

COUPLES EATING DISORDER PREVENTION PROGRAM

A Thesis

by

ANA L. RAMIREZ-CASH

Submitted to the Office of Graduate Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

December 2009

Major Subject: Psychology

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Approved by:

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## ABSTRACT

Couples Eating Disorder Prevention Program. (December 2009)

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Chair of Advisory Committee: Dr. Marisol Perez

Body image dissatisfaction and eating disorders are more prevalent in today's society than ever. As a result, several prevention programs targeting the common eating disorder risk factors have been developed. The purpose of the current study was to investigate a new kind of prevention program that is based on the dual pathway model of eating disorders within the context of an individual's romantic relationship.

The current prevention program reduced eating disorder risk factors but failed to affect relationship satisfaction. Effect sizes were small to medium in magnitude for most of the targeted risk factors. The inclusion of men and women alike in eating disorder prevention programs appear to be a successful way of addressing the thin ideal and its detrimental effects. Limitations and future directions are discussed.

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## INTRODUCTION

Eating disorders are one of the psychiatric problems most frequently faced by young women (Stice, 2001). They are characterized by a persistent course, co-occurrence with other psychopathology, medical complications, and elevated mortality (Thompson & Stice, 2001). Research suggests that there has been an increase in the rates of eating disorders over the past several decades (Stice, 1994). It is estimated that 0.5 percent to 3.7 percent of females suffer from anorexia and 1.1 percent to 4.2 percent suffer from bulimia in their lifetime (APA, 2000). Eating disorders are a severe and debilitating illness, but research shows that just having its symptoms can also be impairing. For example, body image dissatisfaction is more prevalent than eating disorders and has been found to be associated with psychological distress, functional impairment, preoccupation with appearance, and unnecessary cosmetic surgery (Hoffman & Brownell, 1997; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Thus, it is not only important to prevent eating disorders, but its symptoms as well.

Empirical evidence provides ample support for various risk factors affecting the development of body image dissatisfaction, which may in turn lead to eating pathology (Stice, 2002). Most of these risk factors have been investigated within the context of a sociocultural model. Some of these sociocultural factors include the thin ideal body image for women, the centrality of appearance in the female gender role, and the importance of appearance of women's societal success (Striegel-Moore, Silberstein, &

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This thesis follows the style of *International Journal of Eating Disorders*.

Rodin, 1986). The thin ideal portrayed as the standard in our society plays a significant role in the development of body image dissatisfaction, and in turn, eating disorders.

From a sociocultural model, eating disorders are described as a product of increasing pressure for women in our society to achieve an ultra-slender body (Stice & Agras, 1998; Wilson & Eldrege, 1992). Research suggests that sociocultural pressures can come from various sources, such as the media, family members, peers, and dating partners (Stice, Spangler, & Agras, 2001; Stice & Whitenton, 2002). Pressures to be thin can take a variety of forms, such as glorification of ultra-slender models, direct messages that one should lose weight, and more indirect pressures to conform to the current thin ideal for women (Stice, Maxfield, & Wells, 2003). Exposure to the thin-ideal portrayed in the media has resulted in heightened feelings of depression, unhappiness, shame, guilt, stress, decreased levels of confidence, and increased body image dissatisfaction (Stice & Shaw, 1994). Moreover, thin ideal internalization prospectively predicts eating disorder diagnoses (Garner, Garfinkel, Rockert, & Olmstead, 1987; Kendler, MacLean, Neale, & Kessler 1991).

Different mechanisms of how thin ideal internalization may lead to eating disorders have been explored. Empirical evidence suggests that internalization of the thin-ideal has an effect on eating pathology primarily through body dissatisfaction (Stice, Schupak-Neuberg, Shaw & Stein, 1994), however, a later study found that the thin ideal may directly promote dieting even in the absence of body dissatisfaction (Stice, 2001). Attitudinal acceptance of the thin ideal is believed to contribute to body dissatisfaction because of a social comparison process where women compare



themselves to idealized images and judge themselves as not meeting social expectations (Stice et al., 2001; Stice & Whitenton, 2002). The fact that an increase in eating pathology over the last several decades has coincided with a decrease in the weight of the ideal-body for women portrayed in the media provides additional support for the sociocultural model of eating disorders (Stice & Shaw, 1994).

Several etiological models based on these sociocultural factors have been proposed. Two models in particular have received the most theoretical and research attention. Thompson et al. (1999) proposed a model in which peer, parental, and media pressures to be thin are thought to result in social comparison processes and an internalization of the thin ideal, which all contribute to the development of body dissatisfaction and eventually eating pathology. Similarly, the dual pathway model (Stice, 1994, 2001) integrates several single-predictor theories of bulimia, including body dissatisfaction (Rosen, 1992), dietary restraint (Polivy & Herman, 1985), and affect regulation models (Heatherton & Baumeister, 1991). This etiological model explains several mechanisms between sociocultural factors and the expression of bulimia (Stice, 1994, 2001). According to the dual pathway model (Figure 1), internalization of the thin ideal contributes to body dissatisfaction through the elevated pressures to be thin from family, peers, and the media. Theoretically, increased body dissatisfaction then fosters dieting and negative affect. Dieting and negative affect may consequently increase the risk for bulimic pathology. Body dissatisfaction is thought to lead to dieting because of the common belief that dieting is an effective weight control technique. Furthermore, body dissatisfaction can also contribute to negative affect because appearance is seen as

a central dimension for women in our culture. Dieting is thought to directly foster negative affect because of failures often associated with weight control efforts and the impact of caloric deprivation on mood. Dieting may also result in a greater risk for disordered eating because individuals may binge to counteract the effects of caloric deprivation; for example, breaking strict dietary rules can result in disinhibited eating. Negative affect could also foster bulimic symptoms as it is believed that behaviors such as bingeing may provide comfort and distraction from negative emotions (Stice, 1994, 2001; Stice & Presnell, 2007).

The dual pathway model has received an ample amount of empirical evidence. An initial test of the dual pathway model of eating disorders revealed that, overall, the model accounted for 71 % of the variance in bulimic symptomatology (Stice, Nemeroff, & Shaw, 1996). Perceived pressure to be thin, thin ideal internalization, body dissatisfaction, dieting, and negative affect have all predicted the onset of binge eating and compensatory behaviors (Irving, 1990; Stice et al., 1996; Stice & Agras, 1998; Stice, 2001). A study found that dietary restraint and negative affect significantly mediated the relation between body dissatisfaction and bulimic behavior, with both variables being equally important mediators of bulimic behaviors (Shepherd & Ricciardelli, 1998). Overall, there is prospective evidence for nearly all of the hypothesized mediational relations suggested in the dual pathway model (Stice, 2001). Research findings from independent labs over the past decade collectively suggest that thin ideal internalization is a causal risk factor for body image and eating disturbances and that it appears to operate in conjunction with other established risk factors for these outcomes, including

dieting and negative affect (Thompson & Stice, 2001). Furthermore, the dual pathway model appears to account for subclinical as well as clinical levels of bulimia (Stice, Ziemba, Margolis, & Flick, 1996; Van Strien, Engels, Van Leeuwe, & Snoek, 2005). This is an important implication for this study and the development of future preventions.

As stated earlier, preventing the development of eating disorders is important because these disorders contribute to a wide variety of adverse outcomes. Empirical evidence supporting the dual pathway model suggests that prevention programs targeting the variables in the model should be successful in decreasing both the risk factors for eating pathology and eating pathology itself. Prevention programs have typically provided psychoeducational information about symptoms of eating disorders, consequences for these behaviors, suspected risk factors for eating pathology, and healthy weight control techniques. However, until recently, none had resulted in significant positive effects possibly because information in itself is not enough to produce attitudinal or behavioral change (Stice, Mazotti, Weibel, & Agras, 2000). Overall, this ineffective trend has shifted as evidenced by a recent meta-analysis which found that 51% of available eating disorder prevention programs reduced eating disorder risk factors and 29% reduced current or future eating pathology (Stice, Shaw, & Marti, 2007). The most current generation of eating disorder prevention programs has included selective programs that target high risk individuals with interactive exercises focusing on risk factors that predict the onset of eating pathology, such as body dissatisfaction and thin ideal internalization (Stice & Shaw, 2004). Although a variety of eating disorder

prevention programs have been developed in the past decade, only half have resulted in positive effects. Furthermore, only two of these prevention programs have produced positive effects that replicated across independent research studies.

The dissonance prevention program, developed by Stice et al. (2000), was the first eating disorder prevention program to find positive effects and has since received strong support for the reduction in bulimic pathology and known risk factors in various controlled trials (Becker, Smith, & Ciao, 2005, 2006; Becker, Bull, Schaumberg, Cauble, & Franco, 2008; Matusek, Wendt, & Wiseman, 2004; Stice, Chase, Stormer, & Appel, 2001; Stice, Trost, & Chase, 2003; Stice, Shaw, Burton, & Wade, 2006; Stice, Presnell, Gau, & Shaw, 2007; Stice, Marti, Spoor, Presnell, & Shaw, 2008). This program is based on the dual pathway model and attempts to reduce thin ideal internalization by using a dissonance-based approach. Cognitive dissonance theory (Festinger, 1957) posits that the possession of inconsistent cognitions creates psychological discomfort that motivates people to restore consistency. This dissonance, in turn, usually leads individuals to alter their behaviors or attitudes in order to reduce this inconsistency. The dissonance-based program induces women who had adopted the thin ideal to take a stance against it by participating in a series of verbal, written, and behavioral exercises that critique the thin ideal (Stice et al., 2000; 2001). It is important that individuals feel that they voluntarily assumed this counterattitudinal stance in order to create true dissonance. Effects from this eating disorder prevention program suggest that the dissonance-based targeted prevention reduces bulimic pathology and known risk factors for eating disturbances. Moreover, studies suggest that the effectiveness of this

prevention is not restricted to college-aged population (Stice et al., 2003) and support its utility in naturalistic settings (Becker et al., 2008).

