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past, present, and future : a project based upon an independent  
investigation**

Colleen Louise Roos  
*Smith College*

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Colleen L. Roos  
Eating Disorder Prevention  
For the College-Age Female  
Population: Past, Present, and  
Future

## ABSTRACT

The focus of this theoretical study is to examine, classify, and compare different eating disorder prevention/intervention programs used thus far for college-age females using two different theoretical frameworks: the Cognitive Behavioral model and the Sociocultural model. The prevalence and effects of eating disorder behaviors will be addressed. Strengths and weaknesses of each of the already developed programs will be addressed using these two theoretical models. Additionally, different factors/variables will be analyzed that have been found to be associated with eating disorder behaviors within this population. Using the information provided, a prevention program will be proposed that collaborates the strengths discussed of the already developed prevention programs. Moreover, an outline will be given as to how to determine the effectiveness of the proposed program to determine if it is appropriate and effective for the female college-age population.

EATING DISORDER PREVENTION FOR THE COLLEGE-AGE  
FEMALE POPULATION: PAST, PRESENT, AND FUTURE

A project based upon an independent investigation,  
submitted in partial fulfillment of the requirements  
for the degree of Master of Social Work.

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2010

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## CHAPTER 1

### INTRODUCTION

Eight out of every ten women in the United States are dissatisfied with their appearance (Smolak, 1996). In the United States alone, over 10 million females fight a battle with an eating disorder, specifically anorexia nervosa or bulimia, and even more suffer from a binge eating disorder (Crowther et al., 1992; Fairburn et al., 1993; Gordon, 1990; Hoek, 1995; National Eating Disorders Website, June 30, 2009). Many individuals are ashamed of their eating disorder, and thus are secretive, leading researchers to believe that there are many more cases of eating disorders in the United States population (Smolak, 1996). Burgard (January 30, 2009) states, “there is a cultural hostility towards fatness” and that “women across the weight spectrum” are “living in fear of their weight ruining their lives”. In a nationwide study, researchers found that upon surveying 1500 adults, four out of ten people either suffered from or knew someone who suffered from an eating disorder (National Eating Disorders Website, June 30, 2009). In addition, it has been reported that eating disorders have “the highest mortality rate of any mental illness” (Eating Disorder Statistics, 2006). Moreover, other researchers found that anorexia has the highest mortality rate than any other psychological disorder (“Eating Disorders in College Women,” 2009). This is of great concern as fifteen percent of young women in the United States show “considerable disordered eating attitudes and behaviours” (Kirby, June 30, 2009).

Binge Eating/Overeating is another form of eating disturbance. Obesity is thought to be a medical condition and thus should be treated as such (Touster, 2000; Dolamore, 1999). The community that prefers to be called “fat people” is fighting back against the idea that every fat person is unhealthy and needs to go on a diet to lose weight (McAfee & Berg, 2005; Touster, 2000). The goal of this community is to eradicate this bias and teach size acceptance. Instead of teaching people of all ages that diets are necessary, the hope of researchers is that the message instead will be to teach healthy eating and prevent people of all ages from turning to dieting as the answer (Dolamore, 1999; McAfee & Berg, 2005).

#### *Effects of Eating Disorder Behaviors*

Eating disorder behaviors can be dangerous on a variety of levels, from minor discomfort, such as cramps, to life-threatening diseases, and even death. Some of the dangers and diseases associated with eating disorder behaviors include the following: malnutrition, dehydration, electrolyte imbalances, Hyponatremia, Refeeding Syndrome, Lanugo, Edema, Muscle Atrophy, impaired neuromuscular function, tearing of Esophagus, Mallory-Weiss tear, Gastric rupture, Gastrointestinal bleeding, Esophageal Reflux, reflux, Barrett’s Esophagus, Cancer of the throat and Larynx, Insomnia, Chronic Fatigue Syndrome, Hyperactivity, Swelling, Callused or bruised fingers, dry skin and hair, brittle hair and nails, hair loss, low blood pressure (hypotension), Orthostatic Hypotension, high blood pressure (Hypertension), low platelet count or Thrombocytopenia, disruptions in blood sugar levels, Diabetes, Ketoacidosis, Iron deficiency (Anemia), Kidney infection and failure, Osteoporosis, Osteopenia, Arthritis,

TMJ “Syndrome” and related TMJ problems, Amenorrhea, easily bruising skin, dental problems, Decalcification of teeth, erosion of tooth enamel, severe decay, gum disease, Liver failure, bad circulation, slowed or irregular heartbeat, arrhythmias, Angina, heart attacks, infertility, Polycystic Ovarian Syndrome, problems during pregnancy, depression, can lead to suicide, lowered body temperature, cramps, bloating, constipation, diarrhea, incontinence, peptic ulcers, Pancreatitis, digestive difficulties, weakness and fatigue, seizures, and even death (“Dangers Associated with and Diseases Triggered or Caused by Eating Disorder Behaviors,” n.d.). Deficiencies in vitamins, including Vitamin A, Vitamin B Complex, Vitamin B12, Vitamin C, Vitamin D, Vitamin E, Vitamin K, and Folic Acid, are common for individuals struggling with eating disorder behaviors. Mineral deficiencies are also common. Some of these minerals include Calcium, Chromium, Copper, Iodine, Iron, Magnesium, Phosphorous, Potassium, Sodium, Sulfur, and Zinc (“Dangers Associated with and Diseases Triggered or Caused by Eating Disorder Behaviors,” n.d.). It is also important to note that five of those minerals (Calcium, Magnesium, Phosphorous, Potassium, and Sodium) are essential in maintaining an electrolyte balance. A deficiency in any one of these minerals can cause body parts to be affected, as well as the individual experiencing different deficiency symptoms. Needless to say, eating disorder behaviors can cause significant damage to an individual’s physical, emotional, and psychological well being, Moreover, most people lack the knowledge and awareness of the significant consequences of these behaviors.



### *Age Groupings and Prevalence*

Age, specifically age group prevalence, is another factor in eating disorder behaviors that is disputed among researchers. Although information is less available about elderly women in relation to body image, many researchers have found that body dissatisfaction continues throughout the lifespan and is more prevalent in elderly women than the public may think (Ferraro, Paintner, Wasson, Hager, & Hoverson, 2008; Lewis & Cachelin, 2001; Mangweth-Matzek, Rupp, Hausmann, Assmavr, et al., 2006). Some researchers have found that there are no significant differences between age groups based on body distortion, but that body dissatisfaction appeared to increase with age (Guaraldi, Orlandi, Boselli, & Tartoni, 1995). Many factors could contribute to why body dissatisfaction appears to increase with age. Body dissatisfaction and the desire to lose weight could be attributed to health and age concerns (Ferraro, Paintner, Wasson, Hager, & Hoverson, 2008; Lewis & Cachelin, 2001).

Although researchers have found that prevalence of eating disorders decrease with age, some researchers have found that the issues of dieting and weight concerns in adults remain high (French & Jeffery, 1997; Klenn, Klesges, & Mellon, 1990; Wilfley et al., 1996). This finding was also found in women over the age of 64 (Allaz et al., 1998). Moreover, researchers have just begun investigating disordered eating and eating attitudes in middle- or older-aged women, specifically in relation to prevalence, course, and risk factors (Allaz, Bernstein, Rouget, Archinard, & Morabia, 1998; Hay, 1998; Wilfley et al., 1996). More research is needed in this area to determine whether or not elderly women are reporting the need to change their body image based on body dissatisfaction, or if it is based on concerns about health and age-related issues.

Moreover, even though researchers have found that eating disorders decrease with age, specially starting in college-aged women, it does not been that eating disorder behaviors, such as compulsive dieting and overeating behaviors, among many others, are not still significantly prevalent in college-age women and older.

### *Eating Disorder Behaviors Among College-Aged Women*

Researchers at the National Institute of Mental Health conducted a study in 1993, which found that the college-age years, specifically the ages of 17-20, are the most common mean age for the onset of an eating disorder. Moreover, up to 90 percent of individuals suffering from an eating disorder are female (“Eating Disorders in College Women”, 2009). Eating disorders have been found to develop between the ages of twelve and twenty-five more often than not (Gilchrist, 2002). Researchers have found that approximately 64 percent of college women show signs of an eating disorder behavior. Body dissatisfaction and preoccupation with weight loss are prominent concerns for college-aged women, even for those individuals who do not meet the full criteria for an eating disorder. Moreover, behaviors such as using pills or laxatives, starvation, and binge-eating, are common for habits for approximately one third of college women (“Eating Disorders in College Women”, 2009). With the high percentage of this population demonstrating signs of these behaviors, higher education is forced to recognize this issue as a major concern on college campuses (Gilchrist, 2002).

