoidant coping (Janzen, Kelly, & Saklofske, 1992; Mayhew & Edlman, 1989) between clinical and non-clinical eating disorder patients. Additionally, some researchers have found little difference in coping styles between students with subclinical levels of eating pathology and non-symptomatic students (VanBoven & Espelage, 2006). Indicating a bi-directional relationship, research has demonstrated that adaptive coping promotes recovery and is increased as women recover from an eating disorder (Troop et al., 1994; Yager et al., 1995). While previous research has considered the relations between coping styles and disordered eating, it is important to consider the role of these specific coping styles in disordered eating within the college population.

Some researchers have theorized that specific coping strategies might represent risk or protective factors in the development of eating pathology. For instance, seeking social support has emerged as a protective factor that predicts fewer eating disorder symptoms and better overall functioning (Blocks et al., 2004). Additionally, both avoidant and emotion-focused coping have been hypothesized as risk factors for eating problems (Koff & Sangani, 1997). However, limited research has used prospective studies to consider the relationship between coping styles and later eating pathology (Ghaderi & Scott, 2000). This study seeks to expand the current literature by considering the potential moderating role of specific maladaptive and adaptive coping strategies on the relationship between body image and disordered eating.

Coping as a Moderator

While the concurrent and predictive relationship between body image and disordered eating has been well-established (Altabe & Thompson, 1992; Cooley & Toray, 1996; Lawrence & Thelen, 1995; Thompson et al., 1995), there is limited research considering factors that might moderate or alter this relationship. Moderation occurs when a variable alters the strength of a relationship (Baron & Kenny, 1986). Researchers have hypothesized that coping may moderate important relations between situational factors and a variety of different outcomes (Choma et al., 2009). Given that the literature suggests that coping is related in important ways to disordered eating symptomatology, different coping strategies might interact with different levels of body image to predict whether one develops disordered eating behaviors. If body image is conceptualized as a stressor that promotes disordered eating, positive coping strategies could help manage that stressor and weaken the relationship between the stressor and disordered eating. On the other hand, typically negative strategies might have an additive effect, exacerbating low body image and putting individuals at a greater risk for developing eating disorder symptomatology.

As researchers have theorized that eating disorders may be an outcome of maladaptive coping in the face of high stress (Ball & Lee, 2000), coping strategies may play a moderating role. Deficits in coping may make people less able to handle stress, which contributes to the development of disordered eating (Caffary, 1987; Hawkins & Clement, 1984; Soukup et al., 1990; Troop et al., 1997). One study examined the

moderating role of emotion-focused coping on the relationship between body dissatisfaction and eating pathology, finding that emotion-focused coping acted a risk factor for eating symptomatology when body dissatisfaction was high (Koff & Sangani, 1997). While researchers recognize body disturbance as a risk factor for eating disorders (Stice, 2002), Cash and colleagues (2005) called for research to consider how women cope with their body issues in the development of an eating disorder.

Some researchers have begun to consider body dissatisfaction as a stressor that must be coped with (Cash, 2002; Cash, Santos, & Williams, 2005; Hawkins & Clement, 1984). Supporting this idea, previous research has indicated that poor body image can be managed through various coping strategies (Cash et al., 2005; Choma, Shove, Busseri, Sadava, & Hosker, 2009). Researchers have theorized that if body image represents a stressor, it might be exacerbated by the use of negative coping strategies and that these negative coping strategies, in the face of body dissatisfaction, may contribute to developing an eating disorder (Choma et al., 2009; Koff & Sangani, 1997). Like other stressors, body image can be conceptualized as a threat or challenge to one's well-being requiring individuals to cope with that threat (Cash et al., 2005). Understanding body image as a stressor necessitates examining coping styles and their possible moderating effect on the relationship between body image and disordered eating.

Limitations of Past Research

Although researchers have examined body image, eating disturbances, and coping, there are important limitations to past research that this study addresses. First,

most of the past research has considered the relationship between body image and eating pathology, or between eating pathology and coping. Although multiple researchers have indicated the need for research examining the interconnected and potentially complex relations among these three factors (Ball & Lee, 2000; Cash et al., 2005; Ghaderi & Scott, 2000), few studies have actually done so (Koff & Sangani, 1997). Additionally, much of the research regarding coping and eating disorders is limited to comparing clinical and non-clinical populations on use of specific strategies, while many researchers have promoted using a continuum of eating pathology and examining non-clinical populations (Ghaderi & Scott, 2000; Hesse-Biber et al., 1999; VanBoven & Espelage, 2006).

Further, most of the studies looking at coping, eating disorders, or body image are not longitudinal (Ball & Lee, 2000; Koff & Sangani, 1997) and lack the ability to demonstrate predictive relationships or explore risk factors. Numerous researchers have highlighted the need for understanding the multi-factorial development of eating pathology across time (Cooley & Toray, 1996; Ghaderi & Scott, 2000; Soukup et al., 1990; Troop et al., 1994). Given past limitations, this study considers the moderating role of coping strategies in the relationship between body image and disordered eating across the first year of college.

CHAPTER TWO

SPECIFIC AIMS AND HYPOTHESES

Specific Aim 1

This study examined the general trajectory of body dissatisfaction, disordered eating attitudes, and coping styles across the first year of college for female students.

Hypothesis 1: Body dissatisfaction and disordered eating attitudes will increase significantly over the first year of college

Specific Aim 2

This study examined longitudinally the role that body dissatisfaction and coping strategies, over the first year of college, play in predicting eating disorders at end of the first year (Time 3). First, the relationship between body dissatisfaction and disordered eating attitudes was tested. Then, the potential moderating roles of adaptive coping strategies (problem-focused and social support seeking) and maladaptive coping strategies (active emotional and avoidant coping) were examined. This tested if adaptive strategies have buffering effects on the relationship between body dissatisfaction and disordered eating attitudes, and whether maladaptive coping strategies represent a risk factor within the relationship between body dissatisfaction and disordered eating attitudes.

Hypothesis 2: Body dissatisfaction at Time 1 will predict disordered eating attitudes at Time 3 controlling for eating attitudes and BMI at Time 1.

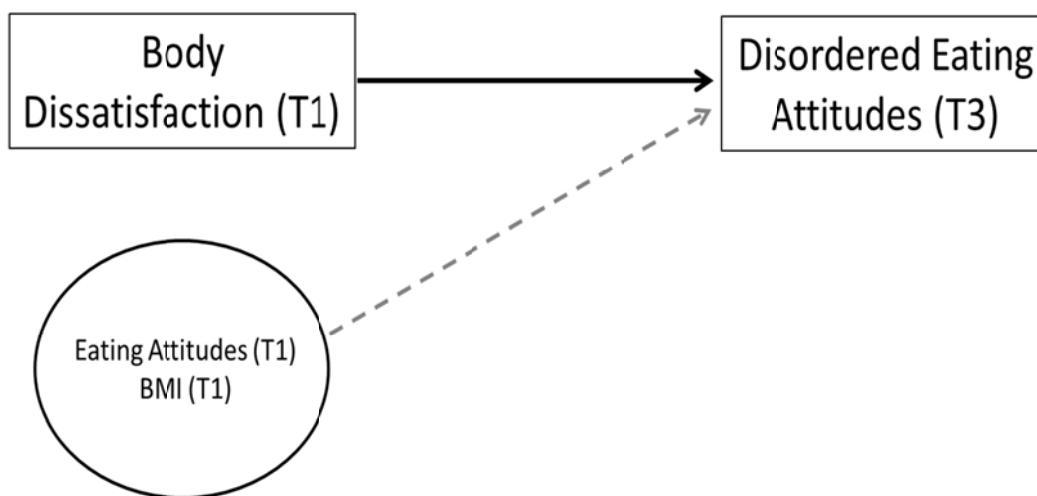


Figure 1. Body dissatisfaction predicting eating disorder attitudes

Hypothesis 3: It is expected that adaptive coping styles will moderate the relationship between body image and disordered eating attitudes. Specifically, higher levels of adaptive coping strategies, including (a) problem-focused coping and (b) social support seeking, will weaken relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3 adjusting for eating attitudes and BMI at Time 1. There will still be a positive relationship between body dissatisfaction and eating disordered attitudes, but problem-focused coping and social support seeking will act as buffers.