The healthy weight control program is the second eating disorder prevention program to be deemed efficacious (Burton & Stice, 2006; Matusek et al., 2004; Stice et al., 2001; Stice et al., 2003, 2006, 2007, 2008). The purpose of the healthy weight control program is to only promote healthy weight control behaviors that would induce a slight negative energy balance by asking participants to make lasting healthy changes in their caloric intake and exercise. Binge eating and compensatory behaviors are never directly addressed or targeted for reduction and weight management is encouraged, rather than discouraged. Unlike the dissonance-based program, this prevention utilizes the drive for thinness as a motivator to achieve a slim but healthy figure through healthy means (Burton & Stice, 2006). Originally, this program was developed as a placebo condition; however, the authors found that it unexpectedly reduced several of the same outcomes related to eating pathology that the dissonance-based program targets, such as thin ideal internalization, negative affect, body dissatisfaction, and bulimic pathology (Stice et al., 2001, 2003, 2006, 2007). The decrease in thin ideal internalization is not surprising in that this prevention attempted to replace this ideal with a more attainable healthy ideal. Furthermore, this prevention shows some potential for the treatment of clinically diagnosed bulimia nervosa (Burton & Stice, 2006).

Overall, empirical evidence suggests that programs that actively require attitudinal and behavioral modification may be more effective than psychoeducational material in producing persistent behavior change. Positive effects of the dissonance-

based and healthy weight preventions have been achieved using a single-session workshop format (Matusak et al., 2004). Aside from reducing risk factors and disordered eating, both preventions have also decreased the risk for onset of future eating disorder symptoms and obesity. Moreover, both preventions have public health potential and have now received enough empirical support to be termed efficacious (Stice et al., 2006; 2007). The effects of both preventions have persisted through a 3 year follow-up; no other eating disorder prevention program has these long-lasting effects (Stice et al., 2008).

Since both preventions have somewhat different strengths, combining different aspects of the two may be beneficial. Moreover, there is recent evidence supporting that dieting behaviors do not necessarily maintain bulimia nervosa, suggesting a need to reconsider maintenance models for bulimia nervosa (Burton & Stice, 2006). Therefore, including discussions of dieting and exercise in future preventions may be useful, as long as a distinction is made as to what is considered healthy and unhealthy. The prevention program developed in the current study utilizes techniques and discussions from both the dissonance-based and healthy weight control programs discussed above. In addition, this prevention program was designed to include significant others that may have an effect on the levels of thin ideal internalization, body dissatisfaction, and eating pathology in women.

As discussed above, a plethora of research has found sociocultural pressures to be important contributing factors to body dissatisfaction and eating pathology. Theoretically, sociocultural pressures are manifest in proximal social institutions such as

family, peers, and romantic partners (Stice et al., 1996). Given that significant others can contribute to body dissatisfaction, it is important to consider the finding that interpersonal processes have been consistently implicated in the development and maintenance of body dissatisfaction. There is evidence indicating that individuals with eating disorders frequently report problems with interpersonal relationships (O'Mahony & Hollwey, 1995; Pyle, Mitchell, & Ekert, 1981) and that disordered eating behavior itself creates difficulties in interpersonal relationships, interfering with the individual's time and involvement with others (Johnson & Larson, 1982). From an interpersonal standpoint, thin ideal internalization may result because individuals internalize attitudes that are approved of or socially reinforced by significant or respected others. Family, peers, and media are thought to reinforce the thin ideal body image for women via comments or actions that encourage dieting, criticize women based on weight, and glorify ultra slender models (Thompson & Stice, 2001).

Among these significant interpersonal relationships, romantic partners are considered one of the most important sources of influence. Research assessing the influence of romantic partners on body image, however, is limited. A *Psychology Today* national survey (Garner, 1997) found that 40% of women and 29% of men surveyed said that their partner's opinion of their appearance was a factor in fostering body dissatisfaction. Therefore, in adult men and women, romantic partners are likely to exert a large amount of influence on body image and thin ideal internalization (Markey, Markey, & Birch, 2001). The role of romantic partners can be illustrated in two ways:

fears related to being negatively evaluated by one's partner and concerns about finding a partner's body acceptable or pleasing.

Women's concerns about weight are not unfounded as research indicates that men place a great deal of importance on women's body size and shape when they initiate romantic relationships (Markey, Markey, & Birch, 2004). However, inaccurate beliefs regarding body size preferences are often held by many women and these may play a large role in the development and maintenance of body image problems (Tantleff-Dunn & Thompson, 1995). Some research indicates that women misinterpret men's standards of bodily attractiveness (Markey et al., 2004; Markey & Markey, 2006); while men are likely to be observant of women's bodies, they may not actually be as concerned about the relative thinness of their bodies as women believe. Nonetheless, weight related criticism from spouses has been found to be related to lower self-esteem (St. Peter, 1997) and lower body esteem (McKinley, 1999). This may occur because as a partner criticizes a woman about her body, the partner is implying directly or indirectly a preference for a different (i.e., thinner) figure (Befort, Robinson Kurpius, Hull-Blanks, Nicpon, Huser, & Sollenberger, 2001). Even if men tend to be satisfied with their partner's appearance, it is possible that they do not communicate their general satisfaction to their partner. Research suggests that men might actually buffer their partners from the thin ideal by explicitly communicating their body preference (Markey et al., 2004). Given these findings, a prevention program that allows romantic partners to communicate their actual beliefs and preferences regarding body image seems warranted.



Most of the findings discussed above only include women since research has shown that the drive for thinness is relatively rare in boys and men (McCreary & Sasse, 2000). Some available research, however, suggest that men often pick the muscular mesomorphic shape as their ideal and that men also believe women look for muscularity in their ideal man. Internalization of the ideal body type in males may similarly lead to body dissatisfaction because discrepancy between one's ideal physique and one's actual physique is believed to cause body distress. Moreover, like the drive for thinness, the drive for muscularity can have detrimental physical and psychological consequences such as bingeing, use of steroids, and weight related health problems (McCreary & Sasse, 2000). Research suggests that body esteem plays a less central role in men's romantic and sexual relationship experiences when compared to women (Ambwani & Strauss, 2007). However, there may be a potential confound to this interpretation, that is, society frowns upon men's expression of bodily dissatisfaction and therefore "real men" do not whine about their physical appearance (Pope, Phillips, & Olivardia, 2000). These findings suggest that preventions which include discussions about the distorted way the media present women's bodies need to be balanced with a similar discussion of how the media presents men's bodies (Bearman, Presnell, Martinez, & Stice, 2006). A prevention in which an individual's romantic partner participates would address a strongly established sociocultural risk factor for eating disorders as well as open a line of communication between partners in which they may address a variety of issues related to body image and their relationship both as individuals and as a couple.

As discussed above, romantic partners can have an effect on body dissatisfaction and thin ideal internalization. However, there is also a small body of research linking body dissatisfaction and eating disorders to relationships satisfaction itself. Women with eating concerns report less satisfaction, comfort, and closeness in romantic relationships and tend to express a functional view of sexuality (Evans & Wertheim, 1998). On the other hand, Weller & Dziegielewski (2004) found that a positive, supportive relationship with a romantic partner is positively associated with women's body image and negatively associated with their anxiety about their physical appearance.

Body dissatisfaction can also have an effect on physical intimacy in romantic relationships. Body image concerns and eating disorders are generally associated with fear of intimacy in romantic relationships (Cash, Theriault, & Annis, 2004; Pruitt, Kappius, & Gorman, 1992). Approximately one third of college student women indicated experiencing body image self-consciousness during physical intimacy with a partner. Body image problems during physical intimacy can result in increased relationship-related negative events and decreased relationship satisfaction for women. Men can be negatively affected by their female partner's drive for thinness and bulimic attitudes (Rahbar, 2006). Furthermore, emotional intimacy and openness have been found to be lacking in marriages in which the wife has an eating disorder (Van den Broucke, Vandereycken, & Vertommen, 1995).

As the available research suggests, romantic partners and the relationship itself may play an important role in the development of body image dissatisfaction and vice versa. Furthermore, in any research involving romantic relationships, assessment of only

one partner is less than ideal. Assessing both partners allows for a more thorough understanding of the relationship; the same may be true for eating disorder prevention programs. Previous research also suggests that prevention programs should educate men and women alike about how they may contribute to mass discontent by uncritically accepting the thin ideal (Befort et al., 2001). It is possible that men are afraid to broach this topic with their significant others, and in the absence of communication about these issues, women may be making inaccurate assumptions about how their romantic partners view their bodies (Markey & Markey, 2006). A couples based eating disorder prevention program could potentially address several of these concerns more directly than a program targeting individuals, especially if said individuals place a great deal of importance on their partner's opinion.

For the current study, a couples eating disorder prevention program was developed based on Stice's dual pathway model. As stated above, the current prevention program combines techniques from the cognitive dissonance and healthy weight programs, both of which are based on the dual pathway model, along with some psychoeducational components. At the same time, the program includes both romantic partners in order to directly address a partner's influence on body image as well as its effect on relationships satisfaction. We recruited couples individually, that is, each couple completed the prevention program with only their partner and the student therapist in the room. Given that intimate topics (e.g., discussion of partner's body, initial comfort level with intimacy, how body image affects intimacy, etc.) were discussed during the prevention program, we thought it was best to recruit couples

individually rather than form groups of couples or groups of men and women. In addition, since this is the first time a couples eating disorder prevention program has been implemented, we thought having couples participate individually would provide us with more information on how to improve the prevention program in the future.

We thought it was important to develop a program in which couples can openly discuss various subjects related to body image, the thin ideal, and relationship satisfaction. As a result, the current study adds to the dual pathway model in two ways. Relationships satisfaction will be explored as a variable that may affect current thin ideal internalization and body image dissatisfaction. Relationship satisfaction could potentially be enhanced as a result of decreases in thin ideal internalization and body image dissatisfaction (Figure 2). A new couples eating disorder prevention program developed for college students was explored in this study compared to a waitlist control condition.

The main purpose of this study is to test the different variables affected by the current prevention program. One goal was to replicate past findings of studies that tested programs similar to this one, therefore providing generalization evidence for the current prevention program. A second goal was to test the effects of this prevention program on relationship satisfaction variables. Relationship measures are a new addition to the variables that have been and are currently being observed in studies of programs that focus on preventing eating disorders.

### *Hypotheses*

Predictions for this study were made at the individual and the couple levels.

Differences were expected between couples in the prevention and control conditions, as well as gender differences within the couple.

*Hypothesis 1.* It was hypothesized that women in the prevention condition would show decreased thin ideal internalization, body image dissatisfaction and negative affect, lower eating disorder symptomatology and higher relationship satisfaction following the prevention in comparison to their baseline scores.

