

EXPLORATION OF A DISSONANCE-BASED BODY DISSATISFACTION
INTERVENTION

By

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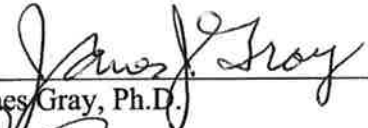
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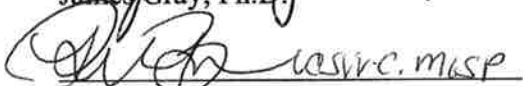
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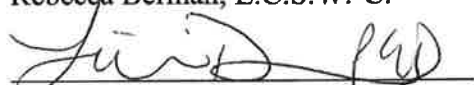
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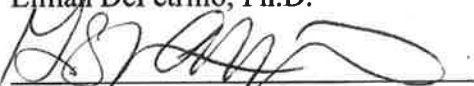
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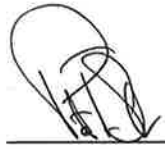
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ABSTRACT

Several factors can influence body attitudes, one of the most robust being thin ideal internalization. Research has demonstrated the role of internalization in moderating and mediating body dissatisfaction and disordered eating behaviors, and current research has examined how thin ideal internalization and body dissatisfaction may be targeted in interventions among individuals at risk for developing eating disorders.

The current study examined how variations on a dissonance-based intervention for body dissatisfaction impacts body image and thin ideal internalization among female university students. Participants were women between the ages of 18 and 30 who were enrolled at a private Mid-Atlantic university and who indicated interest in participating in a study examining interventions to help women accept their bodies. They met in groups of three to five people with a group facilitator for a single two-hour session. Prior to the start of the workshop, at the conclusion of the workshop, and at two-week follow-up, participants completed measures of mental health functioning.

Results showed preliminary support for a model incorporating discussion of values and identity as part of a dissonance-based approach. Significant short-term findings were found, including decreased thin ideal internalization, decreased body dissatisfaction, and improved self-esteem.

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CHAPTER 1

INTRODUCTION

Eating disorders are common mental illnesses characterized by disturbances in body image and the presence of disordered eating behaviors, such as restricting food intake, episodes of binge eating, and compensatory purging. The *Diagnostic and Statistical Manual of Mental Disorders-5* (DSM-5; American Psychiatric Association, 2013) lists one of the criteria for a diagnosis of anorexia nervosa as a “disturbance in the way in which one’s body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight.” Similarly, for bulimia nervosa, a requirement for diagnosis is the indication that “self-evaluation is unduly influenced by body shape and weight.” This is very similar to diagnostic criteria described in the previous edition of the DSM, with the role of body image disturbance in anorexia and bulimia consistently being recognized as a key feature of these disorders.

Body Dissatisfaction

Body image refers to the attitudes that people have about their bodies, with body dissatisfaction occurring when an individual negatively evaluates aspects of his or her body, such as weight or shape. Body dissatisfaction can exist at subclinical levels and does not necessarily equate with psychopathology, though it is an essential feature of eating disorders. Epidemiological estimates suggest that most people have experienced

some degree of body dissatisfaction, with some reports showing that 86.9% of women report weight or shape dissatisfaction (Mond et al., 2013).

Body dissatisfaction occurs in both men and women, though its features generally differ between genders. For women, dissatisfaction is typically expressed as a desire to be thinner or leaner than their present body shape, whereas for men, dissatisfaction is generally reported as a desire to gain weight and to be more muscular. The thin ideal and the mesomorphic ideal, respectively, represent a sought-after body image indicative of societal values about appearance and attractiveness. The less an individual's body resembles the ideal, the more vulnerable that person becomes to experiencing dissatisfaction (Bearman, Martinez, and Stice, 2006).

As boys and girls progress through adolescence, they may identify more strongly with the stereotypes of their gender, including the dimensions that compose physical attractiveness, and they might resort to behavioral methods to achieve the ideal (Bearman et al., 2006). Indeed, studies examining adolescent boys and girls have shown that adolescents who have internalized their gendered body ideal engage in efforts to increase muscle mass or to lose weight, depending on the ideal being pursued. These behaviors can persist through adulthood, and research has shown that body dissatisfaction is present in men and women through older adulthood (Bearman et al., 2006; Pearson, Follette, & Hayes, 2012).