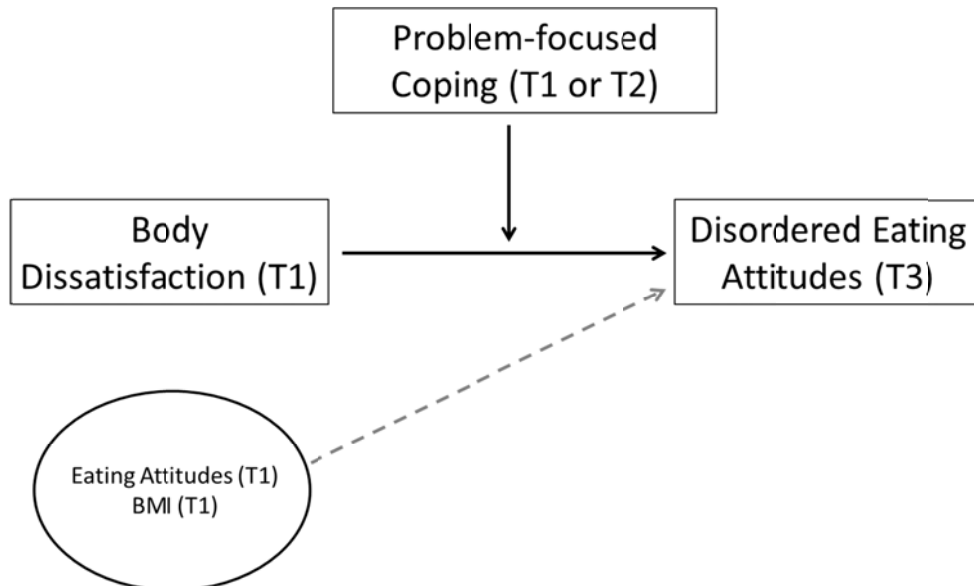


Figure 2. Problem-focused coping moderating the relationship between body dissatisfaction and disordered eating attitudes

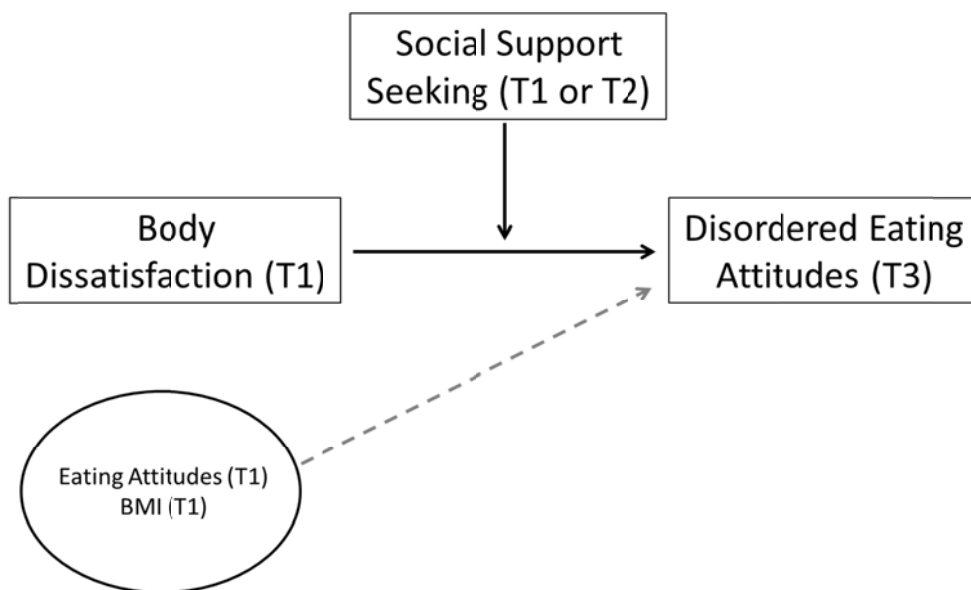


Figure 3. Social support seeking moderating the relationship between body dissatisfaction and disordered eating attitudes

Hypothesis 4: It is expected that maladaptive coping styles will moderate the relationship between body image and disordered eating attitudes. Specifically, higher

levels of maladaptive coping strategies, including (a) active emotional coping and (b) avoidant coping, will strengthen the relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3 adjusting for eating attitudes and BMI at Time 1. There will still be a positive relationship between body dissatisfaction and eating disordered attitudes, but active emotional coping and avoidant will act as vulnerability factors.

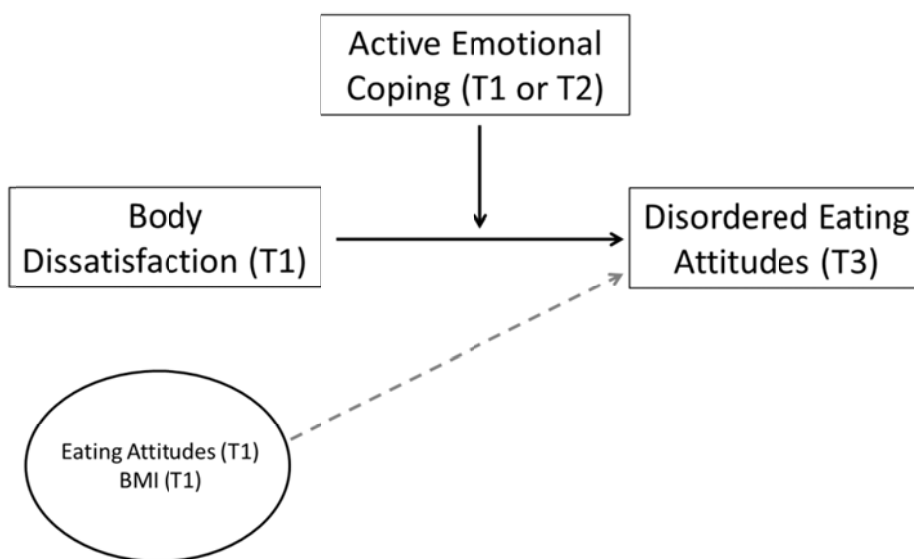


Figure 4. Active emotional coping moderating the relationship between body dissatisfaction and disordered eating attitudes

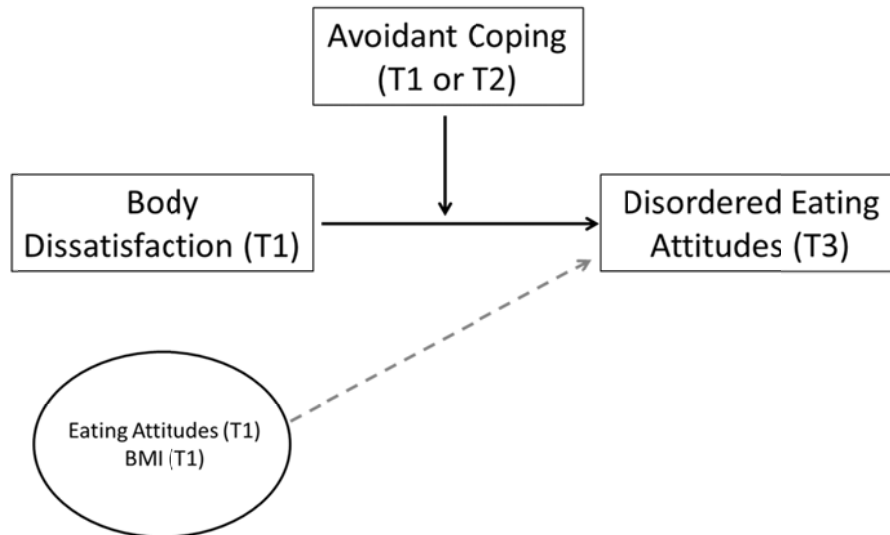


Figure 5. Avoidant coping moderating the relationship between body dissatisfaction and disordered eating attitudes

Specific Aim 3

This study is designed to test the relations among body image, disordered eating, and both adaptive and maladaptive coping strategies in different ways. This study tested these proposed relationships in multiple cohorts to examine if the relationships are different when body dissatisfaction is measured with a body-part specific measure or with an overall body image measure. This allowed testing of the models with conceptually different body dissatisfaction measures and in two different samples.

This study also tested the models using coping measured at different time points. To best understand the potential impact of changes in coping across the first year of college on the relation between body image and disordered eating attitudes, each model was tested using coping styles measured at Time 1 and Time 2.

Hypothesis 5: The relationships demonstrated will not differ for Cohort 1 and Cohort 2, testing two separate and different measures of body dissatisfaction.

Hypothesis 6: Each model will be significant regardless of how coping is measured. However, the models using coping style at Time 2, when strategies may be compromised, will show the strongest moderation effects.