The transition to college for most young women is a significant adjustment. Many of these new adjustments include living away from their family, developing new relationships, coping with the pressures from peers and from academics, taking on a

heightened responsibility for individual eating habits, among many others. These transitions, along with the always-present exposure to sociocultural messages in the media, can be triggers for young women feeling the need to control their weight. Therefore, the focus of eating disorder research should continue on the path of defining risk factors, as well as developing appropriate and effective intervention and prevention programs for this specific population.

### *Research Questions*

Based on the empirical research already completed on eating disorder prevention/intervention programs for college-aged women in the United States, what are the strengths and weaknesses of these programs? Second, what factors need to be addressed in future preventative intervention programs for this population? Finally, what would such a program look like?

### *Theoretical Perspectives*

This project will utilize two different theoretical frameworks in order to classify and compare different eating disorder prevention/intervention programs used thus far for college-aged females. The frameworks that will be utilized are the Cognitive Behavioral model and the Sociocultural model. In using these two models, the hope is that they will aid in determining and classifying the type of prevention/intervention programs being used, as well as offer a different perspective when comparing and contrasting the different programs. Moreover, the hope is also that these two models will offer an

important perspective when determining what an effective prevention/intervention program will look like for college-aged women.

### *Overview of the Following Chapters*

The following Methodology section will map out the method for comparing research on different prevention/intervention programs that have been used with college-aged females to date. Chapter III, the “Theoretical Models for Eating Disorder Prevention/Intervention Programs” section, will review the empirical findings relevant to current intervention programs and the current literature that addresses programs intended for college-aged females in the United States. Moreover, comparisons will be made based on different theoretical frameworks as well as on the strengths and weaknesses of different programs. Chapter IV, the “Prevalent Factors” section, will introduce and discuss different factors that have been found to be associated with eating disorder behaviors. Also, in this chapter, based on the information discussed in the previous chapters, a determination will be made on what type of intervention/prevention program is needed for this specific population. The final chapter, Chapter V, the “A Collaborative Prevention Program and Determining Effectiveness” section, will outline the proposed program and address what must be done in order to determine if the program is appropriate and effective for the given population using the given theoretical frameworks. Moreover, the following questions will also be addresses: What would the program look like? And what should be done in order for it to be successful? The research questions will also be addressed in the final discussion in this chapter. These include: Based on the empirical research already completed on eating disorder prevention/intervention

programs for college-aged women in the United States, what are the strengths and weaknesses of these programs? Moreover, what factors need to be addressed in future prevention/intervention programs for this population? Additionally, what would such a program look like?

## CHAPTER II

### METHODOLOGY

This project will explore the hypothesis that no prevention/intervention program for college-aged females in the United States has been effective in addressing the needs of this specific population. Moreover, many empirically researched programs have individual strengths that can be combined to form an effective prevention/intervention program for college-aged females in the United States, in order to challenge the ever-growing epidemic of eating disorders in the United States. In this project, two different theoretical models will be used to distinguish between different prevention/intervention programs that have been researched thus far, in order to determine the strengths and weaknesses of each. These models are: the Cognitive Behavioral model and the Sociocultural model.

#### *Cognitive Behavioral Model*

In this project, the Cognitive Behavioral model will be used as one framework to distinguish between different prevention/intervention programs. For the purposes of this project, the focus, within this given model, will be on self-control strategies, cognitive dissonance, changing negative self-statements into more positive statements, and also reinforcement through additional behavioral techniques.

Self-control strategies are “cognitive and behavioral skills used by individuals to maintain self-motivation and achieve personal goals” (Self-control strategies, n.d.).

People who “are dissatisfied with a certain aspect of their lives” frequently use self-control strategies. These strategies are often used for a variety of issues, which include addiction concerns. Eating disorders fall into the category of addictions.

Self-control strategies have one focus/goal: “to reduce behavioral deficiencies or behavioral excesses” (Self-control strategies, n.d.). Eating disorders and/or disordered eating behaviors fall into the category of behavioral excesses, because specific behaviors happen in excess, such as bingeing and purging. These are “negative and undesirable” behaviors. According to researchers, the draw of behavioral excesses is the lack of immediate consequence, and the immediate gratification that the individual experiences. When an individual uses laxatives to rid his/her body of food they digested that day, he/she will see immediate results once the laxatives take effect. The negative consequence, the physical effects that frequent laxative use has on the body, is not immediate, nor is it really in the awareness of the given individual.

Cognitive dissonance is a cognitive behavioral intervention. It refers to “the tension that develops when people experience inconsistency in their thoughts, beliefs, attitudes, and/or behavior” (Brehm & Cohen, 1962; Festinger, 1957; Matusek, Wendt, & Wiseman, 2004). This tension may impact individuals by motivating them to alter their “attitudes, beliefs, cognitions, and/or behavior to restore a sense of internal consistency” (Beauvois & Joule, 1999; Matusek, Wendt, & Wiseman, 2004). Stice et al. (2001) developed a cognitive dissonance strategy to address negative body image. The strategy mainly consists of participants working in a small group, and adopting an anti-thin stance voluntarily. Matusek, Wendt, and Wiseman (2004) describe the process as follows: “The underlying assumption is that when women who subscribe to the thin-ideal voluntarily

take a stance against it, they may find themselves faced with a conflict (i.e. cognitive dissonance) between their own internalized acceptance of the thin-ideal (i.e., a belief) and the arguments they generated to counter the cultural pressure to be thin (i.e., behavior). Theoretically, the resulting internal conflict prompts an alteration of their own beliefs about the thin-ideal, which, in turn, results in an improvement in their body image.”

Studies have been conducted recently to test the effectiveness of this newly developed intervention. In various studies, the protocols asked for participants to engage in different discussions and group activities. In one study, researchers had participants talk about the “thin-ideal” and what potential costs were related to pursuing the ideal, discuss the pressures experienced to pursue the ideal, and participate in additional behavioral techniques, such as role-plays, to reinforce those discussions (Beck, Smith, & Ciao, 2005). In another study, participants were asked to stand in front of a mirror and notice/write down positive attributes about themselves (Becker, Smith, & Ciao, 2006). In the studies that focus on cognitive behavioral therapy as an eating disorder prevention intervention, researchers are hoping to change the negative self-statements into more positive statements about the self for the participants, and to reinforce these cognitions through behavioral techniques (Dworkin & Kerr, 1987).

### *Sociocultural Model*

The sociocultural model relates body distortions to the widespread media and the messages that it presents in television, magazines, billboards, and other media outlets. It is grounded on the idea that societal factors, including widespread media, communicate to women, across all ages, that certain body types/attributes are not good enough



(DiNicola, 1990; Harrison & Cantor, 1997; Heinberg, Thompson, & Stormer, 1995; Rozin & Fallon, 1988; Shaw & Waller, 1996; Stormer & Thompson, 1996). These images portray the ideal body type as a tall, ultra-thin woman, which has been found to be typically 15% below the average weight of most women (Johnson, Tobin, & Steinberg, 1989). Many theorists believe this image has contributed significantly to the increase of eating disorders (Garner, Garfinkel, Schwartz, & Thompson, 1980; Hamilton & Waller, 1993; McCarthy, 1990; Silverstein, Perdue, Peterson, & Kelly, 1986; Stice & Shaw, 1994; Striegel-Moore, Silberstein, & Rodin, 1986). This image, which has gotten thinner over the years, along with the concentration our society has on dieting, has led theorists to argue that these issues have been a factor in the current, ever-growing eating disorder issue nationwide (Akan & Grilo, 1995; Davis & Yager, 1992; Kiemle, Slade, & Dewey, 1987; Silverstein et al., 1986; Stice, Schupak-Neuberg, Shaw, & Stein, 1994).

Stice & Shaw (1994) theorized that exposure to these images can remind women of their perceived inadequacy, which can bring forth states such as depression, anxiety, insecurity, and low self-esteem. Other researchers have also found that exposure to these images causes negative affective states in women (Hawkins, Richards, Granley, & Stein, 2004). Moreover, when internalizing those images, women experience the following: body dissatisfaction, setting unrealistic body dimension goals, and engaging in extreme dieting (one of many disordered behaviors). Other researchers have also found that exposure to these media images led to increased body dissatisfaction in women (Hawkins, Richards, Granley, & Stein, 2004; Stice and Shaw, 1994; Stice et al., 1994).

According to Smolak (1996), “most fashion models are thinner than 98% of American women”. Researchers have found that women with an ideal body type close to

society's standards may have the greatest body dissatisfaction (Guaraldi, Orlandi, Boselli, & O'Donnell, 1999; Morry & Staska, 2001). Moreover, higher body dissatisfaction was found to correlate with higher perceived body size and lower self-esteem (Conneely, 2004). Irving (1990) also found decreased levels of body-esteem when participants were shown this ideal image.