*Hypothesis 2.* It was also predicted that there would be a difference between the control and prevention conditions in measures of thin ideal internalization, body image dissatisfaction, negative affect, eating disorder symptoms, and relationship satisfaction at post-test assessments. More specifically, it is predicted that there will be a larger change in the specified direction from pre- to post-test assessment in each of these variables in the prevention than in the control group.

*Hypothesis 3.* The hypothesized changes in all dependent variables described above were expected in both partners in the prevention group. However, larger differences were expected for the female partner since the current prevention program focuses slightly more on challenging the thin ideal that our society has for women than on the ideals that men are expected to fulfill. In addition, disordered eating is less common in men, therefore measures of disordered eating were expected to be restricted in range for the men in this study and, as a result, their change from pre- to post-prevention was expected to be small. Finally, women's relationship satisfaction may show a slightly higher increase because, in general, women are likely to benefit more from the program than men are.

Collectively, data suggest that young, heterosexual women's body image concerns may be experienced as particularly salient in the context of romantic relationships (Cash et al., 2004). This prevention anticipated that men and women would become more aware of the types of comments and behaviors that glorify the thin ideal. It was expected that couples would retain the information presented on the thin ideal as well as acquire the necessary tools to reject this unacceptable standard. At the same time, couples would become more aware of which weight management behaviors are healthy and unhealthy. In becoming more aware, they should be able to recognize, in themselves and in their partner, the types of behaviors that could potentially become problematic. Even if their current relationship is terminated, future relationships could potentially be less affected by behaviors and/or cognitions that may exacerbate the thin ideal and in turn increase the probability of developing eating disorder symptoms. By becoming more accepting of their own and their partner's body, the couple is also likely to become more comfortable and satisfied in their current and/or future relationships. Finally, by increasing general interpersonal functioning, the prevention has the potential to benefit other close interpersonal relationships.

## METHOD

### *Pilot Study*

The current study is the first that we are aware of to include dating partners in an eating disorder prevention program. Therefore, it was essential to verify that the program manual captures the different areas targeted in the dual pathway model. It was important to create a manual that may be easily executed by upper undergraduate research assistants yet effectively reduces the risk factors that other programs have successfully altered. Furthermore, because a couples eating disorder prevention program is not currently available, it was vital to test the current manual and make the necessary alterations in order to create the most effective program possible. Various aspects of this new program were explored. One of the most important was to note what couples think of the program. Feedback from both the student therapists and the couples was taken into consideration as the program manual was revised. A central goal was to make the program enjoyable for the couple. We thought it was important for couples to be able to relax and enjoy a program which requires them to share personal information and beliefs. Once this was achieved, the next step was to ensure that the couple finds the program useful. The manual was modified accordingly.

Thirteen couples participated in a pilot study. All couples in this study were assigned to the prevention program and were asked to complete pre- and post-test assessments. Each student therapist first observed the graduate student who created the manual implement the program with one couple. After this observation, each student therapist implemented the prevention program together with the graduate student with

one or two couples thereafter. Once it was determined that the student therapist was ready to implement the program, they did so on their own for the remainder of the study. The main purpose of this pilot study was to test and alter the manual for the program where necessary, as well as training experience for the student therapists. The student therapists received detailed feedback on a weekly basis after implementing the program on their own.

### *Main Study*

*Participants.* One-hundred and four heterosexual couples (208 individuals) participated in the present study at a southern university. One same-sex couple was excluded from the analyses as the study was designed for heterosexual couples. Three couples dropped out of the study before completing post-measures and their data was also excluded from the analyses. These drop-out couples account for a 2.9% attrition rate. The final sample consisted of 100 couples (200 individuals).

Participants' mean age was 19.05 years ( $SD = 0.96$ ). The majority of the participants were Caucasian (76.7%). Other ethnicities included Hispanic or Latino (10.7%), African American (5.8%), Asian (2.4%) and Mixed or Other (4.4%). The length of relationship ranged from one to 78 months, with a mean length of 16.33 months ( $SD = 15.58$ ). Each participant's Body Mass Index (BMI) was calculated based on reported height and weight, a healthy BMI can range from 19 to 24. Women's BMI ranged from 16.91 to 44.62, with a mean BMI of 22.03 ( $SD = 3.69$ ). Men's BMI ranged from 18.26 to 41.61, with a mean BMI of 24.55 ( $SD = 4.17$ ). Relationship satisfaction for women ranged from 13 to 42, with a mean of 36.55 ( $SD = 5.23$ ). Relationship



satisfaction for men ranged from 15 to 42, with a mean of 36.14 ( $SD = 4.58$ ). This indicates that, on average, participants in this sample were very satisfied with their relationships.

### *Measures*

*Demographic Questionnaire.* A demographic questionnaire asked participants their age, ethnicity, relationship status, length of dating relationship, major, career/professional goals, year in college, socioeconomic status, height, weight, exercise habits, and family history of mental illness.

*Relationship Satisfaction.* The Quality Marriage Index (QMI; Norton, 1983) is a 6-item self-report measure of relationship quality as a whole. Items are rated on a 7-point Likert scale ('very strongly disagree' to 'very strongly agree'). In a sample of couples planning to marry, the QMI showed high reliability with an alpha coefficient of .75 before marriage, .90 after a year of marriage, and .88 nine months after that (Noller & Feeney, 1994). Internal consistency for this sample was also high, with a Cronbach's alpha of .91 for women and .88 for men. For the present study, the scale was edited so that items ask about the quality of the 'relationship' rather than quality of the 'marriage' since none of the couples in this sample were married.

*Sociocultural Influences on Body Image (Thin Ideal Internalization).* The Sociocultural Attitudes towards Appearance Questionnaire-3 (SATAQ-3; Thompson, van den Berg, Roehring, Guarda, & Heinberg, 2004) is a 30-item self-report measure of societal influences on body image and eating disturbances. The measure consists of four subscales: (1) Information, (2) Pressures, (3) Internalization-General, and (4)

Internalization-Athletic. Items are rated on a 5-point Likert scale ('completely disagree' to 'completely agree'). This scale showed excellent convergent validity with measures of body image and eating disturbance (Thompson et al., 2004). Internal consistency for this sample was good: Information ( $\alpha = .94$  for women;  $\alpha = .92$  for men), Pressures ( $\alpha = .93$  for women;  $\alpha = .89$  for men), Internalization General ( $\alpha = .94$  for women;  $\alpha = .90$  for men), Internalization Athletic ( $\alpha = .83$  for women;  $\alpha = .80$  for men).

The Ideal-Body Stereotype Scale-Revised (IBSS-R, Stice, Ziemba, Margolis, & Flick, 1996) is a 10-item measure of thin ideal internalization. Items are rated on a 5-point Likert scale ('strongly disagree' to 'strongly agree'), with lower scores indicating higher ideal-body internalization. The IBSS-R has acceptable internal consistency ( $\alpha = .91$ ), test-retest reliability ( $r = .80$ ), and convergent and predictive validity (Stice & Agras, 1998; Stice et al., 1996). Internal consistency for this sample was .73 for women and .74 for men.

*State Body Image.* The Body Image States Scale (BISS; Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002) is a 6-item self-report measure of an individual's current evaluative/affective body image states. Items are rated on 9-point, bipolar, Likert scales, anchored at each point. The scale is presented in a negative-to-positive direction for half of the items and positive-to-negative for the other half. Scores on each dimension range from 1-9, with higher scores indicating more favorable body image states. In a college sample, the internal consistency alpha coefficient was .77 for women and .72 for men. The 2-to-3-week test-retest reliability for the same sample was

.69 for women and .68 for men (Cash et al., 2002). Internal consistency for this sample was acceptable, with a Cronbach's alpha of .88 for women and .80 for men.

*Trait Body Image.* The Figure Rating Scale (FRS; Stunkard, Sorenson, & Schlusinger, 1983) is a self-report measure of body image disturbance. The measure consists of seven female schematic figures, ranging in size from very thin to very overweight; participants can be asked to choose the figure that most closely represents their ideal figure (Ideal), figure that reflects how they think they look (Think), figure that reflects how they feel most of the time (Feel), or figure that they think is most preferred by men/women (PM/PW). In a college sample, the test-retest reliability coefficients for females were .71 for Ideal, .89 for Think, .83 for Feel, and .60 for PM. The test-retest reliability coefficients for males were .82 for Ideal, .92 for Think, .81 for Feel, and .60 for PW (Thompson & Altabe, 1991). Female participants were asked to complete the FRS once, asking to circle the silhouette that they thought most closely represents their own figure and a second time, asking to circle the silhouette that most clearly represented their ideal figure. Male participants were asked to complete the FRS once, asking to circle the silhouette that they thought most clearly represents their partner's figure and a second time, asking to circle the silhouette that most clearly represented the ideal female figure. This is the only measure where men were asked to rate women; women were asked to rate themselves.

*Disordered Eating.* The Eating Attitudes Test-26 (EAT-26; Garner & Garfinkel, 1979; Garner, Olmstead, Bohr, & Garfinkel, 1982) is a 26-item self-report measure of a broad range of behaviors and attitudes common in anorexia nervosa and restricted

eating. The EAT-26 has three factors that form subscales related to bulimia, weight/body-image variables and psychological symptoms. Items are rated on a 6-point Likert scale ('always' to 'never') with lower scores reflecting stronger disordered eating attitudes. The reliability coefficient reported for the EAT-26 in an anorexia nervosa sample is .90 and .83 in a non-clinical sample (Garner et al., 1982). Internal consistency for this sample was similar for women for the Dieting ( $\alpha = .88$  for women;  $\alpha = .81$  for men) and Bulimia and Food Preoccupation ( $\alpha = .85$  for women;  $\alpha = .60$  for men) factors. Reliability was low for the Oral Control factor ( $\alpha = .57$  for women;  $\alpha = .33$  for men), however.

*Negative Affect.* The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) is a 20-item trait negative affect scale designed to measure characteristic experiences of positive and negative affect. Items are organized into 2 subscales: a ten item Positive affect (PA) and a ten item Negative Affect subscale (NA). Participants were asked to rate the extent to which they generally experience a particular mood stage (e.g., distressed, upset, scared, irritable) on a 5-point Likert scale ('very slightly or not at all' to 'extremely'). The 10 positive adjectives are added to an estimation of positive affect and the 10 negative adjectives are added to an estimation of negative affect. Scores on each scale range from 10-50. In a college student sample, internal consistency alpha reliabilities are .88 for the PA scale and .87 for the NA scale. Test-retest reliability is .68 for the PA scale and .71 for the NA scale (Watson et al., 1988). Internal consistency for this sample was similar for both subscales: Negative

Affect ( $\alpha = .84$  for women;  $\alpha = .82$  for men), Positive Affect ( $\alpha = .86$  for women;  $\alpha = .89$  for men).