CHAPTER THREE

METHOD

Participants

This research used participants from two cohorts (Cohort 1: 2009-2010; Cohort 2: 2010-2011) who participated in a three-wave longitudinal study during their transition to college and across their first year of college. The study includes 811 first-year female students at Loyola University Chicago (Cohort 1: $N = 336$; Cohort 2: $N = 475$). All incoming first-year students were invited to complete a survey prior to the onset of the first semester. Students who completed the first round of the survey were invited to participate at subsequent times during their first year of college (end of first semester and end of second semester). Participants were offered entries into prize drawings and given course credit at each time point.

The final sample for Cohort 1 included 336 female participants ($M_{age} = 18.47$, $SD = .37$, $Range = 17.42-19.99$), with some demographic variability (4.2% African American, 9.8% Asian-American, 5.4% Hispanic or Latino, 1.5% Multi-racial, 3.3%, Other, 1.8% Puerto Rican, 72.6% White, 1.5% Did Not Answer). The final sample for Cohort 2 included 475 female participants ($M_{age} = 18.47$, $SD = .37$, $Range = 17.42-19.99$), with some demographic variability (.6% American Indian, 1.7% African American, 13.1% Asian-American, 7.4% Hispanic or Latino, 2.1% Other, 1.1% Puerto Rican, 73.1% White, 1.1% Did Not Answer).

For Cohort 1, 45.72% of invitees completed Time 1 (N = 946), 69.78% of invitees completed Time 2 (N = 688), and 58.62% of invitees completed Time 3 (N = 578). For Cohort 2, 88.51% of invitees completed Time 1 (N = 1857), 64.90% of invitees completed Time 2 (N = 1115), and 52.11% of invitees completed Time 3 (N = 888).

Study participants at Time 1 differed from nonparticipants in ethnicity/race, $\chi^2(9) = 48.25, p < .001$, such that study participants were more likely to be American Indian or White and less likely to be Puerto Rican or list themselves as Other. Study participants, compared to nonparticipants, were also more likely to be female, $\chi^2(1) = 6.96, p = .008$, be younger, $t(4090) = 3.80, p < .001$, report higher high school GPA, $t(4087) = -5.09, p < .001$, higher ranking in graduating high school class, $t(1376) = 4.74, p < .001$, and higher ACT scores, $t(4126) = -8.27, p < .001$.

The final sample differed from the overall Loyola population in ethnicity/race, $\chi^2(10) = 38.061, p < .001$, such that the final sample was less likely to be Native Hawaiian or list themselves as Other, and more likely to be White. The final sample also was younger, $t(4096) = 3.53, p < .001$, and reported higher high school GPA, $t(1276) = -9.19, p < .001$, higher high school class ranking, $t(1007) = 7.26, p < .001$, and higher ACT scores, $t(4178) = -5.410, p < .001$.

Procedure

This multi-cohort longitudinal study involved data collection at three time points before and during the first year of college. In the week prior to enrollment, all incoming first-year students were invited by email to complete the survey. Participants completed an online survey, through survey tool Opinio, comprising various measures of mental

health and psychological adjustment at three different time points (Time 1: Week prior to enrollment; Time 2: End of first semester of the first year; Time 3: End of second semester of the first year). The survey contained multiple measures of psychological functioning across many domains including measures of psychopathology, psychological strengths, stress, and adjustment to college. The survey was advertised during orientation events and through emails and flyers throughout campus. The survey was accessible through a link that was provided at the end of the invitation. The survey took approximately 20-45 minutes to complete. Eligible students were entered into a drawing for various prizes at each time point.

Over two separate years (Cohort 1: 2009-2010; Cohort 2: 2010-2011), enrolling first-year students were invited to participate. Students who had completed Time 1 were invited to complete another survey at the end of the fall semester (Time 2) and a survey at the end of the spring semester of their first year (Time 3). The survey was available for approximately two weeks at each time point. Participants completed measures of coping at all three time points and measures of body image and disordered eating attitudes at Time 1 and Time 3.

Measures

Demographics. Demographic information on participants was gathered at each time point of the survey. The Office of Institutional Research at the University collected other demographic information such as ethnicity, graduating high school class rank, and ACT scores; this information was linked to the study data with students' permission.

Participants self-reported height and weight were used to calculate body mass index (BMI), using the English BMI formula (Weight in Pounds/(Height in inches * Height in inches)) * 703.

Body Dissatisfaction. For Cohort 1, body dissatisfaction was assessed with the Body Dissatisfaction Subscale of the Eating Disorders Inventory (BD-EDI; Garner et al., 1983; see Appendix A) at Time 1 and Time 3. This nine-item scale assesses dissatisfaction with specific body parts. Respondents rate agreement on a Likert scale ranging from 1 (*Always*) to 6 (*Never*). Responses are recoded such that the most dissatisfied response (always or never depending on the keyed direction) earns a score of 3, the immediately adjacent response a score 2, the next response a 1 and the three choices opposite to the most dissatisfied response receiving no score (0). High scores indicate greater body dissatisfaction. Items include “I think that my stomach is too big” and “I think that my thighs are just the right size”. This scale has yielded adequate internal consistency ($\alpha = .90 - .91$) (Garner et al., 1983). This scale yielded similar internal consistency in the current study across the multiple time points ($\alpha = .89 - .90$).

For Cohort 2, body dissatisfaction was assessed with the seven-item Appearance Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire-Appearance Scales (MBSRQ-AS; Cash, 2000; see Appendix B) at Time 1 and Time 3. This scale reflects positive global body image. Respondents rate agreement on a Likert scale ranging from 1 (*Definitely disagree*) to 5 (*Definitely agree*). Items include “Most people would consider me good looking” and “I like the way my clothes fit me.” In the original scoring, higher scores indicate more positive body image. For this study, the

scale is reverse scored so higher scores represent greater body dissatisfaction to align with Cohort 1. The scale has yielded adequate internal consistency ($\alpha = .83$) (Cash, Melnyk, & Hraboski, 2004). This scale also yielded adequate internal consistency in the current study across the multiple time points ($\alpha s = .90 - .91$).

Eating Disorder Attitudes. For both cohorts, disordered eating attitudes were assessed with the Eating Attitudes Test-12 (EAT-12; Lavik, Clausen & Pedersen, 1991; see Appendix C), a shortened version of the Eating Attitudes Test-40 (EAT-40; Garner & Garfinkle, 1979), at the Time 1 and Time 3. Respondents rate agreement on a Likert scale ranging from 1 (*Always*) to 6 (*Never*), which was reversed in this current study. Sample items include, “I am preoccupied with the desire to be thinner” and “I vomit after I have eaten.” Responses are recoded such that the most "anorexic" response (always or never depending on the keyed direction) earns a score of 3, the immediately adjacent response a score 2, the next response a 1 and the three choices opposite to the most "anorexic" response receiving no score (0). While the initial Likert scale was reversed in this current study, recoding matched with the initial scale, such that higher scores indicate more “anorexic” tendencies. The scale yields a total score and three subscales: dieting, bulimia, and food preoccupation and oral control. The 12-item scale has demonstrated adequate reliability across studies ($\alpha = .70$) (Kansi, Wichstrom & Bergman, 2003). The EAT-26 had a cut-off indicating a high risk for disordered eating of 20 (Garner, Olmsted, Bohr, & Garfinkel, 1982), similar distinctions yield a cut-off score for the EAT-12 of 9.5. This scale yielded adequate internal consistency in the current study across both time points ($\alpha s = .77 - .84$).

Coping. Coping strategies and styles were assessed with the Brief COPE (Carver, 1997; See Appendix D) at each time point. The Brief COPE is a 28-item scale with 14 two-item subscales: reframing, distraction, instrumental support seeking, active, denial, religion, humor, behavioral disengagement, emotional support seeking, substance use, accepting, planning, blame, and venting emotions. Participants rated their utilization each coping strategy on a 4-point Likert scale from 1 (*I usually don't do this at all*) to 4 (*I usually do this a lot*), with higher scores indicating greater use of a particular coping strategy. Sample items include “I get comfort and understanding from someone” and “I take action to make the situation better.” Three scales, problem-focused coping, active emotional coping, and avoidant coping, were created for this study by combining subscales based on the scoring of Schnider, Elhai, and Gray (2007). These scales have yielded adequate internal reliability ($\alpha = .80 - .88$) in previous research (Schnider et al., 2007) and yielded close to adequate and adequate reliability in current study across time points ($\alpha = .69 - .79$). A social support seeking scale was created for this study according to Gutierrez, Peri, Torres, Caseras, and Valdes (2007) combining the emotional venting, instrumental social support seeking, and emotional support seeking subscales into a single scale. Two items of this scale overlap with problem-focused coping and two items of this scale overlap with active emotional coping. This scale has yielded adequate internal consistency ($\alpha = .82$) in previous research (Gutierrez et al., 2007) and demonstrated adequate internal consistency across time points in the current population ($\alpha = .80 - .83$).