Interestingly, although disordered eating behaviors typically decrease in the decade after traditional college-age, there is no such decrease in high levels of body dissatisfaction (Pearson et al., 2012). This “normative discontent” with one's body suggests that in the absence of a clinical eating disorder, body dissatisfaction nonetheless

remains a pervasive problem for many adult women, with some estimates indicating that as much as forty percent of women have significant body image concerns (Pearson et al., 2012).

In university settings, as much as 87% of women who are in a healthy weight range report wanting to lose weight (Neighbors & Sobal, 2007). For first-year female college students, the myth of the "freshman fifteen," or the idea that freshman students will gain fifteen pounds over the course of their first year of college, can add additional body image-related concerns, such as overestimation of weight, negative body image, and increased thinking about weight (Graham & Jones, 2002). Perhaps not surprisingly, eating disturbances are common on many college campuses, and approximately one-quarter of college women report disordered eating pathology (Arigo, Schumacher, & Martin, 2013). One survey of first-year female students found that disordered eating behaviors increase over the course of the academic year and are largely predicted by concerns about weight gain (Delinsky & Wilson, 2008).

Factors That Influence Body Dissatisfaction

Thin Ideal Internalization

An array of factors can influence body image attitudes among women, one of the most robust being thin ideal internalization (Karazsia, van Dulmen, Wong, & Crowther, 2013). Internalization refers to the process wherein an individual adopts external societal ideals, such as that of a thin body ideal, as an internal, personal standard. Various studies have demonstrated the role of internalization in moderating and mediating body

dissatisfaction and disordered eating behaviors (Stice, 2001; Cafri, Yamamiya, Brannick, & Thompson, 2005).

In a hallmark study, Becker, Burwell, Herzog, and Hamburg (2002) examined the impact of the introduction of American television programming in Fiji and demonstrated how individuals can come to internalize a thin ideal and display signs of disordered eating with prolonged exposure to images representing the thin ideal. Traditional Fijian female body ideals value a more robust body size, and dieting and other weight loss tactics have traditionally been strongly discouraged. However, about three years after the introduction of television, the Fijian schoolgirls in the study were reporting a significant increase in self-induced vomiting to lose weight, dieting, and the belief that one should weigh less and that they personally weighed too much. The majority of the girls indicated that the images on television had influenced their own body image. Thus, it appears that attitudes about thinness that are not initially present or prominent can appear and increase with exposure to the thin ideal.

Importantly, it seems that in some cases, exposure to thin ideal images, such as exposure to thin models or to appearance-focused internet usage, will have a negative impact of women's body attitudes and feelings only when the thin ideal has already been internalized (Bair, Kelly, Serdar, & Mazzeo, 2012; Karazsia et al., 2013). In line with these findings, a meta-analysis of studies that examined sociocultural influences on body image found that overall, awareness of, or exposure to, a thin ideal is not necessarily enough to exert a negative effect on body image (Cafri et al., 2005). Internalization of the thin ideal demonstrated a significantly larger impact on body image than awareness of the ideal alone, a relationship that was not significantly moderated by age or ethnicity. Thus,

it seems that the more important factor is whether individuals have integrated beliefs about what is attractive into their own sense of self, not just simple exposure to images espousing a thin ideal.

Societal pressures can, however, increase susceptibility to internalizing those values. One study of preadolescent girls found that sociocultural pressure to be thin, including perceived pressure from the media, significantly predicts internalization of the thin ideal (Blowers, et al., 2003). In college students, thin ideal internalization has been shown to predict body dissatisfaction but is not clearly mediated by sociocultural pressures (Fitzsimmons-Craft, et al., 2012). Notably, it seems that although there can be variations in degree of thin ideal internalization between various ethnic and racial minority groups, overall it remains a strong predictor of body dissatisfaction in university populations (Stice, Marti, & Cheng, 2014).

Body Mass

Longitudinal studies of children and adolescence have demonstrated how the relationship between body mass and body dissatisfaction changes over time. While boys overall report less body dissatisfaction than girls, one study found that for both boys and girls, each increase in Body Mass Index (BMI) percentile was related to an increased likelihood of reporting body dissatisfaction (Calzo et al., 2012), an association that was even more pronounced in older adolescents. Specifically, girls tended to report body dissatisfaction beginning at the fiftieth BMI percentile, which is in the healthy weight range. Girls whose BMI was above the fiftieth percentile were nearly twice as likely to report body dissatisfaction than girls below the fiftieth percentile. This was in contrast to

boys, who reported high body dissatisfaction if their BMI was in the underweight range below the twenty-fifth percentile or overweight and obese range above the seventy-fifth percentile. Older adolescent girls were especially prone to experiencing body dissatisfaction even when their BMI was in the healthy range.