### *Procedure*

The current study was posted on the Psychology research website. Participants were self-selected into either a 1.5-hour (assessment-only control condition) or a 4-hour (prevention condition) study. Participants were unaware of the condition differences between the two studies. No name or description of the study was provided; the only information they were provided at the time they self-selected was the duration of the two studies. Participants in the prevention condition were required to attend two separate sessions that lasted approximately 120 minutes each. Following informed consent, participants provided survey data at pretest before the first session (Time 1). Participants completed all questionnaires containing the measures described above in private and in separate rooms in order to prevent the presence of their partner from influencing their answers. After the first session, participants were asked to schedule a time for the second session. At the completion of the second session, participants provided survey posttest data (Time 2). Assessment-only control participants were only required to complete the Time 1 and Time 2 questionnaires with an approximate 2-5 day interval between assessments; they did not partake in either session 1 or session 2 of the prevention program. All participants were given the opportunity to ask questions (separately) about the study and received a take-home debriefing sheet containing additional information about the study and required contact information after completing Time 2 questionnaires. The content of each prevention session is described below.

Sessions were guided by upper undergraduate psychology students who received extensive training on basic clinical skills and on the application of the prevention manual. The student therapists were required to attend weekly supervision meetings. During these supervision meetings, tapes were reviewed by the supervisors, the student therapists received feedback, and any concerns were addressed.

*Session 1.* Before participants were brought into the same room with their partner (immediately after completing Time 1 assessment), the student therapist gave the participant a brief summary of the prevention goals and the guidelines to follow during the sessions (i.e., be respectful toward partner). Once both participants were in the same room, the student therapist again discussed the goals of the prevention in more detail. They were also given the opportunity to ask questions and were encouraged to relax and participate as much as possible. After completing an icebreaker game, participants engaged in a series of discussion questions regarding the beauty ideal standards imposed for men (muscular-ideal) and women (thin-ideal) in our society, the costs associated with attempting to achieve these ideals for others, themselves, and as a couple. Throughout this discussion, the student therapist made the distinction between the thin-ideal/muscular-ideal and the healthy-ideal as clear as possible. Participants then engaged in discussion questions about the types of behaviors that may perpetuate the beauty ideal standards within the couple's relationship. Following this discussion, participants were asked to complete a worksheet in which they are asked to write down a list of compliments. The student therapist asked participants to share their compliments and aided the couple in determining whether a compliment was either inappropriate because

its content supports and/or focuses on the thin-ideal/muscular-ideal or appropriate because it does not support and/or focus on the ideals. The last discussion of the session focused on responses that challenge the thin-ideal. Each partner was given a brief scenario and asked to respond in a way that challenges the thin-ideal/muscular-ideal based on what they learned in the session's previous discussions and asked to discuss what they can do as a couple to resist or challenge the thin-ideal/muscular-ideal. The session ended with a homework assignment to be completed before Session 2 in which each partner was asked to stand in front of the mirror (separately), in as little clothing as they felt comfortable, and list as many of their own positive physical attributes as they could. Then participants were asked to list as many of their partner's positive physical attributes as they could while thinking about their partner in as little clothing as possible.

*Session 2.* The session began with the student therapist prompting participants to discuss the homework assignment by asking a series of questions allowing the couple to discuss some of the pressures about appearance imposed by themselves, their partner, others or society in general. After discussing the homework assignment, the student therapist provided an overview of the last session and allowed participants to ask questions. The student therapist then transitioned into a series of discussion questions related to how body image satisfaction, which is affected by the various issues discussed in Session 1, affects their dating relationship, including intimacy. Following this discussion, participants engaged in a game which encourages participants to realize that different factors, other than physical, are important in a dating relationship. Participants then role played three situations that required them to respond in a manner that rejects

the thin- and muscular-ideal. The student therapist then prompted a discussion about the importance of communication in a dating relationship, especially as it relates to physical attributes. The final discussion focused on making a distinction between healthy and unhealthy dieting and exercising. Participants were asked to discuss topics such as their beliefs about what constitutes healthy and unhealthy dieting and exercising, whether they engage in any of these behaviors, how it affects their dating relationship, and how each partner can be supportive of the other when in a healthy diet and exercise plan. The student therapist aided participants in making the distinction between healthy and unhealthy behaviors. After this discussion, student therapists encouraged participants to continue the mirror exercise given as a homework assignment during Session 1 and gave participants the opportunity to make any last statements or ask questions. Participants were then led into separate rooms and asked to complete Time 2 questionnaires.

#### *Statistical Analyses*

Multilevel analyses were conducted using the Hierarchical Linear Modeling (HLM; Raubenbush, Bryk, Cheong, & Congdon, 2001) program. Multilevel models were utilized in order to account for the nested structure of couples data.

*Equations.* A difference score was created in order to examine changes from Time 1 to Time 2 in relationship satisfaction, thin ideal internalization, state and trait body image, disordered eating, and negative affect for all couples. The difference score was calculated by subtracting pre-assessment measures from post-assessment measures. The dependent variable therefore reflected the amount of change from pre- to post-



assessment measures for each of the hypothesized variables. Each dependent variable was estimated separately using the following Equation:

Level 1 (variability due to individuals)

$$Y_{ij} = \beta_{0ij} + \beta_{1ij}(\textit{Gender}) + r_{ij} \quad (1)$$

Level 2 (variability due to couples)

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\textit{Condition}) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\textit{Condition})$$

At Level 1, the variability due to gender differences was modeled by an individual intercept (difference score,  $\beta_{0ij}$ ) and a slope (linear change,  $\beta_{1ij}$ ). At Level 2, the variability due to differences between couples was modeled by the average couple intercepts and slopes ( $\gamma_{00j}$  and  $\gamma_{10}$ ). Condition was added as a predictor in Level 2 to examine the differences accounted by the condition the couple was assigned as it was expected that couples assigned to the prevention condition would show greater difference scores than couples assigned to the control condition. Additionally, condition was entered as a predictor of Gender (entered in Level 1) because it was expected that the effect of the prevention would differ for men and women. Condition was coded as 0 = Prevention, 1 = Control for all analyses. Gender was coded as 0 = Female, 1 = Male. All statistical tests were considered significant at an alpha of .05 (Type I error,  $\alpha$ ). To be conservative, robust standard errors were used for all analyses in an attempt to account for the lack of strict random assignment.

## RESULTS

### *Descriptive Analyses*

The two condition groups did not differ significantly on demographic variables. No significant age differences were found between individuals in the Control group ( $M = 19.02$ ,  $SD = 0.97$ ) and Prevention group ( $M = 19.08$ ,  $SD = 0.96$ ;  $t(200) = -0.38$ , *NS*). No significant relationship length differences were found between individuals in the Control group ( $M = 15.27$ ,  $SD = 12.35$ ) and Prevention group ( $M = 17.09$ ,  $SD = 17.55$ ;  $t(204) = -0.83$ , *NS*). Finally, no significant differences in BMI were found between individuals in the Control group ( $M = 23.59$ ,  $SD = 4.48$ ) and Prevention group ( $M = 23.08$ ,  $SD = 3.85$ ;  $t(203) = 0.86$ , *NS*). In addition, differences in the dependent variables were not found between the two groups at the initial assessment time (Table 1). Although strict random assignment was not possible for this study, the two condition groups were very similar demographically and in their baseline measures of the dependent variables examined in this study.

### *Hypotheses Analyses*

All dependent variables were modeled using Equation 1, a basic two-level model that reflected the amount of change in each dependent variable with intercept and slope components. In addition, gender was added to the model as an individual-level predictor and condition assigned was added to the model as a couple-level predictor of the changes reflected in each dependent variable.

*Hypothesis 1.* Changes in women in the prevention condition that were expected from pre- to post-assessments in the hypothesized dependent variables are described in more detail below.

**Relationship Satisfaction.** It was hypothesized that women assigned to the prevention condition would show a significant increase in relationship satisfaction following the prevention program. Table 2 presents the effects of condition assigned on the change in relationship satisfaction. The intercept reflects the change in relationship satisfaction for women assigned to the prevention condition, no significant changes in relationship satisfaction were found for these women.

**Thin Ideal Internalization.** It was hypothesized that women assigned to the prevention condition would show a significant decrease in thin ideal internalization from Time 1 to Time 2. Table 3 presents the effects of condition assigned on the change in the different dimensions of thin ideal internalization. The intercept coefficients reflect the change in thin ideal internalization for couples in the prevention group. Women in the prevention condition displayed a significant decrease in the importance of media as an important source of information regarding beauty standards ( $b = -5.40, p < .0001$ ). A significant decrease in pressures from the media to meet appearance standards was also found for this group ( $b = -3.17, p < .0001$ ). In addition, the extent to which they internalized society's general thin-ideal norms ( $b = -6.17, p < .0001$ ), and athletic thin-ideal norms ( $b = -2.40, p < .0001$ ) was significantly lower at Time 2 for women in the prevention condition. Overall ideal-body internalization was also significantly lower at Time 2 for this group ( $b = 0.24, p < .01$ ).

Body Image Dissatisfaction. It was expected that women assigned to the prevention group would be less dissatisfied with their body at Time 2 than they were before the prevention. Table 4 presents the effects of condition assigned on the change in state and trait body image satisfaction/dissatisfaction. The intercept coefficients reflect the change in body image satisfaction/dissatisfaction for women in the prevention group. As hypothesized, women in the prevention group demonstrated a change in body image satisfaction/dissatisfaction from Time 1 to Time 2. There was a significant positive change in the evaluative/affective body image state for women in this group ( $b = 6.80, p < .0001$ ). In addition, results indicate that these women had less body image disturbance in comparison to their level of disturbance before the prevention ( $b = -0.21, p < .001$ ). Specifically, the discrepancy between the ideal and actual female partner's figure was lower at Time 1 than it was at Time 2, indicating that their view of the ideal female figure more closely represented the female partner's actual figure following the prevention.