CHAPTER FOUR

RESULTS

Data Preparation

The data were first examined for missing values. Means and totals were computed if a participant responded to at least 80% of the items on a given scale. Totals and means for each coping subscale were calculated at each time point. Total scores and means were calculated for the EAT-12, BD-EDI, and MBSRQ-AS Appearance Evaluation subscale at Time 1 and Time 3. The data were examined for outliers and skewness (Tabachnick & Fidell, 1996). All values, with the exception of Time 2 problem-focused coping, were significantly skewed. A square root transformation was used on all the variables that were positively skewed to correct for the skewness. Given that some variables had a minimum of zero, a constant was added before the square root transformation was completed. Square root transformation with reflection was performed for the negatively skewed variables -- Time 1 problem-focused coping, Time 1 active emotional coping, and Time 2 active emotional coping. For all subsequent analyses with the exception of descriptive analyses, the transformed variables were used.

Descriptive Analyses

Descriptive statistics of all study variables are listed in Table 1. A correlation matrix of each variable is presented in Table 2.

Table 1. Descriptive Statistics for Each Measure

	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>α</i>	<i>N</i>
BMI	22.99	4.42	15.58 - 49.49	--	800
Body Image					
T1 BD-EDI	8.21	6.87	0 - 27	.90	332
T1 MBSRQ-AS	18.65	5.77	7 - 35	.90	474
T3 BD-EDI	8.89	6.85	0 - 27	.89	325
T3 MBSRQ-AS	19.41	6.16	7 - 35	.91	471
Eating Attitudes					
T1 Eating Attitudes	3.55	4.53	0 - 36	.77	809
T3 Eating Attitudes	4.40	5.44	0 - 36	.84	805
Coping					
T1 Problem-Focused	22.42	4.28	8 - 32	.77	809
T1 Active Emotional	27.13	4.49	10 - 40	.69	808
T1 Avoidant	18.93	4.03	10 - 40	.73	809
T1 Help-Seeking	16.62	3.76	6 - 24	.80	807
T2 Problem-Focused	21.74	4.41	8 - 32	.79	804
T2 Active Emotional	26.56	4.70	10 - 40	.74	805
T2 Avoidant	19.44	4.39	10 - 40	.76	806
T2 Help-Seeking	16.22	3.92	6 - 24	.83	804

Note. BD-EDI = Body Dissatisfaction Subscale of the Eating Disorders Inventory, MBSRQ-AS = Appearance Evaluation subscale of the Multidimensional Body-Self Relations Questionnaire-Appearance Scales, EAT = Eating Attitudes Test

Table 2. Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. BMI	--												
2. T1 BD-EDI	.51**	--											
3. T1 MBSRQ-AS	.41**	n/a	--										
4. T1 Eating Attitudes	.04	.53**	.40**	--									
5. T1 Problem-focused	-.02	-.16**	-.25**	-.04	--								
6. T1 Active Emotional	.02	-.18*	-.19**	.04	.62**	--							
7. T1 Avoidant	.02	.22**	.24**	.36**	-.04	.11**	--						
8. T1 Social Support Seeking	-.03	-.12*	-.15**	.04	.64**	.68**	.09*	--					
9. T2 Problem-focused	-.06	-.13*	-.23**	-.03	.63**	.39**	-.13**	.41**	--				
10. T2 Active Emotional	.03	-.12*	-.12**	.04	.38**	.51**	-.03	.38**	.66**	--			
11. T2 Avoidant	.04	.27**	.28**	.32**	-.05	.06	.56**	.06	-.04	.14**	--		
12. T2 Social Support Seeking	-.04	-.09	-.15**	.02	.41**	.39**	-.06	.58**	.68**	.72**	.09*	--	
13. T3 Eating Attitudes	.08*	.44**	.29**	.62**	-.07	.01	.25**	-.02	-.06	.00	.31**	-.01	--

Note. All correlations are among untransformed variables.

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

Correlational analyses revealed a significant positive relation between Time 3 eating attitudes and BMI at Time 1, body dissatisfaction at Time 1, and eating attitudes at Time 1. For correlations between all variables of interest, see Table 2.

Changes in Body Image and Eating Attitudes over the First Year of College

To test Hypothesis 1, that body dissatisfaction and disordered eating attitudes would increase across the first year of college, paired samples t -tests (from Time 1 to Time 3) were conducted for body dissatisfaction, separately by cohort, and disordered eating attitudes, across both cohorts. Supporting this hypothesis, results indicated that body dissatisfaction measured with the BD-EDI increased significantly over the year, $t(320) = -2.81, p = .005$, as did body dissatisfaction measured with the MBSRQ-AS,

$t(469) = -3.47, p = .001$. Also supporting the hypothesis, disordered eating attitudes increased significantly over the first year of college, $t(802) = -4.89, p < .001$ (see Figure 4).

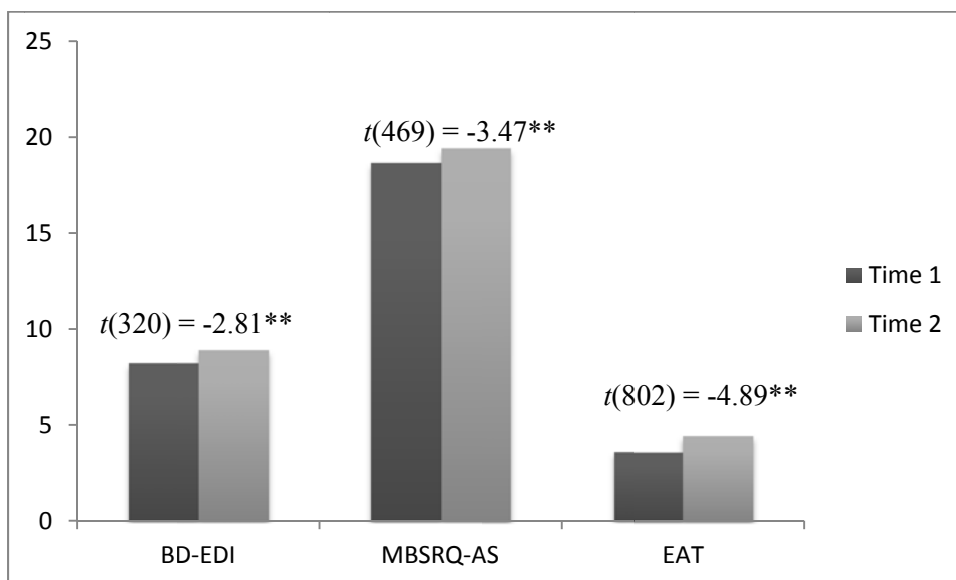


Figure 6. Body dissatisfaction and disordered eating attitudes over time
* $p < .05$, ** $p < .01$

While 9.5% ($N = 77$) of the sample met the cut-off for high risk of disordered eating at the baseline assessment, 15.2% ($N = 111$) of the sample met the cut-off for high risk at the end of the first year. The number of people meeting this cut-off was significantly higher during the second semester, $\chi(1) = 6.15, p = .013$. For comparisons of frequencies of scores, see Figure 5.