Such findings suggest that over time, girls develop concern for their weight and shape even when their weights are healthy for their ages. Some longitudinal studies suggest that as adolescents mature into young adulthood, their corresponding continued or increased body dissatisfaction is accounted for by increases in BMI (Bucchanieri, Arikian, Hannan, Eisenberg, & Neumark-Sztainer, 2013). In adult women, higher BMIs tend to predict disordered eating and body dissatisfaction (Wilson, Tripp, & Boland, 2005). When additionally considering waist-to-hip ratios, it seems that lower ratios are associated with more positive body image only in women who have low or average BMIs. For women with higher BMIs, a low waist-to-hip ratio may accentuate larger hips, leading to greater body dissatisfaction.

In university settings, even women in a healthy weight range report body dissatisfaction and a desire to weigh less (Neighbors & Sobal, 2007). In one university sample, all women who fell into the overweight category idealized a weight lower than their respective current weight and expressed the greatest weight dissatisfaction compared to other women (Neighbors & Sobal, 2007). Interestingly, these women tended to express wanting to attain weights that would put them at the very high end of a healthy weight range, suggesting that they are not interested in pursuing a very thin ideal, perhaps because it seems too unrealistic or far from their actual weight.

Dieting

As girls transition into adolescence and adulthood, their bodies naturally increase in their adipose tissue, or fatty tissue. When given the message that an ultraslim body shape is more attractive, adolescents may sometimes try to diet in order to lose weight and decrease their fatty tissue. However, as dieting typically predicts weight gain, not loss, these attempts to lose weight may be met with frustration. As such, dieting behavior in adolescent girls can predict body dissatisfaction, perhaps because their attempt at achieving a physique that more closely resembles the thin ideal has not been successful (Bearman et al., 2006).

In studies of adolescents, it has been shown that overweight and obese adolescents are the most likely to diet and that for adolescent girls, body dissatisfaction is the strongest predictor of dieting (Mendes, Araujo, Lopes, & Ramos, 2014). Among young adult women who diet, chronic dieters typically report less body satisfaction when compared to women who do not diet (Heatherton, 1993). In one study of 484 college students, it was found that 32% of college women used some kind of diet aid, such as a diet pill, fat blocker, diuretic, or laxative (Celio, et al., 2006). These women were also much more likely to report weight and shape concerns compared to women who did not use such products, with higher BMIs increasing the prevalence of diet aid use. Similarly, the difference in body fat between college women's perceived body and their ideal body is much greater in women who diet compared to women who do not diet (Gruber, Pope, Lalonde, & Hudson, 2001). Importantly, this distinction remained even when controlling for actual measured body fat, suggesting that dieters may distort and overestimate their body fat.

Negative Affect

Negative affect can refer a range of negative mood states, such as anxiety, anger, or guilt. In terms of mental health, individuals who have high negative or depressed affect show a tendency to focus more on negative information about themselves and their surroundings, skewing their perceptions in that direction (Bearman et al., 2006). However, whether this translates to increased attention on negative body characteristics is unclear. While acute inductions of negative affect seem to be related to resulting acute body dissatisfaction, associations beyond the short-term are limited (Bearman et al., 2006). For example, among adolescent girls, neither depressive symptoms nor negative affect predicted body dissatisfaction, though negative affect was a significant predictor of body dissatisfaction for adolescent boys (Presnell, Bearman, & Stice., 2004). In longitudinal studies, negative affect failed to emerge as a significant predictor of body dissatisfaction (Stice & Whitenton, 2002), suggesting that while it may have an acute impact in laboratory settings, it does not otherwise predict an increase in risk for dissatisfaction over time.

Disordered Eating

It has additionally been suggested that engaging in disordered eating patterns, such as restricting food intake, binge eating, or purging, promotes feelings of body dissatisfaction, perhaps because of recurring feelings of guilt and disgust, as well as further distancing from attaining the thin ideal (Bearman et al., 2006). Research examining clinical samples of women with eating disorders has found that there are no differences in body dissatisfaction between women with Bulimia Nervosa and Binge

Eating Disorder, even when obesity is considered (Barry, Grilo, & Masheb, 2003). Among women receiving inpatient or partial hospitalization eating disorder treatment, use of different purging behaviors, such as vomiting, laxative use, or diuretic use, has been associated with lower body image (Ackard, Cronemeyer, Franzen, Richter, & Norstrom, 2011).