Disordered Eating. A change in disordered eating from Time 1 to Time 2 was expected in women assigned to the prevention group. Table 5 presents the effects of condition assigned on the change in the behaviors associated with disordered eating. The intercept coefficients reflect the change in disordered eating for women in the prevention group. Consistent with the first hypothesis, women in the prevention group exhibited dieting behaviors ( $b = 2.89, p < .01$ ) with less frequency in comparison to their baseline reports. No significant changes were found in the women's reported frequency of bulimia/food preoccupation or oral control behaviors.

Negative Affect. It was expected that women in the prevention group would demonstrate a decrease in negative affect from Time 1 to Time 2. Table 6 presents the effects of condition assigned on the change in negative affect. The intercept coefficient reflects the change in disordered eating for women in the prevention group. No significant change in negative affect was found for these women.

*Hypothesis 2.* A significant difference in the amount of change from Time 1 to Time 2 between the prevention and control groups was predicted for all dependent variables. Couples in the prevention group were expected to show larger changes than couples in the control group.

Relationship Satisfaction. It was hypothesized that couples assigned to the prevention condition would show a larger increase in relationship satisfaction than couples assigned to the assessment-only control condition. Table 2 specifies the effects of condition assigned on the change in relationship satisfaction. The condition coefficient reflects the change in relationship satisfaction for the control group in comparison to the prevention group; no significant differences between the two condition groups were found.

Thin Ideal Internalization. A larger decrease in thin ideal internalization was expected for couples in the prevention group compared to couples in the control group. Table 3 presents the effects of condition assigned on the change in different dimensions of thin ideal internalization. The condition coefficients reflect the change in thin ideal internalization for couples in the control group in comparison to the prevention group. The change in importance of media as an important source of information was

significantly smaller for couples in the control group ( $b = 4.25, p < .001$ ). The change in pressures from the media to meet appearance standards was close to being significantly lower than it was for couples in the prevention for this group ( $b = 1.79, p < .10$ ). In addition, the extent to which control couples' change in internalization of society's general thin-ideal norms ( $b = 3.67, p < .01$ ), and athletic thin-ideal norms ( $b = 2.23, p < .01$ ) was significantly less than the amount of change for couples in the prevention group. Finally, change in overall ideal-body internalization for the control group was also significantly reduced compared to the prevention group ( $b = -0.26, p < .01$ ).

**Body Image Dissatisfaction.** It was hypothesized that couples assigned to the prevention group and couples assigned to the control group would differ significantly in their change in body image satisfaction/dissatisfaction. Table 4 presents the effects of condition assigned on the change in state and trait body image satisfaction/dissatisfaction. The condition coefficients reflect the change in body image dissatisfaction from Time 1 to Time 2 for couples in the control group in comparison to couple in the prevention group. Couples in the control group demonstrated a significantly different amount of change in body image dissatisfaction than couples in the prevention group. The positive change in the evaluative/affective body image state for couples in the control group was significantly lower than the change in the prevention group ( $b = -5.46, p < .0001$ ). Results also indicate that control couples displayed a smaller change in their levels of body image disturbance (rating of female partner's body) in comparison to prevention couples ( $b = 0.25, p < .05$ ). As stated earlier, this was the only measures where men were asked to rate women.

Disordered Eating. A significant difference in the amount of change in disordered eating from Time 1 to Time 2 was expected between couples in the prevention and control condition. Table 5 presents the effects of condition assigned on the change in the behaviors associated with disordered eating. The condition coefficients reflect the change in disordered eating for couples in the control group in comparison to the prevention group. No significant changes were found between the two groups in their reported change in dieting behaviors, frequency of bulimia/food preoccupation or oral control behaviors.

Negative Affect. Significant differences in the amount of change in negative affect were expected between couples assigned to the prevention and those assigned to the control group. Table 6 presents the effects of condition assigned on the change in negative affect. The condition coefficient reflects the change in disordered eating for the control group. A significant difference between couples in the control and prevention groups in negative affect change was not found.

*Hypothesis 3.* Although changes in the dependent variables were expected in both partners in couples assigned to the prevention condition, we hypothesized that larger changes would occur in the female than in the male partner.

Relationship Satisfaction. Table 2 specifies the effects of the prevention program on relationship satisfaction by gender. The condition by gender interaction coefficient reflects if the effect of the prevention on change in relationship satisfaction is significantly different between men and women. No significant gender differences were found for the effect of the prevention on change in relationship satisfaction.

Thin Ideal Internalization. Table 3 presents the effects of the prevention program on thin ideal internalization by gender. The condition by gender interaction coefficient reports if the effect of the prevention on change in thin ideal internalization variables is significantly different between men and women. The effect of the prevention program on the observed change in importance of media as an important source of information differed by gender ( $b = -4.47, p < .05$ ); the predicted mean change in Information was a decrease of 5.40 for women and a decrease 1.26 for men in the prevention group. The effect of the prevention program on change in pressures from the media to meet appearance standards differed by gender ( $b = -4.16, p < .01$ ); the predicted mean change in Pressure was a decrease of 3.17 for women and a decrease of 0.59 for men in the prevention group. The effect of the prevention program on the extent to which individual's internalized society's athletic thin-ideal norms differed significantly by gender ( $b = -2.13, p < .05$ ); the predicted mean change in Athlete Internalization was a decrease of 2.40 for women and a decrease of 2.43 for men in the prevention group. There was a trend suggesting that the effect of the prevention program on change in internalization of general thin ideal norms may vary as a result of gender ( $b = -2.85, p < .10$ ); the predicted mean change in General Internalization was a decrease of 6.17 for women and a decrease of 3.03 for men in the prevention group. The effects of the prevention program on change in overall body-ideal internalization did not differ significantly by gender.

Body Image Dissatisfaction. Table 4 presents the effects of the prevention program on change in body image dissatisfaction by gender. The condition by gender



interaction coefficient reports if the effect of the prevention on the change in body dissatisfaction differs significantly between men and women. The effect of the prevention program on change in evaluative/affective body image state differed significantly between men and women ( $b = 3.78, p < .05$ ); the predicted mean change in State Body Image Satisfaction is an increase of 6.79 for women and an increase of 3.89 for men in the prevention group. There were no significant gender differences in the effect of the prevention program on change in trait body image disturbance (rating of female partner's body).

Disordered Eating. Table 5 indicates the effects of the prevention program on behaviors associated with disordered eating by gender. The condition by gender interaction coefficient reflects if the effect of the prevention on changes in disordered eating differs significantly between men and women. The effect of the prevention program on change in oral control behaviors was significantly different between men and women ( $b = 1.97, p < .05$ ). Considering that lower scores reflect higher oral control behaviors, the predicted mean change in Oral Control is an increase of 0.34 for women and an increase of 0.61 for men in the prevention group. Although the main effects of gender and condition were not significant for Oral Control, examination of the significant interaction coefficient suggests that, in comparison to the other groups, women in the prevention condition demonstrated a significant decrease in oral control behaviors. In closer inspection, however, it became apparent that men in the prevention condition demonstrated a smaller decrease in Oral Control than men in the control condition at Time 2. No significant gender differences for the effect of the prevention

program were found for change in dieting behaviors or change in reported bulimia/food preoccupation.

Negative Affect. Table 6 reports the effects of the prevention program on the change in negative affect. The condition by gender interaction coefficient indicates if the effect of the prevention on changes in negative affect differs significantly between men and women. No significant gender differences were found for the effects of the prevention program on changes in negative affect.

Table 7 provides the predicted mean change and effect sizes for the women control, women prevention, men control, and men prevention groups for each dependent variable. The predicted mean change reflects the difference observed in that variable from Time 1 to Time 2 for that given group. All effect sizes were in the expected direction with the exception of pressures to be thin, where men in the prevention group demonstrated a slight increase following completion of the prevention program. In addition, it is noted when negative effect sizes indicate a result contradicting our prediction that individuals in the prevention group would demonstrate a higher decrease in eating disorder symptoms than those in the control group. As expected, the effect sizes for the prevention on most variables are larger for women than they are for men. This is not surprising since the prevention program was developed to primarily target the women in the relationship as women typically exhibit higher eating disorder rates, and the risk factors associated with eating disorders.

## DISCUSSION

The present study focused on examining the first couple-based eating disorder prevention program. The variables targeted in previous cognitive dissonance based prevention programs were examined in this study in an attempt to replicate findings from previous studies. More specifically, the variables described in the dual pathway model (Stice 1994, 2001) such as thin ideal internalization, pressure to be thin, body image dissatisfaction, negative affect, dieting, and disordered eating, were examined. This allowed us to test the efficacy of the current couples eating disorder prevention program by comparing it to previously successful programs. In addition, since this program was developed to target couples, in addition to the individual, the effects of the prevention on relationship satisfaction were also examined. Finally, gender differences were examined because it was expected that the prevention program would affect men and women differently. Close examination of gender differences can help refine the prevention program so that both partners benefit from the program as much as possible.

### *Efficacy of Couples Eating Disorder Prevention Program*

The first step in testing the efficacy of the couples eating disorder prevention program was to test for significant changes in the targeted variables discussed above for couples who completed the prevention program. Following the prevention, couples demonstrated a significant decrease in overall internalization of the thin ideal and its different dimensions of thin ideal internalization. More specifically, these couples reported a decrease in the importance of information about beauty ideals presented by the media and the amount of pressure they felt from media sources to fulfill this ideal. In

addition, the extent to which they internalized the general thin ideal and athletic thin ideal norms presented in our society was lower following the prevention. According to the dual pathway model, this is an important risk factor in the development of eating disorders. Consequently, finding significant decreases in thin ideal internalization is considered an important step in the development of an eating disorder prevention program given that successful programs often decrease attitudinal risk factors and promoted healthy-weight control behaviors (Stice & Shaw, 2004).

Body image was also significantly different for these individuals after the prevention. A positive change in the evaluative/affective body image state was found indicating that couples who completed the program felt better about their bodies. Results also demonstrated a decrease in body image disturbance involving the rating of the female partner's body, indicating that their perception of the female partner's actual figure more closely represented their ideal figure than it did before the prevention. Again, this finding provides strong support for the efficacy of the prevention program as body dissatisfaction is another important risk factor for developing an eating disorder (Stice & Agras, 1998).