Researchers believe that sociocultural factors are essential to the progression of eating disorders (Garfinkel, Garner, & Goldbloom, 1987; Hawkins, Richards, Granley, & Stein, 2004; McCarthy, 1990; Murray, Touyz, & Beaumont, 1996; Stice & Shaw, 1994). Moreover, researchers have found that body dissatisfaction, negative moods, low self-esteem, and eating disorder symptoms may be caused by exposure to ideal media images, which may be a factor in the development of eating disorders in women (Hawkins, Richards, Granley, & Stein, 2004).

Aside from the media, other sociocultural factors appear to affect body image. Parental influences, family environment, and personality attributes are amongst some of these factors (Conneely, 2004; Twamley & David, 1999). In a 2002 study, researchers found that the sociocultural model is too simplistic (Polivy & Herman, 2002). In a 2002 study, researchers found that the majority of the women who are exposed, or expose themselves to the media, do not develop eating disorders (Polivy & Herman, 2002); however, that does not then mean that they have secure and positive body images.

This project will therefore compare previous research conducted on eating disorder prevention/intervention programs for college-aged females in the United States using these two theoretical models in order to distinguish between programs, and to

achieve a better understanding of what is currently available, what has worked/not worked, and what is needed for a future program. From there, I will address several risk factors associated with eating disorders and/or disordered eating behaviors, and whether or not they are present in the current research. These risk factors include: self-esteem, body satisfaction/appreciation, anxiety, depression, dieting versus intuitive eating, and thin-ideal internalization. After examining the current research, the theory behind the programs, and the risk factors, I will discuss the strengths and weaknesses of the different programs, and then determine what an effective prevention/intervention program might look like for this population, considering the two theoretical models used. In the final chapter. I will outline the program and how to test the effectiveness of the newly fashioned prevention/intervention program for college-age females in the United States.

CHAPTER 3  
THEORETICAL MODELS FOR EATING DISORDER  
PREVENTION/INTERVENTION PROGRAMS

Eating disorders and disordered eating behaviors represent significant problems for college-aged females. Researchers have found that the “peak age of eating disorders onset” corresponds to the high school to college transition (Neuman & Halvorson, 1983). Thus, it makes sense to target this time period for preventive interventions. Full-syndrome eating disorders are rare for the population; however, sub-syndrome eating disorders are somewhat common for the college-age female population (Kurth, Krahn, Naim, & Drewnowski, 1995; Mintz & Betz, 1988). Additionally, when researching college-age samples of women, researchers have found that between 72% and 85% experience discomfort with the size and shape of their bodies (Cash, 1997; Drewnowski, Ye, Jurth, & Krahn, 1994; Mann et al., 1997; Mintz & Betz, 1988). Moreover, negative body image is a common problem in this population within the United States, and it “strongly correlates with low self-esteem, disturbed eating behavior, and eating disorders” (Matusek, Wendt, & Wiseman, 2004). All of these findings further emphasize the incredible need for effective interventions for disordered eating among college-aged women, whether they are preventative or for treatment purposes.

In the past, the prominent intervention programs have been psychoeducational in nature; however, those programs have had inconsistent results in showing “improvement in body image, thin-ideal internalization, eating behaviors, psychosocial functioning, and

self esteem” (Matusek, Wendt, & Wiseman, 2004). Moreover, in a study in 1997, researchers found that participants in a psychoeducational program experienced “slightly more symptoms of eating disorders” than the control group at follow-up (Mann, Nolen-Hoeksema, Huang, Burgard, Wright, & Hanson, 1997). Researchers in that study then speculated that the program may have “normalized” the symptoms and/or behaviors by attempting to reduce the stigma. Therefore, it is understandable, that researchers have moved program focus to the “thoughts and beliefs surrounding the thinness norm and the so-called ‘thin beauty ideal for women’” (thin ideal; Mutterperl & Sanderson, 2002; Nicolino et al., 2001; Rodin, Silberstein, & Striegel-Moore, 1986; Stice et al., 2001; Twamley & Davis, 1999). A recent intervention that seems to be promising when dealing with this population is “cognitive dissonance”, which is a cognitive-behavioral therapy (CBT) intervention, which allows participants to address their own internalization of the thin ideal as a way to improve upon their negative body image (Stice, Mazotti, Weibel, & Agras, 2000; Stice et al., 2001; Stice, Trost, & Chase, 2003). This cognitive-behavioral therapy intervention also includes sociocultural factors in the intervention. According to the dual pathway model, “internalization of the thin-ideal standard to female beauty leads to body dissatisfaction, which, in turn, results in dietary restraint and negative affect, both of which increase risk for eating disorder behaviors such as binge eating and purging” (Becker, Smith, Ciao, 2006). So although these two models, CBT and Sociocultural, can be researched, implemented, and analyzed separately, it is also important to consider the potential impact of an intervention that might include both theoretical models. Within this chapter, different interventions will be distinguished based on the models used within

each given study: Cognitive Behavioral, Sociocultural, Cognitive Behavioral with Sociocultural, and Sociocultural vs. Cognitive Behavioral with Sociocultural.

### *Cognitive Behavioral*

In 1987, Butters and Cash researched the impact of a cognitive-behavioral treatment on college women who already suffered from a “significant level of body-image dissatisfaction”. Researchers engaged participants in treatment using six individual sessions that focused on negative body image. According to the researchers, results of this study, which included pretest, posttest, and 7-week follow-up measurements, “confirm the therapeutic efficacy of cognitive-behavioral procedures for altering the dysfunctional and cognitive aspects of a negative body image”. The factors that were improved for the CBT participants were “affective body image”, “weakened maladaptive, body-image cognitions”, and “social self-esteem and feelings about physical fitness and sexuality”. Similar effects were found for the control group, who then participated in a 3-week treatment; however, the control group did not have an opportunity for the 7-week follow-up data collection like the experimental group. Limitations of this study include: small participant sample (N=31), no follow-up group for the 3-week control interventions, and the questionable appropriateness of a one-on-one intervention because of the tremendous need of this very large population. Many more individuals would be reachable if a group format were found to be successful and effective. In this study, it appears as though an individual CBT approach was effective on measures of body image for individuals who already identified as having significant body image dissatisfaction.

In a another study, Dworkin and Kerr (1987) recruited 79 college-aged women, who were classified as having either moderate or severe body image disturbance and who considered body image to be a problem, to compare three different counseling interventions: cognitive therapy techniques, cognitive behavior therapy techniques, and reflective therapy techniques. Like the previous study, participants engaged in individual sessions with a facilitator, specifically three for this intervention; however, in this study, the sessions were 30 minutes long. Cognitive therapy and cognitive-behavioral therapy were mostly similar, except for the additional behavioral techniques, and a fantasy exercise, found in cognitive-behavioral therapy. In both interventions, the focus was on changing negative self-statements to more positive self statements, demonstrating of ways to change irrational, negative beliefs, teaching clients how to do it on their own, and assigning homework related to identifying automatic thoughts and any feelings about their individual beliefs. No sociocultural piece was included in any of the interventions. Unlike these two techniques, reflective therapy techniques focused on feelings about body image and different major points during their developmental life. Exploration of present feelings, feelings in adolescence, and feelings in early adulthood took place in individual sessions. There was also a wait list/control group in this study. Similar to the previous study mentioned (Butters & Cash, 1987), the control group participants were offered the opportunity to participate in a treatment of their choice after they completed the posttest at 3-weeks. Results indicated the following: cognitive therapy was more effective than the other two treatments in “improving body image”; cognitive therapy and cognitive-behavior therapy were equally successful in improving self-concept, but that reflective therapy was not. In this study, cognitive-behavioral therapy included an

exercise where participants had to imagine themselves “growing larger”, which may have impacted why cognitive therapy seems to have been a more successful treatment modality in this study. Moreover, in cognitive therapy, counselors reinforced participants, which may have been a factor in this treatment being more effective. Researchers did not include a follow-up in this study, so the results reported are only the immediate results. It is unknown if these results remained stable over time. Moreover, in future research, researchers may want to look at the effects of praise by counselors, as well as CBT interventions excluding the fantasy exercise.