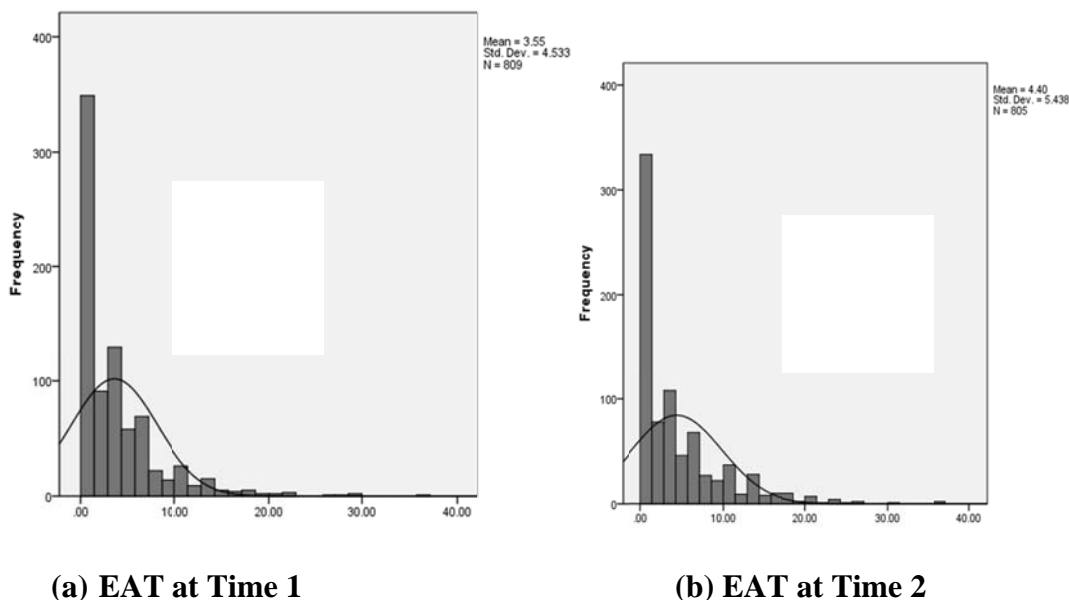


Figure 7. Histograms of EAT total scores at Time 1 and Time 2

Body Image and Disordered Eating Attitudes

To test Hypothesis 2, that body dissatisfaction at Time 1 would predict disordered eating attitudes at Time 3, a linear regression analysis was performed using body dissatisfaction at Time 1 as the predictor variable and eating attitudes at Time 3 as the outcome variable, adjusting for eating attitudes and BMI at Time 1. Separate regression analyses were used to examine relations between body dissatisfaction at Time 1 (using the two different measures from the two cohorts) and eating attitudes at Time 3. In regression analyses, β values for individual predictors were examined, using Cohen's (1988) standards for small ($\beta \geq 0.1$), medium ($\beta \geq 0.3$), and large ($\beta \geq .5$) effects. Marginal statistical effects were noted if they met the standards for a small or larger effect.

Analyses revealed that in Cohort 1, there was a significant, small main effect of body dissatisfaction (BD-EDI), $B = .20$, $\beta = .23$, $t(324) = 4.43$, $p < .001$, on disordered

eating attitudes at Time 3 when controlling for previous levels of disordered eating attitudes and BMI at Time 1. Similarly, in Cohort 2, there was a significant, small main effect of body dissatisfaction (MBSRQ-AS), $B = .12$, $\beta = .08$, $t(468) = 1.99$, $p = .048$, on disordered eating attitudes at Time 3 when controlling for previous levels of disordered eating attitudes and BMI at Time 1. This suggests that greater body dissatisfaction before entering college predicted greater disordered eating attitudes at the end of the first year, when controlling for initial eating attitudes and body mass index. This relation held for both cohorts, with two different measures of body dissatisfaction. The standardized regression coefficients indicate that in Cohort 1, the BD-EDI predicted disordered eating more strongly (2.88 times) than in Cohort 2, with the MBSRQ-AS.

Body Image, Coping Strategies, and Disordered Eating Attitudes

To examine if various coping strategies at Time 1 and Time 2 moderated the relation between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3 hierarchical multiple regressions were conducted (Baron & Kenny, 1986; Holmbeck, 1997, 2002). Separate regression analyses were run for each coping strategy: problem-focused coping, social support seeking, active emotional coping, and avoidant coping. Additionally, for each coping strategy, two separate regression analyses were run testing the effect of that specific strategy at Time 1 and Time 2. Before the regressions were run, the body esteem variables and the four separate coping style variables were centered by subtracting the mean from each specific variable. Interaction terms were computed between body image and each of the specific coping strategies. For all analyses, eating attitudes and BMI at Time 1 were entered in step 1, followed by body dissatisfaction at Time 1 entered in step 2. Each coping variable was entered in their specific regression

analysis at step 3, and the interaction term between body dissatisfaction and coping was entered in step 4. For each regression analysis, disordered eating attitudes at Time 3 was the dependent variable. When significant interactions were detected, post-hoc probing via tests of simple slopes was conducted. Overall, 16 separate regression analyses were tested.

Problem-focused coping. Multiple regressions examining the moderating effect of problem-focused coping at Time 1 and Time 2 were run separately for each cohort as different body dissatisfaction measures were used for Cohort 1 and 2.

Cohort 1. Analyses revealed a marginally significant, small main effect of problem-focused coping at the beginning of the first year of college on disordered eating attitudes at the end of the first year of college, $B = .13, \beta = .09, t(314) = 1.90, p = .058$, for Cohort 1. This suggests that greater use of problem-focused coping before starting college was marginally associated with greater disordered eating attitudes at the end of the first year when controlling for disordered eating and BMI at the start of the first year. There was not a significant interaction between body dissatisfaction and problem-focused coping, $B = .06, \beta = .05, t(314) = 1.13, p = .258$, indicating that problem-focused coping at Time 1 did not moderate the relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3 for Cohort 1.

There was a small, significant main effect of problem-focused coping at Time 2 on disordered eating at Time 3, $B = -.03, \beta = -.12, t(309) = -2.61, p = .010$, but not a significant interaction between body dissatisfaction and problem-focused coping at Time 2, $B = -.01, \beta = -.03, t(309) = -.56, p = .579$. These results indicate that while greater use of problem-focused coping at the end of the first semester predicted fewer eating disorder

symptoms at the end of the first year of college for Cohort 1, greater or lesser use of problem-focused coping did not affect the relationship between body dissatisfaction and disordered eating across the first year of college.

Cohort 2. Analyses did not reveal a significant main effect of problem-focused coping at the beginning of college on disordered eating attitudes at the end of the first year of college, $B = .01$, $\beta = .01$, $t(460) = .16$, $p = .875$, nor a significant interaction between body dissatisfaction and problem-focused coping, $B = -.10$, $\beta = -.04$, $t(460) = -1.19$, $p = .237$, for Cohort 2. This suggests that greater use of problem-focused coping before starting college was not associated with disordered eating attitudes at the end of the first year when controlling for disordered eating and BMI at the start of college for Cohort 2, and that problem-focused coping at Time 1 did not moderate the relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3.

Additionally for Cohort 2, problem-focused coping at Time 2 was not a significant predictor of disordered eating at Time 3, $B = .00$, $\beta = .02$, $t(459) = .52$, $p = .60$, nor was there a significant interaction between body dissatisfaction and problem-focused coping at Time 2, $B = .01$, $\beta = .04$, $t(459) = 1.23$, $p = .218$. These results indicate that problem-focused coping at Time 2 was not related to disordered eating at the end of the first year of college, nor did it moderate the relationship between body dissatisfaction and disordered eating for Cohort 2.

Active emotional coping. Multiple regressions examining the moderating effect of active emotional coping at Time 1 and Time 2 were run separately for each cohort as different body dissatisfaction measures were used for Cohort 1 and 2.

Cohort 1. Analyses revealed a nonsignificant main effect of active emotional coping at the beginning of college on disordered eating attitudes at the end of the first year of college, $B = .08$, $\beta = .05$, $t(314) = 1.03$, $p = .302$, and a nonsignificant interaction between body dissatisfaction and active emotional coping, $B = .06$, $\beta = .04$, $t(314) = .95$, $p = .342$, for Cohort 1. This suggests that greater or lesser use of problem-focused coping before starting college was not associated with disordered eating attitudes at the end of the first year when controlling for disordered eating and BMI at the start of college. Additionally, these results indicate that for Cohort 1, active emotional coping at Time 1 did not moderate the relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3.

For Cohort 1, active emotional coping at Time 2 was a marginally significant predictor of disordered eating at Time 3, $B = .15$, $\beta = .09$, $t(310) = 1.75$, indicating a trend that greater use of active emotional coping during at the end of the first semester of college predicts greater disordered eating attitudes at the end of the second semester. Analyses revealed a nonsignificant interaction between body dissatisfaction and active emotional coping, $B = .04$, $\beta = .03$, $t(310) = .57$, $p = .572$. This suggests that active emotional coping does not moderate the relationship between body dissatisfaction and disordered eating.