Partial evidence for the effect of the prevention program on disordered eating was found. Reported dieting behaviors decreased following the prevention. This is an important risk factor identified in the dual pathway model (Stice 1994, 2001). The change in this variable in couples who completed the prevention program provides preliminary evidence for its efficacy because it is decreasing one of the most salient and closely related risk factors for eating disorders. Other eating disorder variables such as

the frequency of bulimic behaviors, food preoccupation and oral control behaviors, however, remained unchanged. One possibility for the lack of effect of the prevention program on these behaviors is the time of post-assessment immediately following the prevention program. Change in behaviors requires time and the detection of change in behaviors may occur at later follow-up. The program did create change in attitudes and thoughts with regards to the relevant behaviors, thus change in behavior is plausible. Another possibility for this null effect may be that it is difficult to target eating disorders symptoms directly. Targeting the indirect paths to eating disorder symptoms may be more productive. Interestingly, past research suggests that the strongest predictor of onset of binge eating and compensatory behaviors is dieting (Stice & Agras, 1998), which successfully decreased in this study. Again, this leads us to believe that the current prevention program is comparable to previously successful ones.

One of the final variables in the dual pathway model, negative affect, also remained unchanged as couples in the prevention group did not exhibit significant changes. A possible explanation for the lack of significant findings is that most couples in the study exhibited very low levels of negative affect to begin with. This restricted range makes it difficult to capture changes in negative affect because these couples displayed very little room for improvement. A second possible explanation is that past studies have found that some of the risk factors, such as peer pressure to be thin, may not contribute to negative affect (Stice et al., 2003). Therefore, it becomes difficult to target this particular variable because the role it plays on risk factor models is not as fully established as the other risk factors.

Finally, relationship satisfaction was introduced into the study as a variable targeted by the couples prevention program. However, no significant changes in relationship satisfaction were found. The lack of significant findings in relationship satisfaction may be due to the restricted range. The average couple in this study reported being 'very happy' to 'extremely happy' prior to the prevention. As a result, there was very little room for change for these couples since they were already very satisfied with their relationship. It does not seem likely that insufficient power contributed to this outcome as the sample was calculated with the expectation that the effect size for relationship satisfaction would be quite small.

The second step in testing the efficacy of the couple eating disorder prevention program was to compare the changes observed to a control group who did not participate in the program. Overall, results provide support for the efficacy of the program in comparison to an assessment-only control group. Significant differences between the control and the prevention groups were found for overall thin ideal internalization, for the importance of media as an important source of information about body ideals, and for the extent to which general and athlete thin ideal norms are internalized. Couples who completed the prevention program demonstrated a larger decrease in these variables than couples who did not. The media pressures to meet thin ideal standards were not significantly different between the groups, but a trend for the prevention couples to show a larger decrease in the amount of pressure was evident.

Body dissatisfaction variables were also affected differently for couples who completed the program and couples who did not. More specifically, couples who

completed the program demonstrated a higher positive change in evaluative/affective body image state than those who did not. In addition, couples who did not complete the program exhibited a smaller decrease in levels of body image disturbance when rating the female partner's body than couples who completed the program.

Changes in disordered eating did not differ between the prevention and control groups. This suggests that although couples who completed the program reported lower dieting behaviors in comparison to their baseline reports, this change was not significantly different between couples in the control and couples in the prevention program. This finding may suggest that couples are reporting lower dieting behaviors during posttest assessments, regardless of whether they participate in the program or not. Finally, as stated above no significant change in frequency of bulimia/food preoccupation and oral control behaviors were found for couples who participated in the prevention program. Since the two groups did not differ in their levels of bulimia/food preoccupation and oral control behaviors at baseline, it seems plausible to conclude that the prevention program did not have a significant effect on these variables. As previously discussed, a possible explanation for the lack of significant findings may be the restricted range in the current sample. Most individuals exhibited very low levels of bulimic behaviors, food preoccupation, and oral control behaviors. This sample (across male and female individuals) did not appear to have high levels of disordered eating. However, as it is evident from the significant findings on thin ideal internalization, body dissatisfaction, and dieting, there is room for the prevention to help decrease these other

risk factors. By targeting these factors, the possibility of these individuals developing eating disorders may be lowered.

There were no differences between the control and prevention groups in the effects of the prevention program on negative affect. In general, negative affect remained unchanged as couples in either group did not appear to show significant changes. Again, it is possible that the restricted range contributed to the lack of significant findings or that other risk factors do not contribute to negative affect. An array of other variables (i.e., health problems, substance use, and social support) that were not explored in the present study can contribute to levels of negative affect. In future studies, controlling for these variables may be warranted.

As far as change in relationship satisfaction, it is not surprising that no differences between the control and prevention groups were found given that relationship satisfaction in women in the prevention group did not change significantly. Again, this lack of significant effects is likely due to the restricted range of this sample. All of the couples in this sample reported being at least ‘very happy’ at baseline, which leaves very little room for any change to occur. In addition, it is possible that the assessment time frame hindered our ability to detect change in relationship satisfaction because it was too short. A measure of relationship satisfaction at a longer follow-up time point may detect a change that we were unable to detect immediately following the prevention program because changes in these variables often take time to be observed.

Overall, findings support the efficacy of the prevention programs as significant changes in important risk factors specified in the dual pathway model were observed



following the prevention. In addition, for the majority of these risk factors, the decreases were not found for assessment-only control couples who were demographically similar to the couples who completed the prevention program. Therefore, differences between the two groups cannot be attributed to demographic differences. Furthermore, all couples in this study had similar severity levels in all of the variables explored. This indicates that the prevention likely played an important role in the changes found in the prevention group.

#### *Gender Differences in the Effects of the Prevention Program*

An important goal of this study was to test for gender differences in the effects of the prevention program since men and women are affected differently by the social pressures to fulfill a body ideal. For example, girls are most satisfied with their bodies when they are underweight, consistent with the thin-ideal, whereas boys are most satisfied when they are average weight (Presnell, Bearman, & Stice, 2004). As a result, there is a great difference in the prevalence of eating disorders between men and women, with men accounting for only an estimated 5 to 15 percent of individuals with anorexia or bulimia (Andersen, 1995) and the drive for thinness is relatively rare in boys and men (McCreary & Sasse, 2000). The current prevention program was developed with these differences in mind. Accordingly, we tried to maintain the important risk factors of the dual pathway model as well as other features of successful prevention programs in mind since these programs have been shown to be effective with women (Stice & Shaw, 2004). In addition, we tried to incorporate some of the risk factors for men, such as discussing the muscular ideal and unhealthy means to a muscular body (i.e., bingeing,

use of steroids, weight-related health problems). In spite of these additions, we still expected the program to be more highly effective for women because the additions for targeting the muscular ideal were limited; we did not expect the prevention program to target both men and women equally.

Overall, there is evidence for gender differences in the effects of the current eating disorder prevention program. The majority of the thin ideal internalization variables were affected differently between men and women. The decreases in importance of media as an important source of information and in pressures from the media to meet appearance standards were larger for women than they were for men. A trend emerged suggesting that women's decrease in the extent to which they internalize the general thin ideal is lower than men's following the prevention. The decrease in the extent to which the athletic ideal is internalized, however, was larger for men than it was for women following the prevention. This is not surprising because the program also targets the muscular-ideal, which research shows affects men more so than the thin ideal (McCreary & Sasse, 2000; Presnell et al., 2004; Bearman et al., 2006). This finding is consistent with past research on risk factors for males and provides support for our attempts to also target men's body image variables in this prevention program. Effects of the program on overall body-ideal internalization did not differ by gender. This is expected as the measure assessing this variable is not as specific to women as the other measures because it asks for participants' level of agreement with different statements encompassing the thin ideal specifically for women. As a result, it appears to capture the change in opinions about the thin ideal equally for men and women.

Body dissatisfaction changes resulting from the prevention differed for men and women, but only in evaluative/affective body image where women showed a larger decrease than men did. Body image disturbance was measured by examining the discrepancy between the actual and ideal rating of the female partner's figure; both partners were asked to rate only the female partner's figure. Interestingly, body image dissatisfaction appeared to decrease across male and female partner reports, indicating that women were more satisfied with their own body and men were more satisfied with their partner's body than they were prior to the prevention. It would be interesting to examine the female partner's perception of their partner's level of satisfaction with the woman's body as a moderator in the effects of the prevention program. Given that prior research has found that inaccurate beliefs regarding body size preferences may play a large role in the development and maintenance of body image problems in women (Tantleff-Dunn & Thompson, 1995), this could be an important moderator to consider and address in the prevention program. For this study, however, the important implication is that the prevention program appeared to successfully decrease body image disturbance of the female partner's figure.

Gender differences for the effects of the prevention on some disordered eating behaviors were found. Differences in dieting behaviors or bulimia/food preoccupation were not found between men and women who completed the prevention program. In closer inspection, results revealed that significant decreases in oral control behaviors were occurring in the prevention group. This change, however, only occurred for women who completed the prevention program. This finding suggests that women who

completed the prevention program are the only group who showed a significant decrease in oral control behaviors. Men who completed the program did not show any significant change in oral control behaviors. This is likely explained by the restricted range in the male sample as oral control behaviors were reported, on average, to only occur 'rarely', therefore very little room for change was available. For women, however, oral control behaviors were more common, so we were able to capture the decrease in oral control behaviors. The fact that we were only able to observe this decrease in women who completed the prevention and not the women in the control group provides further support for the efficacy of the prevention program.

Changes in negative affect and relationship satisfaction were not different for men and women who completed the prevention program. As previously stated, it is possible that the restricted range on reported levels of negative affect may have resulted in this null effect. A possible explanation for the lack of findings in relationship satisfaction is that there are many factors, other than the ones examined in this study, which affect this variable. In the future, it would be of interest to examine possible moderators for the effect of the prevention program on relationship satisfaction, such as relationship length and communication style.

Overall, the current couple-based eating disorder prevention program was efficacious. With the exception of the null results for change in negative affect, results from the study are consistent with previous research examining the efficacy of eating disorder prevention programs based on Stice's dual pathway model (Stice, 1994, 2001). The effect sizes on variables identified in the dual pathway model for the current study

ranged from .22 to .58 for women and from .02 to .71 for men. These effects would be considered small to medium in magnitude according to Cohen's (1988) criteria and are comparable to those found in meta-analytic reviews of eating disorder prevention program (Stice & Shaw, 2004; Stice et al., 2007). In previous studies, these effect sizes have led to long-term meaningful changes, such as reduced onset of eating disorder and obesity. In general, effect sizes were larger for women than they were for men with the exception of pressure to be thin, trait body image dissatisfaction, and oral control. This was expected given that the prevention program targets women somewhat more closely than it does men.