Burton and Stice (2006) conducted a study that looked at the impact of dieting interventions on bulimic symptoms. All female participants suffered from either sub-threshold bulimia nervosa, or from full-threshold bulimia nervosa. The dieting intervention, “The Healthy Weight Program”, consisted of six sessions, which was compared to a waitlist condition. A noteworthy aspect of this study was that, at the time, “no other trial has tested whether an intervention that promotes dietary restriction could serve as an efficacious treatment for this disorder”. The researchers in this study focused on more of the behavioral piece, which emphasized “decreasing intake of high calorie foods”, “increasing exercise”, “maintenance”, discussing possible barriers to implementing these new behavior changes, and “long-term goal setting”. According to Fairburn, Marcus, and Wilson (1993), cognitive-behavioral therapy, due to its focus on reducing dieting behaviors, has been found to be the treatment of choice for bulimia nervosa. Although the treatment focused on the CBT model, it also went against the model by encouraging weight management. Moreover, even though the study did not address the impact of sociocultural factors, it did address the sociocultural piece by



promoting the pursuit of the thin ideal and keeping it intact. Researchers found the treatment to be effective in manipulating dieting and weight-loss, compared to the participants in the control group, who ended up gaining weight by the three-month follow-up. Also, at three-month follow-up, the experimental group experienced “significantly greater reductions in bulimic symptoms”, compared to the control participants. One limitation of this study is that the study, and therefore the results, solely focuses on bulimia nervosa. Additionally, a longer follow-up, past 3 months, would have been helpful. One of the exclusions in this study is that participants were not allowed to have had previous treatment; however, the hope is the effective strategies could/would work with individuals suffering from disordered eating/eating disorders/risk factors who have had previous treatment.

### *Sociocultural*

Researchers also assessed the effectiveness of a psychoeducational eating disturbance intervention program for college women (Stice, Orjada, & Tristan, 2006). Unlike other studies regarding eating disorders with college-aged females, this intervention was in the form of an undergraduate 15-week seminar that met for 1.5 hours twice per week. Unlike other studies, the total amount of time involved in this intervention was 42 hours and 28 meetings. Many educational topics were discussed, which included pathology of different disorders, case examples, risk factors, the “sociocultural explanation for body image and eating disorders and supportive findings”, “the culturally sanctioned thin ideal of feminine beauty which was intended to decrease thin-ideal internalization”, and the “deceptive techniques” used in the media “to create

thin-ideal images”, among other sociocultural factors. In the end, results of the participants involved in the intervention showed “significantly greater reductions in thin-ideal internalization, body dissatisfaction, dieting, and eating disorder symptoms than matched comparison participants” from the control group. Moreover, “participants showed significantly less increases in thin-ideal internalization and weight gain”. One of the most important findings of this study is that the effects at posttest, right after the study, persisted through the 6-month follow-up. Moreover, the significant findings were actually larger at the 6-month follow-up. This provides some evidence that the changes that occurred continued beyond the intervention. Limitations of this study included: the need for a longer follow-up, the inability to randomly assign participants, and that participants in the class were found to have significantly higher eating disorder symptoms score relative to those in the control. This study, unlike some of the previous ones, focused on psychoeducation, using some aspects of the sociocultural model, without using CBT interventions/techniques. At this point, based on the research thus far, it is unclear what specific factors, in each of those models, impacts the different variable measures.

### *Cognitive Behavioral with the Sociocultural*

In a 2001 study involving nonclinical college women, researchers evaluated the effectiveness of a cognitive-behavioral group preventive intervention in a two-group (experimental vs. control) pretest/posttest design that consisted of 7-10 participants in five separate groups (Nicolino, Martz, & Curtin, 2001). Researchers also used an educational program for comparison. The CBT model used in this study was developed

from the CBT body image therapy of Thompson (1996). Unlike that multisession treatment program, the program used in this study was a 1-hour long preventative intervention. Within the hour long intervention, women had a discussion about the following: prevalence of negative body image, activators of negative body image, which included sociocultural aspects, identifying appearance rituals and behaviors used to compensate for body image, how negative thoughts and beliefs are learned and can be unlearned. Afterwards, the participants were taught and/or experienced different behavioral techniques: relaxation techniques, thought stopping, coping strategies, positive reinforcement, and brainstorming barriers, among others. The control group was given a “brief educational review on body image and eating disordered behavior”. After posttesting one month after both of the groups, results indicated no significant changes on all variable measures (body image anxiety, body shape concerns, fear of fat), except for the expected direction of dieting. Although both models, CBT and Sociocultural, were used in this intervention, the effects were not significant; however, a possible reason for this is that it may have been too abbreviated from the original version. Moreover, in the future, a longer follow-up would be helpful in determining the effects of the intervention.

In 2004, Matussek, Wendt, and Wiseman, conducted a study to research the impact of a psychoeducational, healthy behavior, single-session workshop, a cognitive dissonance-based, thin-ideal internalization, single-session workshop, and a wait-list control group, on college-aged women who already identified with body image concerns. This study used a modified version of a previous study (Stice et al., 2001) in that the interventions were carried out in one, two-hour session, instead of the multi-session approach, and participants were unaware of compensation, in any form, when agreeing to

participate in the study. Similar to the study in 2001, researchers used the same protocol for the dissonance-based group. The following was included in this workshop: “defining and exploring the thin-ideal”; identifying “the conditions that perpetuate the thin-ideal”, as well as the “repercussions of the messages about the thin-ideal from family, peers, dating partners, and the media, who benefits from the thin-ideal”; identifying the “costs of the thin ideal to themselves and to other women”. Therefore, the sociocultural model and factors were addressed within the given CBT intervention. In the healthy behavior workshop, the focus of the group was on “educating participants about healthy eating and regular moderate exercise”. At the end of the workshop, discussion focused on reasons for a healthy lifestyle, maintenance, and relapse prevention. Results of this study indicate that measurements of thin-ideal internalization, body image, and eating behaviors showed improvement, and that these findings were found in both intervention groups. Moreover, considering the impact on risk factors this prevention program had, it may show that single-session interventions are possible successful interventions. An intriguing finding, that the healthy behavior workshop participants showed an improvement on thin-ideal internalization, has led the researchers to wonder if “the healthy behavioral practices indirectly challenged participants’ internalization of the thin-ideal”. Another interesting finding is that the control group experienced a “worsening” in thin-ideal internalization, which emphasizes how much of an impact the interventions had if those participants in the intervention groups showed improvements. It is unknown, because it is difficult to measure, whether or not it was a cognitive dissonance effect that led to improvement in these two interventions. In this study, the results compared baseline data collection to the 4-week follow-up data collection. In future research, it would be helpful to see a post-test

directly after the intervention, as well as a longer follow-up, in order to assess the changes in results, as well as the stability of the results over time. Additionally, the participants in this study were found to have already been high-risk participants for eating disorders, and therefore, the generalizability of the findings is questionable.

In a separate study, researchers decided to compare two different interventions that were selective and interactive, which had recently been shown to be somewhat effective (Mitchell, Mazzeo, Rausch, & Cooke, 2007). The two newer interventions were cognitive dissonance and yoga. In this study, participants were college women who identified as being dissatisfied with their bodies. This intervention, like some of the others, is an adaptation of the interventions developed and used by other researchers (Stice, Chase, Stormer, & Appel, 2001; Stice, Mazotti, Weibel, & Agras, 2000; Stice, Trost, & Chase, 2003). Instead of the three 60-minute session used by Stice and colleagues, these researchers chose to use six 45-minute sessions. Like the original protocol, participants discussed the thin ideal and the consequences of it. However, the additions to this program included the presentation of media images (sociocultural piece), and discussing the concepts of “fattism”, self-objectification”, and “feminist perspectives of the history of thinness and oppression of women were discussed. Results from this study indicate that the cognitive dissonance group participants showed “significant decreases in disordered eating symptomatology, drive for thinness, body dissatisfaction, and alexithymia”. These are similar to findings in previous, similar studies (Stice, Chase, Stormer, & Appel, 2001; Stice, Mazotti, Weibel, & Agras, 2000; Stice, Trost, & Chase, 2003; Mausek, Wendt, & Wiseman, 2004; Wiseman, Sunday, Bortolotti, & Halmi, n.d.). Both attitudes and behaviors that were related to disordered eating were reduced after this

intervention. A significant decrease in anxiety was also present for this group. No significant findings if thin-ideal internalization were found. The yoga group showed no significant changes on any of the variables measures. Potential explanation for this include the possibility that the intervention was not intense enough, and also that a majority of participants had not practiced yoga before. Limitations of this study included the need for a longer follow-up and the need for a larger sample (93 total participants between all three groups).