Cohort 2. Analyses revealed a nonsignificant main effect of active emotional coping at the start of college on disordered eating attitudes at the end of the first year of college, $B = -.02$, $\beta = -.02$, $t(459) = -.40$, $p = .691$, and a nonsignificant interaction between body dissatisfaction and active emotional coping, $B = .02$, $\beta = .01$, $t(459) = .24$, $p = .812$, for Cohort 2. This suggests that greater use of active emotional coping before

starting college was not associated with disordered eating attitudes at the end of the first year for Cohort 2, and that active emotional coping at the start of college did not moderate the relationship between body dissatisfaction at beginning of the first year and disordered eating attitudes at the end of the first year.

Additionally for Cohort 2, active emotional coping at Time 2 was not a significant predictor of disordered eating at Time 3, $B = -.05$, $\beta = -.01$, $t(459) = -.89$, $p = .375$, nor was there a significant interaction between body dissatisfaction and active emotional coping at Time 2, $B = -.03$, $\beta = -.01$, $t(459) = -.38$, $p = .71$. These results indicate that for Cohort 2, active emotional coping at Time 2 was not related to disordered eating at the end of the first year of college, nor did it moderate the relationship between body dissatisfaction and disordered eating.

Avoidant coping. Multiple regressions examining the moderating effect of avoidant coping at Time 1 and Time 2 were run separately for each cohort as different body dissatisfaction measures were used for Cohort 1 and 2.

Cohort 1. There was not a significant main effect of avoidant coping at Time 1 on disordered eating attitudes at the end of the first year of college, $B = -.03$, $\beta = -.01$, $t(314) = -.25$, $p = .806$, nor a significant interaction between body dissatisfaction and avoidant coping, $B = .11$, $\beta = .06$, $t(314) = 1.24$, $p = .217$. This suggests that for Cohort 1, avoidant coping at Time 1 was not associated with disordered eating attitudes at Time 3 when controlling for disordered eating and BMI at Time 1, and that avoidant coping at Time 1 did not moderate the relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3.

Analyses indicated a significant, small main effect of avoidant coping at Time 2 on disordered eating at Time 3, $B = .31, \beta = .14, t(311) = 2.98, p = .003$, but not a significant interaction between body dissatisfaction and avoidant coping, $B = -.01, \beta = -.00, t(311) = -.05, p = .957$. These results indicate that while greater use of avoidant coping at the end of the first semester of college predicted greater eating disorder symptoms at the end of the first year of college, avoidant coping during this time did not moderate the relationship between body dissatisfaction at baseline and disordered eating at the end of the first year of college for Cohort 1.

Cohort 2. There was a nonsignificant main effect of avoidant coping at the start of college on disordered eating attitudes at the end of the first year of college, $B = .12, \beta = .05, t(460) = 1.33, p = .185$, and a nonsignificant interaction between body dissatisfaction and avoidant coping, $B = .18, \beta = .06, t(460) = 1.55, p = .121$, for Cohort 2. This suggests that avoidant coping at Time 1 was not associated with disordered eating attitudes at Time 3 for Cohort 2, and that avoidant coping at Time 1 did not moderate the relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3.

However for Cohort 2, there was a significant, small main effect of avoidant coping at Time 2 on disordered eating at Time 3, $B = .23, \beta = .11, t(459) = 2.94, p = .003$, indicating that greater use of avoidant coping at the end of the first semester significantly predicted greater disordered eating at the end of the second semester of college. The interaction between body dissatisfaction and active emotional coping at Time 2 was not significant, $B = .13, \beta = .04, t(459) = 1.24, p = .217$. These results indicate that for Cohort 2, avoidant coping at the end of the first semester was related to disordered eating at the

end of the first year of college, but it did not moderate the relationship between body dissatisfaction and disordered eating.

Social support seeking. Multiple regressions examining the moderating effect of social support seeking at Time 1 and Time 2 were run separately for each cohort as different body dissatisfaction measures were used for Cohort 1 and 2.

Cohort 1. Analyses revealed a nonsignificant main effect of social support seeking at the start of college on disordered eating attitudes at the end of the first year of college, $B = .04$, $\beta = .03$, $t(314) = .61$, $p = .546$, and a nonsignificant interaction between body dissatisfaction and social support seeking, $B = .01$, $\beta = .00$, $t(314) = .08$, $p = .937$. This suggests that social support seeking before starting college was not associated with disordered eating attitudes at the end of the first year when controlling for disordered eating and BMI at the start of college, and that social support seeking at Time 1 did not moderate the relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3.

In testing the effect of social support seeking at Time 2 for Cohort 1, analyses revealed a nonsignificant main effect of social support seeking at Time 2, $B = .07$, $\beta = .04$, $t(310) = .91$, $p = .362$, and a non-significant interaction between body dissatisfaction and social support seeking, $B = .03$, $\beta = .03$, $t(310) = .50$, $p = .617$. These results indicate that social support seeking at the end of the first semester was not related to disordered eating at the end of the first year of college nor did it moderate the relationship between body dissatisfaction at the outset of college and disordered eating at the end of the first year for Cohort 1.

Cohort 2. Analyses revealed a nonsignificant main effect of social support seeking at the start of college on disordered eating attitudes at the end of the first year of college, $B = .06$, $\beta = .04$, $t(458) = 1.05$, $p = .294$, and a nonsignificant interaction between body dissatisfaction and social support seeking, $B = -.12$, $\beta = -.05$, $t(458) = -1.52$, $p = .131$. This suggests that social support seeking measured before starting college was not associated with disordered eating attitudes at the end of the first year for Cohort 2, and that social support seeking at Time 1 did not moderate the relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3.

Additionally for Cohort 2, social support seeking at Time 2 also was not a significant predictor of disordered eating at Time 3, $B = -.01$, $\beta = -.01$, $t(458) = -.21$, $p = .833$, nor was there a significant interaction between body dissatisfaction and active emotional coping at Time 2, $B = -.12$, $\beta = -.05$, $t(458) = -1.54$, $p = .12$. These results indicate that for Cohort 2, social support seeking at the end of the first semester was not related to disordered eating at the end of the first year of college, nor did it moderate the relationship between body dissatisfaction and disordered eating.

Summary. Thus, Hypotheses 3 and 4 were not supported as neither adaptive (problem-focused coping or social support seeking) or maladaptive coping styles (active emotional coping or avoidant coping) as measured at Time 1 or Time 2 moderated the significant predictive relationship between body dissatisfaction at Time 1 and disordered eating attitudes at Time 3, when adjusting for disordered eating attitudes and BMI at Time 1.

Comparing Cohort 1 and Cohort 2

As indicated in Hypothesis 5, it was expected that the relationship between coping, body dissatisfaction, and disordered eating would be similar across cohorts. Across analyses in both cohorts, there were no significant moderators. However, comparing standardized regression coefficients of the two separate body dissatisfaction measures, revealed that the BD-EDI is a stronger predictor (2.88 times) of disordered eating than the MBSRQ-AS. While the body-part specific measure used in Cohort 1 was more predictive of disordered eating than the more global body image measure used in Cohort 2, both measures of body image significantly predicted later disordered eating. Relations between coping styles and disordered eating did differ across cohorts such that Cohort 1 demonstrated a significant, small main effect of problem-focused coping at Time 2, while Cohort 2 demonstrated no significant relation. Additionally, active emotional coping at Time 2 had a marginally significant main effect for Cohort 1, but was not significant for Cohort 2. However, both effects were null effects. All other findings were similar across cohorts.

Comparing Time Points

Hypothesis 6 suggested that the strongest relationships would be present when coping was assessed at Time 2, as coping can be compromised during stressful experiences, such as the college transition. Although there were no significant moderation effects, there were differences across time for the main effects of certain coping styles on disordered eating. While Cohort 1 demonstrated a non-significant main effect of problem-focused coping at Time 1, the effect was significant when problem-focused coping was assessed at Time 2. Additionally, Cohort 1 demonstrated a

nonsignificant effect of active emotional coping at Time 1, but a marginally significant effect at Time 2. For avoidant coping, both cohorts revealed a nonsignificant main effect when avoidant coping was measured at Time 1, but a significant effect of avoidant coping when measured at Time 2. Social support seeking was non-significant at each time point. Averaging all findings across time points, both significant and non-significant, the relations (betas) between Time 2 coping variables and disordered eating attitudes at Time 3 were 2.6 times stronger on average than relations between Time 1 coping variables and disordered eating at Time 3.