Although changes in relationship satisfaction were not observed, the supporting data for the program in general suggests that it still successfully affected the major eating disorder risk factors. There is a plethora of other variables that have an effect on levels of relationship satisfaction. Some of these include communication (Meeks, Hendrick & Hendrick, 1998) and attachment style (Jones & Cunningham, 1996). In assessing a couple-based prevention in the future, some of these variables should be taken into consideration. Furthermore, it is possible that relationship satisfaction moderates the effects of the prevention programs. The level of satisfaction with an individual's romantic relationship certainly seems to affect eating disorder risk factors, therefore, it is plausible to believe that it could have a moderating role in eating disorder prevention programs rather than the hypothesized independent effect. In the future, exploring relationship satisfaction as a moderator of couple based eating disorder prevention programs would help to clarify its role in these programs.

Nonetheless, it appears that the current prevention program provides an acceptable starting point for couple-based eating disorder prevention programs. Qualitative data indicate that the couples enjoyed the prevention program as almost all couples who participated in the program provided positive feedback. Although some topics were difficult to broach, it provided the couples with a safe environment in which they could discuss these issues. In addition, a fair amount of the feedback stated that they appreciated being able to discuss these topics and felt that it brought them closer to their partner. Unfortunately, feedback information was collected anonymously; therefore we were unable to examine gender differences. It would be interesting to assess women and men's reactions to the prevention program and to assess for differences in what they enjoyed or disliked.

#### *Limitations and Future Directions*

The current study has a few limitations. First, the sample is limited to a college student population, limiting the extent to which the prevention may generalize to other populations. However, it is important to remember that college-aged individuals also tend to be at a high risk for the development of body image dissatisfaction and eating disorders. Second, the current study did not explore any mechanisms of change. A recent meta-analysis of the current eating disorder prevention programs suggests that an array of variables (i.e., risk status of participants, session format, number of sessions, program content) moderate the strength of prevention effects (Stice et al., 2007). While the meta-analytic review was taken into consideration as the program was developed, time restraints prevented this study from investigating important moderators in more detail.

These moderators should be explored in future studies. Third, the current study did not focus closely on the effects of the prevention program on men. Given that the prevention targets the thin-ideal more so than the muscular-ideal, variables associated with the muscular-ideal were not included in the current study. In future studies, it will be crucial to include measures of the muscular-ideal and of variables more pertinent to men's body image. In addition, refining the program in accordance with supported research on the muscular-ideal and the pressures that men are exposed to may make the prevention equally efficacious for both partners. Fourth, the couples in this study are dating college students where frequency of dissolution of the relationship might be high. As mentioned in the introduction, this prevention program is still thought to be useful for the female participant even if the relationship dissolves. By role modeling and facilitating communication about body image and eating disorder symptoms among a couple, female participants might be more likely to generalize these learned skills to other relationships. Another limitation of this study was the lack of total randomization. New prevention programs require randomized trials in order to evaluate their efficacy. This study was limited in that we were unable to match previous randomized trials because the nature of the sample we used did not allow for the usually required randomization. Additionally, the current study was face valid, that is, participants were aware of the purpose of the study (to decrease factors associated with the development of eating disorders) and they may have responded in a way consistent with this purpose simply because they were aware of it. With any face valid study, the possibility of social desirability must be considered. However, studies of prevention programs with sorority

women suggest that social desirability does not create a significant interference. In future studies, a measure of social desirability may be useful in identifying this as a potential bias. Finally, because this is the first couple-based eating disorder prevention program, the prevention itself is still new. Although support was found for the efficacy of the prevention program, the extent to which it will be effective and practical remains to be discovered. This study was a crucial first step in the right direction to determine the program's efficacy.

The novelty of the current couples eating disorder prevention program requires that different things be considered in refining and making it as useful of a program as it can be. This will be a challenging task because the societal beauty norms and the prevalence of eating disorders differ for men and women. The current study provides support for the necessity of preventions that aim to mitigate the effects of sociocultural pressures to reduce body dissatisfaction to be approached differently for boys and girls (Presnell et al., 2004). However, because romantic partners can be an important source of information for beauty standards, the existence of a program that targets these issues is also vital. In the future, different approaches to implement the program can be explored. One way to refine the program would be to modify it into a group format. One format could be to separate the couples into men and women groups for the first session and focus on the respective ideals and the pressures to fulfill the ideals. The second session could take place with the mixed group where they can discuss the similarities and differences in the pressures they face. During this second session, they can also focus more on discussions about relationship satisfaction and the importance of romantic



partners in the prevention of body image dissatisfaction and of eating disorders. Future directions to consider also involve the risk level of individuals being targeted. The prevention program should be explored with high risk individuals. Researchers are currently in the process of developing a couple-based prevention for the treatment of Anorexia Nervosa that aims to address the unique and challenging stresses that Anorexia places on intimate relationships (Baucom & Bulik, 2008). The expectation for this prevention is that it will improve core Anorexia pathology as well as couple functioning. It is clear from the activity in the field that romantic relationships play an important role in the area of eating disorders and body image. The availability of such a program is a huge step in beginning to address the couple functioning in addition to addressing individual functioning. With more reason, then, a couple-based prevention program is imperative since it is easier to prevent than to treat full-blown eating disorders.

## CONCLUSION

Overall, the couples eating disorder prevention program is comparable to existing cognitive dissonance based preventions. The effects of the program for women on thin-ideal internalization, body image dissatisfaction, dieting, and oral control behaviors were replicated. Although this study did not explore the effects of the prevention program on males directly, the results suggest that changes are also occurring in male partners. Thus, educating both men and women alike appears to be a successful way of addressing the thin ideal and its detrimental effects.

The current findings provide support for literature which has found that romantic partners can play an important part on several risk factors associated with eating disorders. For women, weight-related criticism from a romantic partners can lead to body shame, body surveillance, and a generalization and disapproval of her entire self (Befort et al., 2001). In addition, a romantic partner's perception, evaluation, and comments have a significant impact on how satisfied or dissatisfied a woman is with her body (Pole et al., 2004). These pressures will almost certainly continue as both men and women are exposed to the thin ideal in numerous ways and their beauty standards are certainly influenced by these ideas in some way.

The efficacy of the prevention program was supported. The next step is to fine-tune the prevention program in order to capture more of the variables that may affect relationship satisfaction given that romantic partners are an important source of information for body image satisfaction for both men and women. Also, future research should explore mechanisms of change, such as initial severity of eating disorder symptoms and BMI.

Finally, in order to target individuals who have more relationship distress, the prevention program should be tailored to include more specific relationship discussions and activities.

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APPENDIX A

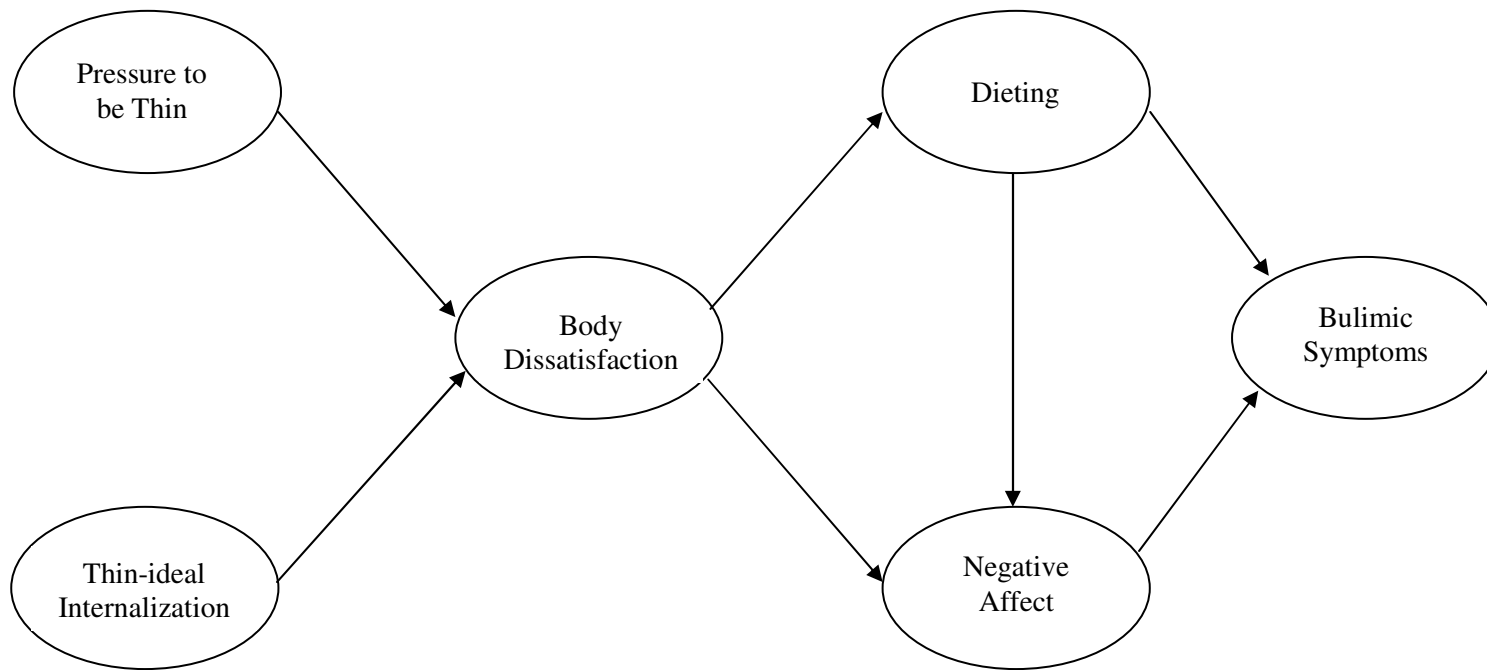


Figure 1. Dual pathway etiological model of eating disorders (Stice, 1994, 2001).