#### *Sociocultural vs. Cognitive Behavioral with Sociocultural*

Another study focused on a prevention program intervention for a specific population with the college-age female population: sorority members (Becker, Smith, & Ciao, 2005). Researchers focused on this community because of the perceived influence this population may have on certain college-age females. In an attempt to determine which aspects of cognitive dissonance are most effective, if any, researchers developed three groups, one of which was a control/wait list group. The “passive” group, the media psychoeducation group, focused on the thin ideal and the media’s role. This specific group had a strong focus on the sociocultural model and addressing the impacts of the media. The “interactive” group, the cognitive dissonance group, focused on discussion of the thin-ideal, as well as behavioral techniques to reinforce the discussion. Researchers found that there was no difference identified in the results when comparing these two groups. Both groups indicated results of decreased restraint, eating disorder pathology, and body dissatisfaction, when compared to the control group. Interestingly, the wait list group and the passive group showed no different on thin-ideal internalization. As the

researchers noted in their study, this finding may offer insight into the importance of the active elements of cognitive dissonance on thin-ideal internalization. Based on this study, it appears as though there can be a positive impact on participants in just two 2-hour sessions, scheduled one week apart. One of the limitations of this study, however, is that a longer follow-up was not implemented. In order to determine the effects of a given prevention program, researchers need to measure the effects over longer periods of time. Having both CBT and sociocultural models in this study makes it difficult to determine if one or the other had a larger effect. Moreover, it is unclear if it is the specific discussion or the interaction/community building that makes the greatest impact in the media psychoeducation group.

In a similar study, one year later, the same researchers decided to use the same two sessions, two-hour, two-intervention model to investigate the impacts on reducing eating disorder risk factors (Becker, Smith, Ciao, 2006). Three factors that were different in this study were the use of peer facilitators in the groups, the implementation of a semimandatory format, and the removal of the wait list/control group. Moreover, researchers also included an 8-month follow-up, unlike their previous study. Both groups addressed issues related to the media, which included digital enhancement by looking at before and after photos. Like the previous study, the cognitive dissonance (CD) group reinforced the discussion topics through interactive role-plays and standing in front of the mirror exercises. These exercises were used as reinforcement techniques. In the media advocacy (MA) group, participants focused on watching portrayals of women in advertising, discussing the thin ideal (attainability and pursuit), and developing ways to resist media messages. No information about eating disorder behavior was included so as

not to normalize the behaviors for participants. In this study, researchers found that “peer facilitated CD results in 8-month reductions in restraint, eating pathology, thin-ideal internalization, and body dissatisfaction”. The MA group did not outperform CD. Actually, the results showed minimal impact on all measures at 8-months follow-up, except bulimic pathology. The data gathered by researchers may indicate that the active factors in CD may be those elements that are needed for continued improvement over time. Researchers excluded individuals who met criteria for eating disorders because this was a prevention program. Limitations of this study include: no treatment control group, needing a longer follow-up measurement, and potential spillover in conversations from participants in other groups.

In a recent meta-analysis of prevention programs for eating disorders (Stice & Shaw, 2004) the most effective interventions were found to be those that were “interactive, selected (i.e., delivered to at-risk individuals) and delivered to exclusively female samples” (Mitchell, Mazzeo, Rausch, & Cooke, 2007). As stated earlier in this chapter, the peak age of eating disorder onset corresponds to the high school to college transition, and therefore, the focus of preventative interventions is needed during that time period for young women. Although most do not have full-syndrome eating disorders, they do have partial-syndrome eating disorders; which means that assessing risk factors for eating disorders at this stage is important. Considering that a successful prevention program is needed for this specific population, participants in upcoming research should be from a non-clinical sample, so that the results could be more generalizable. This underscores the need for baseline measures. Moreover, most of the



interventions discussed in this chapter failed to provide long-term follow-up measurements for all groups, including the control group. This is needed in future research to determine the stability of the immediate results, as well as to examine if the changes that occurred continued beyond the intervention.

Based on the review in this chapter, it seems that the use of the sociocultural model within a cognitive behavioral therapy intervention, specifically cognitive dissonance, appears to be the most consistently successful type of intervention for this population. This is a key step forward in the research, because the interventions in the past, for this specific population, have been mainly psychoeducational in nature; however, the psychoeducational programs have been found to provide inconsistent findings, as well as certain negative effects on participants, specifically normalizing eating disorder behaviors. Now, researchers have begun to focus on what participants internalize that contributes to being at risk for eating disorders, as well as how to change their thought and belief patterns in order to see improvement. Additionally, researchers are focusing more on group formats, instead of one-on-one interventions, which has been found to be effective. Providing a successful, brief intervention in a group format may promote community building, as well as the ability to offer more help to this population in a shorter period of time; however, as discussed previously in this chapter, protocols that are too abbreviated/brief may not be effective. More research is needed to assess how abbreviated a protocol can be in order to still remain effective, as well as what factors of any given intervention impact different measurable variables.

In addition to examining which model/framework and format of a preventative intervention would be most effective for the college-age female population, it is also

important to investigate risk factors associated with eating disorders and/or disordered eating. Investigation of these risk factors would allow for a well-informed determination of which variables should be examined/measured in interventions for this specific population.

## CHAPTER IV

### PREVALENT FACTORS

According to the current literature, there are many variables that contribute to the development of eating pathology. The risk factors that will be addressed in the current study include self-esteem, body satisfaction/appreciation, anxiety, depression, dieting versus intuitive eating, and thin-ideal internalization.

#### *Self-Esteem*

Researchers have found low self-esteem to be a steady predictor of increased eating disorder symptoms (Cooley & Toray, 1996, 2001; Delinsky & Wilson, 2008; Striegel-Moore et al., 1989; Vohs et al., 2001). In addition, other researchers have found that low-self esteem is a factor supporting eating disorder behaviors and depression (Green et al, 2009), and may be a risk factor for eating pathology (Williamson et al, 1995). There appears to be many correlations found in different studies between self-esteem and eating disorder behaviors; however, there are researchers in separate studies who have found no significant relationship between self-esteem and the growth of eating pathology (Calam & Waller, 1998; Keel et al., 1997; Vohs et al., 1999). Moreover, in a separate study, investigators looked at eating disorder behaviors, attitudes, and risk factors, and found that they remained stable after two months of being at college (Berg, Frazier, & Sherr, 2005). The risk factors assessed in that study included body dissatisfaction, low self-esteem, and depression. Therefore, more research is needed to

see if there is a correlation that exists between self-esteem and eating disorder behaviors/attitudes.

In a 1996 study, Cooley and Toray surveyed women during their freshman year of college. Two surveys were administered: one at the beginning of the school year and one seven months later, in the spring. A total of 104 female students completed both surveys. The researchers provided information about variables and behaviors that seems related to eating and dieting pathologies. Moreover, they also provided information about different variables, during the first year of college, which could predict the development of eating disorders. Results indicated that low self-esteem was a stable predictor of increased eating disorder symptoms. Considering this study was conducted over a 7-month period of time, more information is needed concerning long-term effects of low self-esteem on eating disorder symptoms, and vice versa.

In another study, Delinsky and Wilson (2008) recruited 336 female students in their freshman year of college. Participants completed questionnaires in September, and then again the following April, which contained measures of Body Mass Index (BMI), eating disorder pathology, dieting restraint, body image, and self-esteem. Researchers found that those participants who lost weight during the course of the study were the same participants who reported significantly greater dietary restraint compared to the participants who gained weight. Additionally, researchers found a significant increase in eating disorder symptoms during the 7-month study. Self-esteem, along with dietary restraint and concern about the “Freshman 15”, was found to predict weight and shape concern scores in April. Similar to the previous study discussed, a longer follow-up would have been helpful in this study. Additionally, both studies focused on students in

their freshman year of college. Although this is an important time period to be researching the risk factors of eating disorders, it would be helpful to have information about the college experience in different years in order to gain a better understanding of the impact of the college experience in its entirety. Moreover, this study emphasized that there is an increase in disordered eating for women during the freshman year of college; however, other researchers have found that the symptoms and attitudes related to disordered eating are established before college (Vohs, Heatherton, & Herrin, 2001). Therefore, although the freshman year of college is an important transitional period, more research is needed before and after this time period in order to gain a better understanding of the development of eating disorder behaviors and attitudes.

#### *Body Dissatisfaction vs. Body Appreciation*

Some researchers believe that “body image is among the most supported etiological factors for the development of maladaptive eating and dieting” (Cooley & Toray, 1996). In this study, researchers found that those participants, who were most dissatisfied with their bodies at the beginning of the study, were also found to experience worsening scores on bulimia and restraint measures during the course of the study. Since the results of the study found body dissatisfaction to be the strongest predictor of worsening eating symptoms over the year, researchers suggested the body image should be the focus of future prevention programs. Additionally, other researchers have found that as “body image worsened, disordered eating increased in a sample of first-year college women” (Striegel-Moore, Silberstein, French, & Rodin, 1989). On the other

hand, Leon and colleagues (1995) did not find this relationship. In their study, body image was not found to be predictive of disordered eating problems in the future.