In adolescents, it seems that engaging in restricting eating patterns predicts future increases in body dissatisfaction (Bearman et al., 2006), suggesting that even behaviors that presumably bring one closer to attaining a thin ideal are associated with poor body image.

Consequences of Body Dissatisfaction

Although the presence of body dissatisfaction does not necessary equate with psychopathology, there is growing evidence that body dissatisfaction may work through various pathways to increase eating disorder risk. Previous studies examining the effects of body dissatisfaction have consistently found, with few exceptions, that individuals with high body dissatisfaction are at an increased risk for developing eating disorder symptoms in general and bulimic symptoms in particular (Stice & Shaw, 2002). It has been suggested that women who internalize the thin ideal have greater body dissatisfaction, as their own bodies rarely match up with the picture of ultrathin bodies. Likewise, women with a higher body mass also tend to show greater body dissatisfaction (Vogeltanz-Holm, et al., 2000).

Although a less developed area of research, preliminary evidence suggests that body dissatisfaction may additionally play a role in the maintenance of eating disorders,

meaning that in addition to potentially initiating their development, it may enable their persistence over time. In an adolescent sample, high body dissatisfaction predicted persistence of bulimic symptoms over a nine-month period, and low scores on this factor predicted cessation of compensatory behaviors (Stice & Agras, 1998). Overevaluation of shape and weight also predicted persistence of bulimic symptoms over the course of five years in a community sample of adults (Fairburn, et al., 2003). In nonclinical samples such as college students, poor body image and concerns about weight gain predicted an increase in disordered eating behaviors over students' first year of college (Delinsky & Wilson, 2008).

Specifically, body dissatisfaction may influence adverse outcomes such as eating pathology through the mediators of increased dieting and increased negative affect (Stice, 2001). A two-year longitudinal study of adolescent girls examined a dual pathway model wherein thin ideal internalization and pressure for thinness were hypothesized to predict increased body dissatisfaction, which would then predict increased dieting and negative affect. In turn, dieting and negative affect were hypothesized to predict growth in bulimic symptoms. Using random regression growth curve modeling, the study found strong support for this model, though there was only marginal support for the role of body dissatisfaction as a mediator between pressure to be thin and negative affect. Dieting and negative affect were found to significantly mediate growth in bulimic symptoms and accounted for most of this change over time.

In a large study of female undergraduate students, Juarascio, Perone, and Timko (2011) found that dieting behavior moderated the relationship between body dissatisfaction and disordered eating. Specifically, women who more frequently cycled

on and off of diets and who lost more weight overall from dieting showed a stronger relationship between body dissatisfaction and disordered eating behaviors. Another longitudinal study of women through adolescence demonstrated how even with low body dissatisfaction, dieting behaviors can heighten eating disorder risk (Stice, Marti, Durant, 2011). Among the participants who reported low body dissatisfaction, those who reported the highest dieting behaviors also showed a high risk of eating disorder onset. Thus, it seems that even in the absence of strongly negative attitudes about one's body, dieting behavior can trigger disordered eating behaviors.

Body Dissatisfaction Interventions

Given the important role of body dissatisfaction in eating disorder pathology, improving body image could be a way of decreasing the chance of developing significant clinical symptoms. Body image interventions have manifested in a variety of therapeutic approaches, including relaxation training, mirror exposure, and cognitive restructuring. A review of university-based eating disorder and body dissatisfaction interventions showed that the exact strategies employed in this setting have changed over time, with varying results (Yager & O'Dea, 2008).

Didactic and Psychoeducational Interventions

Yager and O'Dea's (2008) review of body image and disordered eating interventions found that educational interventions often were not successful in altering or preventing disordered eating or body image outcomes. Approaches such as distributing educational brochures (Mutterperl & Sanderson, 2002) or attending psychoeducational

presentations (Mann et al., 1997; Martz & Bazzini, 1999) had little, if any, impact on altering body dissatisfaction or disordered eating in female university students. It is possible that these approaches were not intensive enough to produce any meaningful change, and as the samples were general university students and not specifically students who had indicated having any body image or disordered eating concerns, it is also possible that these attempts were simply not conducted with the students most likely to benefit from an intervention.