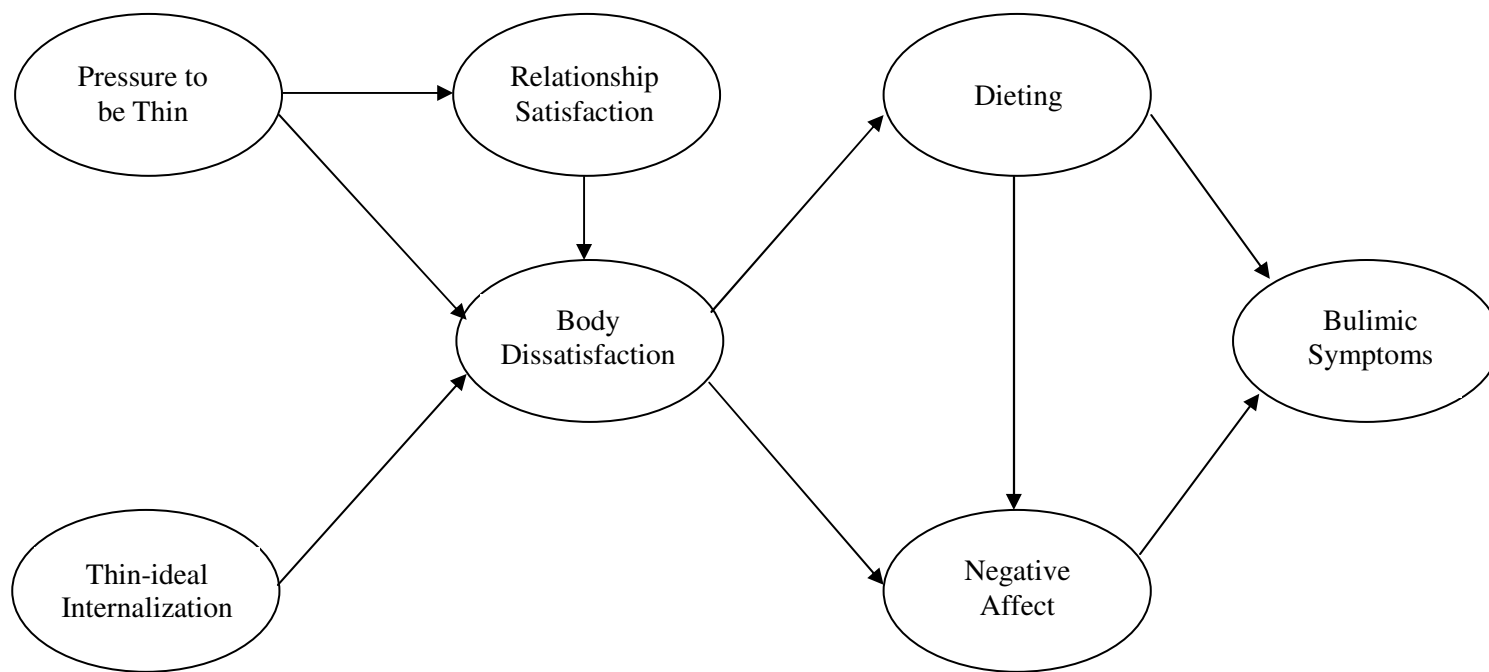


Figure 2. Relationships satisfaction in the dual pathway model of eating disorders (Stice, 1994, 2001).

## APPENDIX B

Table 1

*Means for all dependent variables for control and prevention groups at initial assessment*

Measures	Condition				<i>t</i>	<i>df</i>
	Control <i>M</i>	<i>SD</i>	Prevention <i>M</i>	<i>SD</i>		
<i>QMI</i>						
Relationship Satisfaction	36.42	4.89	36.29	4.94	0.18	204
<i>SATAQ-3</i>						
Information	20.66	8.86	22.17	8.58	-1.23	204
Pressures	18.21	8.30	17.57	8.53	0.54	204
Internalization (General)	25.37	10.29	25.37	8.56	0.00	161.69
Internalization (Athlete)	16.44	4.15	16.42	4.33	0.03	204
<i>IBSS-R</i>						
Thin Ideal	2.43	0.61	2.36	0.44	0.98	145.63
<i>PANAS</i>						
Negative Affect	19.17	6.41	19.20	6.12	-0.03	204
<i>BISS</i>						
State Body Image	33.48	8.51	34.12	8.50	-0.54	204
<i>FRS</i>						
Trait Body Image	0.46	0.79	0.58	0.78	-1.06	203
<i>EAT-26</i>						
Dieting	59.56	10.54	59.22	11.64	0.21	203
Bulimia	31.66	4.82	31.80	3.62	-0.23	203
Oral Control	34.06	4.51	33.88	3.89	0.30	203

Note. Mean differences are not significant for any of the dependent variables.



Table 2

*Effect of gender and condition assigned on relationship satisfaction*

<i>Variable</i>	<i>Change in Relationship Satisfaction</i>		
	<i>b</i>	<i>SE</i>	<i>df</i>
<i>QMI Total</i>			
Intercept	0.26	0.49	98
Condition	0.43	0.76	98
Gender	-0.10	0.76	196
Gender X Condition	-0.49	0.76	196

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . †  $p < .10$

Table 3

*Effect of gender and condition assigned on thin ideal internalization*

<i>Variable</i>	<i>Change in Thin Ideal Internalization</i>		
	<i>b</i>	<i>SE</i>	<i>df</i>
<i>SATAQ-3 Information</i>			
Intercept	-5.40***	0.91	98
Condition	4.25***	1.27	98
Gender	4.14**	1.43	196
Gender X Condition	-4.47*	1.84	196
<i>SATAQ-3 Pressure to be Thin</i>			
Intercept	-3.17***	0.60	98
Condition	1.79†	1.05	98
Gender	3.76***	0.95	196
Gender X Condition	-4.16**	1.42	196
<i>SATAQ-3 Internalization-General</i>			
Intercept	-6.17***	0.85	98
Condition	3.67**	1.22	98
Gender	3.14*	1.28	196
Gender X Condition	-2.85†	1.61	196
<i>SATAQ-3 Internalization-Athlete</i>			
Intercept	-2.40***	0.54	98

Table 3 Continued

<i>Variable</i>	<i>Change in Thin Ideal Internalization</i>		
Predictor	<i>b</i>	<i>SE</i>	<i>df</i>
<i>SATAQ-3 Internalization-Athlete</i>			
Condition	2.23**	0.71	98
Gender	-0.03	0.66	196
Gender X Condition	-2.13*	0.88	196
<i>IBSS-R</i>			
Intercept	0.24**	0.07	98
Condition	-0.26**	0.09	98
Gender	-0.18†	0.10	196
Gender X Condition	0.19	0.17	196

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . †  $p < .10$

Table 4

*Effect of gender and condition assigned on body image dissatisfaction*

<i>Variable</i>	<i>Change in Body Image Satisfaction</i>		
	<i>b</i>	<i>SE</i>	<i>df</i>
<i>BISS State Body Image (Satisfaction)</i>			
Intercept	6.79***	0.91	98
Condition	-5.46***	1.25	98
Gender	-2.90*	1.20	196
Gender X Condition	3.78*	1.55	196
<i>FRS Trait Body Image (Disturbance)</i>			
Intercept	-0.21***	0.06	98
Condition	-0.25**	0.10	98
Gender	0.19*	0.10	196
Gender X Condition	-0.23	0.16	196

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . †  $p < .10$

Table 5

*Effect of gender and condition assigned on disordered eating*

<i>Variable</i>	<i>Change in Disordered Eating</i>		
	<i>b</i>	<i>SE</i>	<i>df</i>
<i>EAT-26 Dieting</i>			
Intercept	2.89**	0.87	98
Condition	-1.82	1.13	98
Gender	-2.35*	1.16	196
Gender X Condition	2.64	1.61	196
<i>EAT-26 Bulimia/Food Preoccupation</i>			
Intercept	0.53	0.35	98
Condition	0.25	0.63	98
Gender	0.55	0.43	196
Gender X Condition	-0.27	0.76	196
<i>EAT-26 Oral Control</i>			
Intercept	0.34	0.33	98
Condition	-0.74	0.51	98
Gender	0.27	0.56	196
Gender X Condition	1.97*	0.84	196

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . †  $p < .10$

Table 6

*Effect of gender and condition assigned on negative affect*

<i>Variable</i>	<i>Change in Negative Affect</i>		
	<i>b</i>	<i>SE</i>	<i>df</i>
<i>PANAS Negative Affect</i>			
Intercept	-1.22	0.75	98
Condition	-0.51	1.04	98
Gender	0.22	0.81	196
Gender X Condition	-0.03	1.37	196

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . †  $p < .10$ .

Table 7

*Predicted mean changes and effect sizes of all dependent variables for four gender/condition groups*

Scale	Women			Men		
	Control	Prevention	<i>d</i>	Control	Prevention	<i>d</i>
<i>QMI</i>						
Relationship Satisfaction	0.69	0.26	-0.08	0.10	0.16	0.01
<i>SATAQ-3</i>						
Information	-1.15	-5.40	-0.48	-1.48	-1.26	0.03
Pressures	-1.38	-3.17	-0.22	-1.78	0.59	0.38 <sup>a</sup>
Internalization (General)	-2.50	-6.17	-0.39	-2.21	-3.03	-0.10
Internalization (Athlete)	-0.17	-2.40	-0.53	-2.33	-2.43	-0.02
<i>IBSS-R</i>						
Thin Ideal	-0.02	0.24	0.55	-0.01	0.06	0.13
<i>BISS</i>						
State Body Image	1.33	6.79	0.58	2.21	3.89	0.24

Table 7 Continued

Scale	Women			Men		
	Control	Prevention	<i>d</i>	Control	Prevention	<i>d</i>
<i>FRS</i>						
Trait Body Image	-0.46	-0.21	0.32	-0.50	-0.02	0.71
<i>EAT-26<sup>b</sup></i>						
Dieting	1.07	2.89	0.15	1.36	0.54	-0.09
Bulimia	0.78	0.53	-0.05	1.06	1.08	0.01
Oral Control	-0.40	0.34	0.16	1.84	0.61	-0.37
<i>PANAS</i>						
Negative Affect	-1.73	-1.22	0.08	-1.54	-1.00	0.09

Note. <sup>a</sup> = positive Pressures effect size indicates men in prevention demonstrated an increase in pressure to be thin. Negative effect sizes for all of the SATAQ-3 variables indicate decreases in thin ideal internalization

<sup>b</sup> = negative *d* indicates that control group demonstrated a larger decrease in that eating disorder scale than prevention group



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