Investigators have found, in both female adolescents and female college students, that there is a strong relationship between the degree of body dissatisfaction a participant has and the severity of that individual's eating pathology (Buvat-Herbaut, Hebbinckuys, Lemaire, & Buvat, 1983; Cash, Cash, & Butters, 1983; Mintz & Betz, 1988; Stice et al., 1994). These studies focused on the prevalence of eating pathology and risk factors in specific populations, as well as the effects of exposure to a thin-ideal. Moreover, other investigators, who did a comprehensive analysis of the existing literature, have found that body dissatisfaction has a strong correlation to eating disorder behaviors (Stice & Shaw, 2002). Other researchers have also researched body dissatisfaction as a risk factor in college students, and have found that it is coupled with higher levels of eating disorder symptoms (Cooley & Toray, 1996, 2001; Drewnowski et al., 1994; Striegel-Moore et al., 1989; Vohs et al., 2001). These researchers mainly looked at levels of symptomatology, prevalence, and risk factors. Moreover, all of the five studies cited above focus on a specific disorder, bulimia, and not disordered eating in general. Researchers found that body dissatisfaction predicted growth in dieting (Stice, 2001; Stice, Mazotti, et al., 1998) and eating pathology (Attie & Brooks-Gunn, 1989; Stice 2001). In two of the above studies (Stice, 2001; Stice, Mazotti, et al., 1998), the focus is on a specific label, whether it is depression or bulimic pathology. Moreover, all three studies concentrate on female adolescents. In other studies, major depression (Stice, Hayward, Cameron, Killen, & Taylor, 2000) and eating pathology (Field et al. 1999; Graber et al., 1994; Killen et al., 1994, 1996; Stice & Agras, 1998) were predicted by body dissatisfaction. In these

studies, the populations assessed were adolescent girls, and the focus was on researching risk factors and other variables related to onset of eating pathology. Although a great number of researchers have found this correlation, others have not found the same results (Leon et al., 1995). However, even knowing that other researchers have failed to find similar results, body dissatisfaction is still being considered a risk factor for eating disturbances (Stice, 2001). Moreover, body appreciation has been found by researchers to promote psychological well-being and decrease body image disturbance and eating pathology (Avalos et al., 2005). In reviewing the literature above, it is clear that the focus of research has dealt mainly with female adolescents, as well as determining risk factors for future eating pathology. Although identifying risk factors is useful, over-identifying the same risk factors and failing to incorporate them into effective prevention programs is a severe limitation to the current research in the development and treatment of eating pathology.

Other researchers have found that people who are not satisfied with their body image are at risk for progressing to eating pathologies (Attie & Brooks-Gunn, 1989; Heatherton, Mahamedi, Striepe, Field, & Keel, 1997; Killen et al., 1996; Stice & Agras, 1998). In a 10-year longitudinal study, researchers found that female college freshman, who entered with high levels of body dissatisfaction, were apt to progress to more behaviors related to eating pathology during their college experience (Cooley & Toray, 2001). Cooley and Toray (1996) focused their research on addressing issues related to prevention in the college population. They found that body dissatisfaction was the “strongest predictor” that eating symptoms would get worse over the freshman year.

## *Anxiety*

Eating disorder symptoms have also been associated with academic stress (Hamburg & Herzog, 1985; Levine, Smolak, Moodey, Shuman, & Hessen, 1994).

Theorists also believe that overeating is a “learned behavior”, which is used to reduce anxiety (Kaplan & Kaplan, 1957). Other researchers have also found that binge eating is associated with increased levels of depression and anxiety symptoms (Dalle-Grave et al., 1996; Fairburn et al., 1998; Schwalberg, Barlow, Alger, & Howard, 1992; Yanovski et al., 1993). In college students, stress was found to predict an increase in symptoms related to eating disorders (Drewnowski et al., 1994; Striegel-Moore et al., 1989).

In a 2002 study of college female students, concern about the Freshmen 15 was related to thinking about weight gain, having poor body image, perceiving yourself as overweight, and being at risk for disordered eating (Graham & Jones, 2002). This anxiety about the Freshman 15 may contribute to some of the negative attitudes college female students have towards their weight.

Hamburg and Herzog (1985) examined the behaviors and attitudes of female medical students who already suffered with bulimia or anorexia nervosa. The students discussed and emphasized the sociocultural factors that “push” women to strive for thin bodies. Although eating disorder symptoms were found to be associated with stress in the study, the total number of participants was 19 female students. The number of students who participated in this study is too small to allow for generalizability. Additionally, since the students already suffered from an eating disorder, preventative measures could not be addressed. In another study (Levine et al., 1994), three hundred eighty-two participants were asked about many variables, including academic stress, body shape, and



eating behavior. Results of this study indicated that eating disorder symptoms are related to academic stress. Researchers found that the girls who reported having the highest levels of disturbed eating were also the girls who reported experiencing “greater levels of academic pressure”. This study, however, focused on middle school girls, instead of the college-aged females. Moreover, the schoolgirls did not complete all questionnaires, which then means that the results found were not necessarily generalizable to that population either. Therefore, more information is need about academic stress within a college environment, and how that impacts symptoms of eating disorders.

In a separate study, Drevnowski and colleagues (1994) recruited 557 college women to participate in their study. The women were classified as “nondieters, casual dieters, intensive dieters, dieters at risk, and bulimic”, using the Eating Pathology Scale. The study was conducted over a 6-month period where participants were examined in the fall and the following spring. Over the course of the study, the dieting behavior of the participants “primarily moved between adjacent scale categories”. Moreover, stress was found to predict an increase in symptoms related to eating disorders.

### *Depression*

Another risk factor for eating disorders is depression (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Stice, 2002). Investigators have found that depression, along with other risk factors for eating disorders in women, have become more frequent in young adulthood (Oldehinkel, Wittchen, & Schuster, 1999). Depression has also been found to predict an increase in symptoms related to eating disorders, particularly in college students (Drevnowski et al., 1994; Gilbert & Meyer, 2005). Moreover, in college

women, decreases in depression and body dissatisfaction were found to predict decrease in binge eating behavior over a two-month period (Berg, Frazier, & Sherr, 2005). In other studies, researchers found that “unipolar” depression and eating disorders are often comorbid diagnoses (Brewerton, Lydiard, Herzog, Brotman, O’Neil, & Ballenger, 1995; Fornari, Kaplan, Sandberg, Matthews, Skolnick, & Katz, 1992; Herzog, Keller, Sacks, Yeh, & Lavori, 1992; Katzman & Wolchik, 1984; Leon, Fulkerson, Perry, & Cudeck, 1993; Mizes, 1988; O’Brien & Vincent, 2003; Polivy & Herman, 2002; Wilksch & Wade, 2004; Zaidner, Johnson, & Cockell, 2002). Even though many of these diagnoses are often comorbid, the relationship between depression and eating disorders is still unclear (O’Brien & Vincent, 2003).

In a study conducted in 2002, researchers wanted to examine if there was a unique relationship between depression and eating disorder behaviors for the first time (Green et al., 2009). Participants were nonclinical undergraduate men and women at a large Midwestern university. As participants, they completed self-report measures concerning demographics, eating disorders, self-esteem, body shape, social comparison, and depression. To assess this unique relationship, researchers controlled for social comparison, body dissatisfaction, and low self-esteem, which are other risk factors for developing eating disorders. Results from this study indicated that there did not appear to be a significantly unique relationship. After the study, researchers thought that it might be more beneficial for future prevention efforts to explore the items controlled for in the study: social comparison, body dissatisfaction, and low self-esteem. (Green et al., 2009). Instead of restricting focus to clinical samples of college students, as many researchers have done, these investigators researched a nonclinical sample at a university. It is

important to begin looking at general population, as this study has done, in order to effectively determine factors that are contributing to eating pathology in college students. Although those researchers looked at similar risk factors for eating pathology, such as depression, self-esteem, body dissatisfaction, and eating attitudes, they failed to address the risk factor of anxiety. The investigators did look at social comparison; however, they failed to address the potential anxiety that is a factor in social comparison. Moreover, recommendations for future research were given to specifically look at certain variables, such as social comparison, self-esteem, and body satisfaction, in relation to eating pathology. Variables such as self-esteem, body satisfaction, and anxiety, are exactly what this study will be addressing.

Overall, researchers have not found symptoms related to depression as significant predictors of future onset of eating pathology (Keel et al, 1997; Vogeltans-Holm et al., 2000). In one case, however, one specific form of eating disorder behavior, bulimic behavior, was supported by reports of negative affectivity (McCarthy, 1990; Stice & Agras, 1998). Although a direct correlation has not been found between depression and eating disorder symptoms, some researchers have offered some support for the theory that dieting may predict the onset of depression (Stice, Haward, et al., 2000).