CHAPTER FIVE

DISCUSSION

This study extends previous research by considering the complex inter-relationships among body dissatisfaction, various coping strategies, and disordered eating. The transition to college is associated with increased stress that can put students at an increased risk for mental health problems (Fisher & Hood, 1987), including disordered eating (Sassaroli & Ruggiero, 2005; Striegel-Moore et al., 1986). It is important to consider potential risk and protective factors, especially those that may be developed or improved through intervention, to create successful treatments and prevention programs, specifically in the collegiate environment where women are at an increased risk for body image struggles and disordered eating (Heatherton et al., 1995; Sassaroli & Ruggiero, 2005; Striegel-Moore et al., 1986; Thelen et al., 1987). Additionally, examining longitudinal factors that predict disordered eating can help identify those who might be at risk for eating pathology.

This study demonstrates that body dissatisfaction prior to entering college is an important predictor of whether one develops disordered eating by the end of the first year of college. While past research has identified links between coping and disordered eating, this study expands the current literature by considering complex relationships between coping, eating pathology, and body image. In this study, various coping strategies, specifically problem-focused coping and avoidance coping, during the first semester of college were significant predictors of later disordered eating. However, none of the

coping strategies moderated the relationship between body dissatisfaction and disordered eating, indicating that while coping may predict whether one develops disordered eating, using specific coping strategies does not moderate or change the relation between body dissatisfaction and disordered eating. This might suggest that the relationship between body dissatisfaction and disordered eating is strong and is not affected by how one handles stress for many college-age women. This study supports the notion that the first year of college is a critical juncture for the development of disordered eating and indicates potential avenues for prevention and intervention efforts with college-age women.

Body Dissatisfaction and Disordered Eating Across the Transition to College

The transition to college is marked by increased personal and academic exploration, shifts in context and social environments, and an increased risk for mental health struggles (Arnett, 2000; Aseltine & Gore, 1993; Schulenberg et al., 2004; Schulenberg & Zarrett, 2006). The multitude of changes causes an increase in stress across multiple domains (Abouserie, 1994; Brougham et al., 2009; D’Zurilla & Sheedy, 1991; Dusselier et al., 2005; Dyson & Renk, 2006; Sax, 1997; Towbes & Cohen, 1996), which can act as a trigger for disordered eating (Slade, 1982).

The transition to adulthood and to college is viewed as a key risk period for the development of disordered eating (Heatherton et al., 1995; Smolak & Levine, 1996; Striegel-Moore et al., 1986). In this study, both body dissatisfaction and disordered eating increased significantly from pre-college to the end of the first year of college, suggesting that some aspect of the college transition is related to increased body image struggles and eating pathology. While this contradicts recent findings that demonstrated rather stable

body image across the first year of college (Gillen & Lefkowitz, 2012), it supports other research that has demonstrated that college represents a critical time for body image struggles (Heatherton et al., 1995; Mintz & Betz, 1988; Striegel-Moore et al., 1986). While under 10% of pre-college women reported high-risk eating behaviors in this study, over 15% reported engaging in high risk eating behaviors by the end of the first year of college. The findings in this study clearly support that the transition across the first year of college is associated with an increase in both body dissatisfaction and disordered eating.

There are many elements associated with the college transition that might promote increases in body dissatisfaction and disordered eating. Stress has been shown to increase disordered eating behaviors (Sassaroli & Ruggiero, 2005; Slade, 1982). Thus, given that the transition to college is linked to increases in stress across multiple domains (Cooley & Toray, 1996), eating pathology may provide college-age women with a means of gaining control during a time that is otherwise characterized by change and stress. Additionally, the changes in roles and emphasis on achievement that can often accompany the college transition, as correlates of disordered eating (Rosen, Compas, & Tacy, 1993; Striegel-Moore et al., 1986), may interact with other stressors to promote an environment in which college-age women use disordered eating to demonstrate their own efficacy. Further, these increased stressors and new and difficult experiences occur as women are first given control over their meals, including how, when, and what they eat (Delinsky & Wilson, 2008; Vohs et al., 2001). Other researchers have posited that eating disorders are viewed as a “grown up” normative behavior for women based on limited and incorrect expectations that these are behaviors that adult women engage in

(Neumark-Sztainer, Levine, Paxton, Smolak, Piran, & Wertheim, 2006). Additionally, college-age women often live in close proximity with multiple other women in residence halls or sororities which might encourage discussing and sharing negative body-related feelings (Basow, Foran, & Bookwala, 2007; Gillen & Lefkowitz, 2012). Future research should continue to identify aspects of the college transition that might put college-age women at an increased risk for developing poor body image and disordered eating.

Body Image as a Salient Predictor of Disordered Eating

Research, both concurrent and longitudinal, has supported body image as a critical etiological factor in the development of clinical and subclinical eating pathology and maladaptive eating attitudes (Altabe & Thompson, 1992; Attie & Brooks-Gunn, 1989; Ball & Lee, 2001; Cooley & Toray, 1996; Lawrence & Thelen, 1995; Stice et al., 1998; Thompson et al., 1995). Previous research has indicated that the transition to college might be an especially risky time for women in terms of how they feel about their body and the health of their eating habits (Delinsky & Wilson, 2008) and that as body image worsened over the first year of college, disordered eating increased (Striegel-Moore et al., 1990). This study adds to the robust literature by demonstrating that body dissatisfaction before entering college predicted disordered eating attitudes at the end of the first year of college, net pre-college eating symptomatology and pre-college BMI.

However, it is important to note that the effect of body dissatisfaction on disordered eating was quite small. Others have reasoned that it is not body esteem alone that is predictive of disordered eating, but body esteem and the degree to which self-esteem is related to shape and weight (Geller et al., 1998). Thus, it is possible that in this sample, while many might have been affected by lower body esteem, it was not related to

disordered eating because these college-age women were basing their self-esteem on various other aspects of the self. Further, while it might have become normative to struggle with body esteem as has been seen throughout the literature (Delene & Brogowicz, 1990), disordered eating remains less prevalent. While previous studies have indicated that body dissatisfaction is one of the strongest predictors of changes in eating disorder symptomatology (Cooley & Toray, 1996), this study demonstrates that the effect of body dissatisfaction on disordered eating is small, supporting the understanding that disordered eating is multi-faceted and results from a confluence of experiences and variables, rather than a single predictor (Cooley & Toray, 1996; Ghaderi & Scott, 2000). Thus, future research considering the development of disordered eating in a college context should examine multiple variables, both situational and individual, that might promote or discourage the development of disordered eating in this at-risk population.

This study also examined two different measures of body dissatisfaction and their relation to disordered eating. Results from this study suggest that body dissatisfaction remained a significant predictor of later eating attitudes regardless of whether the measure used was body-part specific or represented a global sense of one's body. Thus, women who struggle with concerns about specific body parts and women who view their overall body in a negative manner are at risk for disordered eating. While some might view a singular body part concern as less salient in predicting disordered eating than more global body concerns, it appears that both should be recognized as risk factors for eating disorder symptomatology. This study supports prior researchers that have demonstrated that while body image measures often purport to measure qualitatively different aspects of body image, they actually measure a similar underlying construct

(Stormer & Thompson, 1995; Thompson, Altabe, Johnson, & Stormer, 1994). Thus, future research should continue to examine the differences in various measures of body image to see if they are qualitatively different in their relation to disordered eating.

Coping Strategies and Disordered Eating

Coping determines one's affective responses to stressful situations (Compas, 2006; Lazarus, 1999) and is related to psychological and physical well-being (Aldwin & Revenson, 1987). While some researchers have suggested that eating disorders may be an outcome of maladaptive coping in the face of high stress (Ball & Lee, 2000), the current study examined the potential moderating role of both adaptive and maladaptive coping strategies on the relationship between body image and disordered eating. Results indicate that while certain coping styles were related to disordered eating, none of the specific coping styles examined in this study moderated the relationship between body image and disordered eating. This potentially suggests that body image should not be conceptualized as a stressor as some researchers have suggested (Cash, 2002; Cash et al., 2005; Hawkins & Clement, 1984). Rather body image should be conceptualized as a specific risk factor for disordered eating that is not managed through coping and requires other specific strategies to combat the negative feelings associated with body dissatisfaction. This further supports the understanding that body image is a salient risk factor and robust predictor of disordered eating (Altabe & Thompson, 1992; Cooley & Toray, 1996; Lawrence & Thelen, 1995; Thompson et al., 1995). Future studies should consider if there are specific factors that do weaken or moderate the relation between body image and eating symptomatology to identify specific protective factors that might be useful for prevention and intervention efforts.