The psychoeducational programs that did report positive outcomes seem to have been targeted towards women who had already expressed body image concerns, rather than the general university population, or included a multi-week meeting and discussion component. For example, a 10-week series of informational and discussion meetings about body image was effective in reducing body image concerns and disordered eating in a small group of enrolled undergraduate women (Springer et al., 1999). Similarly, an 8-week series of discussions for women who self-identified as being at risk for developing anorexia was shown to improve body image (Franko et al., 1998), and a 15-week course that involved twice-weekly 90-minute discussions and didactic presentations was shown to decrease thin ideal internalization, body dissatisfaction, dieting behaviors, and eating disorder symptoms (Stice et al., 2006). Thus, it seems that the inclusion of participants who have expressed an interest or concern about body image and/or disordered eating and a repeated-visits structure contributed to more positive outcomes.

Cognitive-Behavioral Interventions

Cognitive-behavioral interventions targeting problematic cognitions, behaviors, and size perception are among the most studied and among the most promising in terms of understanding the mechanisms behind their efficacy. Although the research on cognitive-behavioral and third-wave interventions has been conducted in populations with body image concerns of varying intensity, these approaches have been shown to be efficacious in decreasing body dissatisfaction. Cognitive-behavioral approaches generally involve the self-monitoring of one's thoughts, emotions, and behaviors in order to enhance understanding of how they contribute to body dissatisfaction and disordered eating, as well as cognitive restructuring to address dysfunctional, inaccurate thoughts and beliefs (Jarry & Ip, 2005). Body exposure and response prevention have also been employed as behavioral strategies.

Within university populations, individual CBT-informed counseling sessions have been shown to significantly improve body dissatisfaction and negative affect (Butters & Cash, 1987; Dworkin & Kerr, 1987). Interventions delivered in a group format were also shown to be effective in decreasing body dissatisfaction and investment in physical appearance as a source of self-evaluation (Cash & Hrabosky, 2003). Similar to previous findings that interventions were most effective when conducted with samples who indicated some degree of body dissatisfaction rather than a general university sample (Yager & O'Dea, 2008), it seems that clinical groups were more likely to benefit from cognitive-behavioral treatments than were nonclinical groups. Nonetheless, nonclinical groups such as university students still demonstrated improvement from treatment interventions, albeit to a smaller degree than their clinical group counterparts.

Cognitive Dissonance Interventions

An approach that utilizes the theory of cognitive dissonance proposes that if an individual who has internalized the thin ideal engages in activities that combat this ideal, these actions will be counterattitudinal and force the individual to experience a sense of tension and dissonance (Stice, Shaw, Burton, & Wade, 2006). With repeated participation in such counterattitudinal activities, the individual will eventually decrease her endorsement of the thin ideal in order to restore consistency in her cognitions. In other words, the inconsistency and resulting discomfort caused by participating in counterattitudinal activities will motivate the individual to create cognitions that are consistent with her actions.

A body of recent research has focused on the efficacy of cognitive dissonance-based programs in decreasing body dissatisfaction. A series of studies affiliated with the Body Project, an intervention spearheaded by psychologist Eric Stice, have shown great promise in reducing body dissatisfaction and disordered eating through a series of structured group sessions centered around the critiquing of the thin ideal. Activities are designed to prompt participants to verbalize their understandings of the thin ideal, and include, among other activities, writing down the costs of pursuing the thin ideal and writing a letter to a teenage girl persuading her not to believe the thin ideal. In its traditional form, the intervention invites adolescent girls with body image concerns to participate in three to four one-hour group sessions spaced one week apart.

A version that used three weekly sessions found that girls who participated in cognitive dissonance activities related to challenging the thin ideal showed a greater reduction in eating disorder symptoms compared to an expressive writing intervention

and a measurement-only control condition (Stice, Fisher, & Martinez, 2004). Compared to measurement-only controls, the three-week dissonance intervention produced significantly greater decreases in thin ideal internalization, body dissatisfaction, dieting, negative affect, and bulimic symptoms at six-month follow-up (Stice, Shaw, Burton, & Wade, 2006). A healthy weight intervention that focused on healthy eating and exercise was nearly as effective as the dissonance intervention, each showing similar decreases in risk factors at six-month and one-year follow-ups. The dissonance intervention appears to be equally powerful in reducing disordered eating behaviors and other risk factors among Asian American, Hispanic, and White girls and women (Rodriguez, Marchand, Ng, & Stice, 2008).