### *Dieting vs. Intuitive Eating*

Researchers have found another stable risk factor for disordered eating behaviors to be dieting (Neumark-Sztainer & Eisenberg, 2005; Stice, 2002). Other researchers have also stated, “even at severity levels that fall considerably short of reaching the diagnostic criteria for eating disorders, maladaptive dieting and dieting patterns represent a

significant enough source of distress and interference with life tasks to warrant attention” (Striegel-Moore, Silberstein, French, & Rodin, 1989). Lowe and colleagues (2006) conducted a study with college freshman that examined different types of dieting with weight gain. After completion of the study, they suggested that the act of dieting made individuals susceptible to weight gain. One downfall of this study is that the authors only had seven participants who identified as being a “dieter”. A larger sample size would be needed to effectively analyze that suggestion.

Researchers have found, within longitudinal studies, that dieting can predict the onset of eating pathology (Field et al., 1999; Killen et al., 1994, 1996; Patton, Johnson-Sabine, Wood, Mann, & Wakeling, 1990; Santonastaso, Friederici, & Favaro, 1999; Stice & Agras, 1998; Stice, Killen, Hayward, & Taylor, 1998). In a 2005 study, two-thirds of the participants, who were college women, ranked their dieting as either “intense” or put them “at risk” for an eating disorder (Krahn, Kurth, Gomberg, & Drewnowski, 2005). Moreover, other researchers have found support for the idea that dieting predicts a future onset of eating pathology (Killen et al., 1994, 1996; Patton et al., 1990; Stice & Agras, 1998; Stice, Killen, et al., 1998). Researchers have found that college women tend to favor nonpurging compensatory behaviors compared to purging behaviors (Keel, Baxter, Heatherton, & Joiner, 2007; Rizvu, Stice, & Agras, 1999). One example of a nonpurging compensatory behavior is dieting. In a survey of women on a college campus, researchers found that 91% attempted to control their weight through dieting (Kurth, Krahn, Naim, & Drewnowski, 1995). In another study conducted in 1995, researchers found that “35% of ‘normal dieters’ progress to pathological dieting” (Shisslak, Crago, & Estes, 1995). From those “normal dieters”, 20-25% were found to advance to eating disorders. Although

women, of all ages, focus on dieting as a way to lose weight and reach an ideal weight, researchers have found that approximately 95% of all dieters will regain all of their lost weight within one to five years (Grodstein et al., 1996). The question then becomes: what is the purpose of dieting?

Moreover, instead of dieting, research has been found to support intuitive eating in college women, which has been shown to increase life satisfaction, proactive coping, and optimism (Tylka, 2006). In the same study, researchers found that intuitive eating decreased body image disturbance and disordered eating.

### *Thin-Ideal Internalization*

Based on research presented in Chapter 2, within the content of the Sociocultural model, it is clear that many researchers view thin-ideal internalization as an important risk factor for eating disorders that should be addressed in prevention/intervention programs, because it is believed to have contributed significantly to the ever-growing eating disorder epidemic nationwide (Akan & Grilo, 1995; Davis & Yager, 1992; Garner, Garfinkel, Schwartz, & Thompson, 1980; Hamilton & Waller, 1993; Kiemle, Slade, & Dewey, 1987; McCarthy, 1990; Silverstein, Perdue, Peterson, & Kelly, 1986; Stice, Schupak-Neuberg, Shaw, & Stein, 1994; Stice & Shaw, 1994; Striegel-Moore, Silberstein, & Rodin, 1986).

In two separate studies of college female students, researchers found eating disorder behaviors and risk factors remain stable over time (Berg, Frazer, & Sherr, 2005; Gilbert & Meyer, 2005). Moreover, these same researchers found that if a change did

take place, a decrease in symptomatology happened twice as often as an increase. In separate 2008 study that focused on female, freshman college students, researchers found increases in prevalence of restraint and body shape concern over a seven-month period (Delinski & Wilson, 2008). Based on the information from the minimal studies that have been conducted, more research is needed to assess change in college female students.

As can be inferred from the above research, many variables still need to be researched further, and these variables need to be incorporated into an effective prevention program. As discussed previously, some researchers have found that issues that need to be addressed in future prevention programs include body acceptance and awareness of the media influences on women today. Moreover, in many of the studies, samples have been taken from a non-generalizable population. A prevention program is needed that can be generalizable to a given population. Rather than focusing on one sample in one school, an overall sampling in a geographic area would be more effective in determining generalizability. All of the above factors are addressed in the design of this current study.

### *Prevention Programs*

According to Mintz and Betz (1998), 60% of female university students in America report a subclinical eating problem, which includes dieting. In 2004, Stice and Shaw reviewed eating disorder prevention studies. In their review, they reported that prevention programs had positive effects on eating pathology, body dissatisfaction, and dieting. Moreover, they discovered that studies that incorporated participants at high-risk for developing eating pathology, an interactive format, validated measures, more than one

meeting, and females over the age of 15 were more effective. Moreover, they reported that meeting these criteria was more important than the content of discussions in determining if the intervention was effective.

Yager and O’Dea (2008) reviewed prevention programs on university campuses in America. These researchers found that those interventions that work against the media’s influence on what a woman should look like have been successful in achieving change in the behavior of female students (Becker et al., 2004; Stice et al., 2000). Moreover, they found that “information-based, cognitive behavioral and psychoeducational approaches have been the least effective at improving body image and eating problems among university students” (Yager & O’Dea, 2008, 173). Moreover, health education and health promotion programs that have been based on the improvement of self-esteem in adolescents have achieved success in the reduction of body dissatisfaction, dietary restraint and disordered eating (O’Dea and Abraham, 2000; McVey et al., 2004). The results of this study also suggest that this would be an important addition to an intervention for university students.

The eating disorder and poor body image correlates/risk factors discussed previously have not been explored in depth. Based on the research, investigators inferred that interventions that address specific risk factors are likely to be more effective (Franko & Orosan-Weine, 1998). Moreover, researchers suggested that prevention programs in the future, offered to college students, could focus more on body acceptance, and working against the media influences on young women (Cooley & Toray, 1996). Additionally, outpatient brief interventions have not really been explored, especially those that focus on discussions about healthy bodies. Early intervention programs are

virtually non-existent, leaving many people to receive help too little too late. Moreover, most of the researchers that have conducted studies talk about the prevalence and do not address long-term goals. Dieting is a short-term goal for individuals. There is a lot of research on finding out what is out there, but not what to do about it. If programs were developed and facilitated early on, what effects would this have on body image?

### *Collaborative Prevention Program*

Given all of the information in this chapter, along with the information provided in the previous three chapters, a collaborative prevention program needs to be developed using the strengths of current programs, and incorporating measures of prevalent risk factors in the college-age, female population, which have been discussed earlier in this chapter. In the next chapter, the final chapter, I will outline an eating disorder prevention program that incorporates the strengths of already developed programs, addresses the weaknesses that have been encountered, and identifies the best fit theoretical model for the college-age female population. Additionally, the following will be addressed: what the program would look like, what recruitment would look like, who the participants would be, what the intervention groups would look like, the time commitment for participants, and how researchers could test the effectiveness of the program. Finally, the implications for future research will be discussed.



CHAPTER 5  
A COLLABORATIVE PREVENTION PROGRAM  
AND DETERMINING EFFECTIVENESS

Using the information provided in the previous two chapters, which assessed different studies/interventions, as well as a variety of risk factors for eating disorders/disturbed-eating behaviors, a collaborative prevention program will be developed in this chapter using the strengths of already established studies/programs. The aspects of the new program that will be addressed include the following: theoretical model(s), recruitment, type of participants and groups, time commitment, and how the effectiveness of the program should be tested. Additionally, ideas for future research will be discussed at the end of the chapter.