While neither the adaptive or maladaptive coping strategies moderated the relation between body image and disordered eating, this study indicates that certain coping strategies predicted the development of disordered eating. Previous research has been mixed with some researchers demonstrating significant relationships between specific coping styles and disordered eating (for example, Bloks et al., 2001; Troop et al., 1997), while others found little or no difference in coping styles between those with and without disordered eating (for example, Janzen et al., 1992; Mayhew & Edlman, 1989; Neckowitz & Morrison, 1991). This study examined the effect of four specific coping styles and their relation to later disordered eating.

Previous research examining the relationship between disordered eating and problem-focused coping, emotion-focused coping, avoidant coping, and social support seeking has been mixed. While some research has demonstrated that women with eating disorders are more likely to use typically maladaptive strategies and less likely to use adaptive coping means (Mayhew & Edelman, 1989; Shatford & Evans, 1986; Troop et al., 1994), others have demonstrated that there is no difference in problem-focused coping (Neckowitz & Morrison, 1991), avoidant coping (Neckowitz & Morrison, 1991), or emotion-focused coping (VanBoven & Espelage, 2006) for those with and without significant eating concerns. However, limited research has considered if specific coping strategies predict the development of disordered eating pathology.

This study indicates that problem-focused coping at the middle of the first year of college was associated with disordered eating at the end of college. Given that stress often precipitates the development of disordered eating (Sassaroli & Ruggiero, 2005), managing the stress associated with the transition to college in an adaptive manner may

help protect against developing later eating pathology. This supports previous research that has demonstrated that those who suffer from eating disorders are less likely to use problem-focused coping strategies (Janzen et al., 1992; Soukup et al., 1990) while contradicting other research that has found reduced rates of problem-focused coping in eating disorder populations (Neckowitz & Morrison, 1991). However, it is important to note that findings from this study were also mixed as only one of the cohorts of students demonstrated a significant relationship between disordered eating and problem-focused coping. Future studies should continue to tease apart the complicated relationship between this coping strategy and the development of eating pathology.

This study indicated that neither emotion-focused coping nor social support seeking moderated the relation between body image and disordered eating, or were predictive of later disordered eating. This contradicts prior research that demonstrated that those suffering from disordered eating were more likely to use these maladaptive strategies (Koff & Sangani, 1997; Troop et al., 1994). While this previous research has examined differences between clinical and non-clinical populations, this study considered if these specific coping styles longitudinally predicted later disordered eating in a broader population of emerging adults. Thus, while those who are already suffering from clinically significant disordered eating might develop differences in coping, it does not appear that these differences in coping precipitate the development of disordered eating. However, given that other studies have identified differences between clinical and non-clinical populations (Koff & Sangani, 1997; Troop et al., 1994), decreasing these potentially maladaptive coping styles and increasing adaptive coping styles may be a necessary component of long-term treatment. Overall, the mixed findings related to

emotion-focused coping and social support seeking suggest the need for continued research that considers the relationship between a wide variety of different coping strategies and the development, maintenance, and treatment of disordered eating.

This study also indicates that avoidant coping at the middle of the first year of college was a significant predictor of disordered eating at the end of the first year of college. This supports a significant amount of research that has indicated that avoidant coping is a particularly salient component of eating symptomatology (Bloks et al., 2001; Nagata et al., 2000; Neckowitz & Morrison, 1991; Soukup et al., 1990; Troop et al., 1998; Troop et al., 1994; Yager, Rorty, & Rossotto, 1995). This study expands on these previous findings by demonstrating that engaging in avoidant coping is not just more likely among clinical populations, but actually a significant risk factor for the development of eating pathology in college-age women. Avoidant coping, which includes efforts to deny or distract oneself from a stressful occurrence (Tobin, Holroyd, Reynolds, & Wigal, 1989), may promote greater feelings of stress, which in turn predicts disordered eating (Sassaroli & Ruggiero, 2005). Future studies should examine if the relationship between avoidant coping is mediated by the experience of increased stress. Additionally, counselors and practitioners should consider the impact of continued avoidant coping in the treatment and prevention of disordered eating.

In this study, coping strategies used at various time points across the college transition were examined for their relation with disordered eating. While avoidant coping and problem-focused coping at the middle of the year predicted later disorder eating, neither of these coping strategies were significant predictors when measured at the cusp of college entry. Given the changes that occur across the college transition and increases

in stress that are associated with the college transition (Brougham et al., 2009; Cooley & Toray, 1996; D’Zurilla & Sheedy, 1991; Dusselier et al., 2005; Dyson & Renk, 2006; Sax, 1997; Towbes & Cohen, 1996), it is possible that the coping strategies that one uses during times of greater stress, during the actual transition, are more significantly related to the development of disordered eating. Also, coping strategies can change depending on the context (Aldwin & Revenson, 1987), and as students transition to college, they may develop different, more college-context specific coping factors that put them at a greater or lesser risk for disordered eating. Research should continue seeking to understand the complicated relationship between coping and eating symptomatology across difficult life transitions. Additionally, research should consider if coping could play an important role in the treatment of disordered eating especially as some researchers have identified adaptive coping as a means to promote recovery (Troop et al., 1994; Yager et al., 1995). Ultimately, this study supports a complicated relationship between coping and the development of disordered eating that prompts the need for continued research in the area.

Limitations

This study answered the call for increased research related to coping and the development of disordered eating (Ball & Lee, 2000; Cash et al., 2005; Ghaderi & Scott, 2000) and built on past research by using a broad sample with a continuum of disordered eating symptomatology, considering the development of eating pathology across an important life transition, examining more complex models, and exploring factors longitudinally to allow for models of prediction and risk. This study has a few limitations that could guide future research. This study was comprised of self-report measures

related to body image, coping, and disordered eating. Combining these types of measures with observations, medical and mental health records, and more complex forms of assessment would help solidify and support the findings.

There are some specific limitations related to measurement in this study. First, while the Eating Attitudes Test 12-item version has been validated (Kansi, Wichstrom & Bergman, 2003), it is not commonly used, and a more common, more diagnostic measure might increase the validity of these findings. Second, the subscales of coping that were used contained overlapping items indicating that while these strategies were discussed as distinct constructs, they might have been measuring similar styles of coping. While the goal of this study was to consider coping as a broad factor, it is possible that measuring coping as a broad construct, rather than body-specific coping, may have reduced the chance to demonstrate the potential moderating role of coping. Coping with body dissatisfaction might involve different conceptualizations and different strategies. For instance, avoidant coping in relation to this particular stressor may involve very specific behaviors (e.g. not weighing oneself or refusing to go shopping where one would encounter size measurement). Future research examining the complex interrelation among body image, coping, and disordered eating might consider use of body specific coping measures (e.g. The Body Image Coping Strategies Inventory (BICSI; Cash et al., 2005)).

While this study focused on women and a non-clinical population, future studies should incorporate male college students and examine these features across non-clinical and clinical college student populations. Further, the results in this study should be interpreted with caution, as the sample was younger, less ethnically diverse, and

demonstrated higher academic achievement than the overall population from which it was drawn. Thus, these results might represent a specific group of female college students and might not be generalizable to more diverse populations of college students. Examining multiple cohorts of students across multiple time points allowed for a more complex understanding of these features across time. However, given differences between the cohorts, some of the findings became difficult to interpret. One important feature to note is that body image and disordered eating were measured at the end of the first year of college but not during the middle of the first year, when students are experiencing the most struggles across multiple domains (Kirsch & Conley, 2012). Future research should consider how the immediate transition contributes to eating pathology and identify whether there are supports that could be put in place to help students manage the transition and decrease the potential for disordered eating.

Implications

This study supports the worrying reality that body dissatisfaction and disordered eating are common occurrences for college-age women. As disordered eating is associated with significant medical risks, including death, and represents a significant public health concern (Garner et al., 1983; Keel, Dorer, Eddy, Franko, Charatan, & Herzog, 2003; Park, 2007), it is imperative that research continues to identify predictors and mechanisms for treatment and intervention. This study supports the idea that treatments and interventions need to be focused on eating disorder-specific risk factors (Neumark-Sztainer et al., 2006), such as body esteem, which was shown to be a salient predictor of disordered eating across the college transition. Additionally, the few significant effects in this study support the integration of teaching positive coping

techniques and discouraging maladaptive coping styles as a way to prevent the development of disordered eating. Identifying situations and aspects of the college environment that promote negative body image and disordered eating can be important areas for education and prevention for college-age women. Further, this study indicates the importance of understanding and examining coping, as well as body image, in the treatment and prevention of disordered eating.

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VITA

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