*Theoretical Model(s)*

Upon review of different interventions in Chapter 3, it was found that a combination of a Cognitive Behavioral intervention, cognitive dissonance, along with addressing sociocultural issues, provides more consistent results for eating disorder/disordered-eating interventions for college-age females. Therefore, in a collaborative prevention program, both models should be used in the protocol, similar to the model provided by Stice et al. (2001). Unlike previous psychoeducational programs, which were used as the prominent intervention programs in the past, but were found to have inconsistent findings in showing “improvement in body image, thin-ideal

internalization, eating behaviors, psychosocial functioning, and self esteem” (Matusek, Wendt, & Wiseman, 2004), this intervention will focus more on an interactive role, instead of a lecture and discussion format. Within the Cognitive Behavioral model, the focus of cognitive dissonance is to allow for a counterattitudinal stance to develop in participants through listening to information provided, engaging in discussions, and actively participating in interactive role-plays. The protocol developed by Stice et al. (2001) appears to be the most effective program considering the studies that have used this model as a template have found the most consistent findings (Stice, Chase, Stormer, & Appel, 2001; Stice, Mazotti, Weibel, & Agras, 2000; Stice, Trost, & Chase, 2003; Matusek, Wendt, & Wiseman, 2004; Mitchell, Mazzeo, Rausch, & Cooke, 2007; Wiseman, Sunday, Bortolotti, & Halmi, n.d.). Using that protocol, the following will be addressed: defining the thin-ideal and how it is perpetuated; identifying the impact of sociocultural factors; identifying who benefits from those factors; discussing the role of corporations and the media in an individual’s pursuit of the thin-ideal; engaging in behavioral techniques in order to reinforce the discussion (participants trying to convince the facilitators, in a role play, not to pursue the thin-ideal; full length mirror exercise; etc.); addressing possible barriers they may encounter, as well as what they can do to overcome those barriers; and engaging in a discussion about their recommendations for younger girls, which is the purpose, as they were told, for their recruitment. The behavioral technique, the full-length mirror exercise, will reinforce the changing of negative self-statements into more positive ones. The hope for this program is that the participants, college-age females, will voluntarily, through their involvement in the

intervention, take a stance against the thin-ideal, which would then aid in challenging their own internalization of the thin-ideal.

As was noted in Chapter 3, it seems that the use of the sociocultural model within a cognitive therapy intervention, specifically cognitive dissonance, appears to be the most consistently successful type of intervention for this population. When reviewing the research, it is not surprising that incorporating these two models into one framework is successful, because researchers believe that sociocultural factors are essential to the progression of eating disorders (Garfinkel, Garner, & Goldbloom, 1987; Hawkins, Richards, Granley, & Stein, 2004; McCarthy, 1990; Murray, Touyz, & Beaumont, 1996; Stice & Shaw, 1994). Therefore, addressing the factors that impact the progression of eating disorders, as well as challenging one's thought and beliefs about herself, seems like a logical way to address this growing epidemic.

### *Recruitment*

Recruitment for this study would include placing fliers on college campuses and in the community. Hopefully, different organizations in the community, who cater to the female college-age population, would be willing to send out emails/put up fliers for this project. For this specific study, college-age females, who identify as having body image issues, would be recruited in a given geographic area, instead of a specific college campus, in order to have more generalizable results. For generalizability reasons, the hope would be that students could be recruited on multiple campuses in a given areas as well as in the community. If a potential participant reports prior and/or current treatment for an eating disorder, the individual will not be allowed to participate in the study.

Moreover, if a potential participant is found to be experiencing significant eating pathology, and/or is at high-risk for developing an eating disorder, at the time of recruitment, she will not be allowed to participate in the study. Given that this is meant to be a prevention program, those individuals who have had treatment and/or who are experiencing eating pathology/high-risk behaviors would not be ideal participants for this study. In order for the study to be a truly preventative intervention, a non-clinical sample is needed. Those individuals, who meet all of the study inclusions/exclusions, will be asked to participate in a study aimed at helping women improve their body image.

### *Participants and Groups*

In this study, there will be two intervention groups, and one wait-list group. The hope is that 150 participants could be recruited for this study, and could then be randomly assigned to each of the three groups. Unlike other interventions that focused on one-on-one interventions (Butters & Cash, 1987; Dworkin & Kerr, 1987), the study will focus on the strengths of group work. Using groups for interventions allows for participants to build community with other individuals who are struggling with similar issues. Moreover, a group intervention allows for the needs of more individuals to be addressed in a shorter period of time. Each intervention will be split into five groups, which will be run by the same facilitators. Within each group, there will be no more than 7-10 participants. In this study, there will be three intervention groupings: the “short-term” group, the “long-term” group, and the wait-list/control group. The short-term group will improve upon the research of Matusek, Wendy, and Wiseman (2004). In that study, the Stice et al. (2001) protocol was condensed and executed in a single, two-hour session.

The same will be true of this group; however, unlike that study, follow-up measures will be implemented, so that changes over time can be assessed. The long-term group will follow the format of the Stice et al. (2001) protocol, including the multi-session approach, which is three, 1-hour sessions. At the end of the three weeks, the control group participants will then be offered the opportunity to participate in one of the two interventions.

### *Time Commitment*

The time commitment for all participants would be minimal over the course of a year. The control group will need to fill-out baseline measures and measures at 3 weeks in person, and then would be able to fill-out a similar survey online for the following follow-up measures. The hope would be that the measures would take no more than ten minutes each time. The time commitment for the short-term group would be filling-out a baseline measure in person, participating in one, two-hour intervention, filling out a post-test measure directly after the completion of the intervention, and then filling out measures online for the follow-up measures. The time commitment for the long-term group will be filling out a baseline measure in person, participating in three, one-hour sessions, one week apart from each other, filling out a posttest measure directly after the final session, and filling out similar measures online for the follow-ups.

### *Testing Effectiveness*

In a 2004 study (Matusek, Wendy, & Wiseman), researchers sought to test the effectiveness of a condensed, single session protocol that was taken from the Stice et al.

(2001) multi-session protocol. Although significant results were found, the stability of these results over time was not researched. Considering that in a separate study, an abbreviated version of an established protocol did not result in significant improvements (Nicolino, Martz, & Curtin, 2001), testing for the stability of a shortened intervention is an important next step in the research. If a condensed version were found to result in significant findings and improvements, it would be a tremendous step for eating disorder/disturbed-eating interventions within this population, because more individuals would be willing to participate in an intervention that has a shorter time commitment.

In order to determine the effectiveness of the study, participants in all three groups will be asked to fill out baseline measures and posttest measures in person. Additionally, follow up measures will be provided online at 1-month, 3-month, 6-month, and 1 year after posttest measures, in order to make the questionnaires more accessible for participants, as well as to allow for a shorter time commitment. Each of the measures will consist of similar questionnaires that will assess the risk factors addressed in Chapter 4, which include: self-esteem, body dissatisfaction/appreciation, anxiety, depression, dieting versus intuitive eating, and thin-ideal internalization. Additionally, at baseline, a measure will be used to assess eating disorder pathology and symptomatology, in order to determine if individuals meet the exclusion criteria. Participants, those who do not meet the exclusion criteria, will then continue to fill out a similar measure in all of the follow-up questionnaires, in order to distinguish the findings at follow-up from their baseline measurements. The hope is that in implementing multiple follow-up measures, researchers can gain a better understanding of the stability of results over time. Moreover, it would allow for a better-informed comparison of a researched protocol, as well as an

abbreviated version of that protocol. Additionally, it may offer insight/evidence about the changes observed in previous studies, and if they continue to occur beyond the intervention.

### *Future Research*

The new study developed above is just one of many steps that need to be taken in future research for the college-age female population, in order to gain a better understanding of successful interventions. Although this study would provide information about an abbreviated version of an already successful intervention, more research is needed to determine which specific factors of different interventions impact the different variables/risk factors. Is it cognitive dissonance? If so, how is that successfully measured? Is it the sociocultural education piece that has a greater impact? If so, how do you measure that without accounting for the cognitive dissonance? The focus of upcoming research should be on the reduction of eating disorder risk factors, as well as analyzing and defining the critical pieces of each intervention that impact individual risk factors/measurable variables. Additionally, considering that the research in the college-age female population is minimal, more research is needed to distinguish the relationships/correlations, if any, between the different risk factors, as well as to determine other possible risk factors that may not have been addressed yet.

Self-esteem, body dissatisfaction/appreciation, anxiety, depression, dieting versus intuitive eating, and thin-ideal internalization have been found to be prominent risk factors for eating disorders and pathology in college-age females. Much of the research regarding eating disorders focuses on identifying the prevalence and learning more about

risk factors; however, researchers are failing to transition those risk factors into an effective prevention program for young women. Instead of focusing research primarily on how to treat eating disorders, the focus should be in finding ways to prevent women from developing them so that treatment is not necessary.

Researchers have found that “up to 90 percent of individuals suffering from an eating disorder are female” (“Eating Disorders in College Women”, 2009); however, that statistic is only based on those that are willing to come forth and acknowledge they are suffering from an eating disorder. It is more culturally acceptable for women to come forward to discuss eating disorders, specifically because they have been the focus of most of the research. Therefore, more research is needed outside of the female population in order to determine how large this epidemic has really gotten, as well as who is suffering from it. Current research indicates that the most effective interventions programs thus far incorporate an exclusively female population; however, this is not because females are the only ones suffering from eating disorders, but rather than effective interventions for males really have not been addressed and/or implemented.



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