Other variations have included condensing the multiple sessions into a single two-hour workshop (Matusek, Wendt, & Wiseman, 2004). In a sample of college students, the dissonance groups discussed what perpetuates the thin ideal and the repercussions of thin ideal messages, as well as the costs of pursuing this ideal. Women in this group, as well as those in a comparison group that were taught healthy behaviors, showed significant decreases in thin ideal internalization, body dissatisfaction, and disordered eating behaviors at four-week follow-up. In contrast, the waitlist control group showed increased thin ideal internalization over the four weeks.

Acceptance and Commitment Interventions

Acceptance and Commitment Therapy (ACT), a third-generation cognitive behavioral therapy, includes as some of its core components a clarification of values, identification of barriers to those values, and committed action to such values. ACT

posits that by accepting difficult emotions and linking behavior with identified values, people can improve their functioning. Though there are six core components (acceptance, cognitive defusion, contact with the present moment, self as context, values, and committed action), theorists note that therapists may work within any of the components to target the processes that are most relevant or helpful to the client (Pearson et al. 2012).

As an intervention for body dissatisfaction, ACT approaches have shown some success in demonstrating alleviation of disordered eating behaviors and body dissatisfaction. It has been suggested that in a population who has difficulty identifying values unrelated to food or body image, it can be helpful to receive a therapeutic approach that engages in clarification and commitment to other values. A study examining the cases of three individual women with anorexia nervosa being treated with an ACT approach found that while there were mixed results for reduction of restrictive eating patterns, all three women reported reductions in concern about eating, shape, and weight at one-year follow-up (Berman, Boutelle, & Crow, 2009).

Other research examining structured treatment settings for eating disorders have indicated an increase in interventions that incorporate aspects of ACT in their design. One study looking at eating disorder treatment in a residential setting found that adult women who participated in a supplementary twice-weekly ACT group trended towards showing larger decreases in weight concern, shape concern, and global eating pathology post-treatment (Juarascio et al., 2013). These women were also less likely than women who participated in treatment as usual to be rehospitalized for their eating disorder. Importantly, there were not major differences between eating disorder diagnoses.

To date, there has been only one study that has included university students in its examination of ACT as a body dissatisfaction intervention. Pearson et al.'s (2012) study of women recruited from a university and from the surrounding community explored how an ACT workshop influenced body image and disordered eating. Participants assigned to the ACT workshop participated in an 8-hour, one-day workshop that explained the six typical components of ACT and focused on exploration of body image. Results showed that women who participated in the workshop had significantly lower disordered eating attitudes and body anxiety compared to women in a waitlist control condition.

Values and Body Dissatisfaction

Though the literature indicates that dissonance-based programs are a promising development in the area of eating disorders prevention, questions remain as to what other factors influence body dissatisfaction and how they might be incorporated into a dissonance-based program. Stice and Shaw (2002) suggest that there may be another factor independent of appearance that could influence how swayed an individual is by the sociocultural pressure to be thin. Such a possibility would not weaken the present model of dissonance-based prevention programs but rather could strengthen and diversify their current structures. Given that the most common format for dissonance-based programs involves the participants generating their own reasons for not pursuing the thin ideal, it could also be efficacious for participants to explicitly consider alternative values and select the component of their identity that is most incompatible with the thin ideal and base their argument on that factor. Such an approach would be faithful to the structure of

the original intervention but perhaps offer a more targeted, individualized opportunity to build dissonance.

The link between values and body dissatisfaction has not always been clearly defined or studied. It has been suggested that part of what sustains eating disorders is the tendency for individuals with these disorders to make weight and shape the focus of their identity, rather than other, less outwardly-visible characteristics (Stanghellini, Castellini, Brogna, Faravelli, & Ricca, 2012). A crucial observation in the link between identity and disordered eating behaviors and attitudes is that among many eating disorder patients, the eating disorder is viewed as a companion or as a part of the patients' identities that is compatible with who they want to be (Nordbø et al., 2006; Serpell et al., 1999). While there can be variability in the degree of ego-syntonicity and ego-dystonicity within eating disorder patients (Roncero, Belloch, Perpiñá, & Treasure, 2013), it seems that for many patients, at least some of the associated beliefs and thoughts about their disordered eating are experienced as rational, normal, and consistent with their personality. For the individual who has lived with an eating disorder or body dissatisfaction for several years, any treatment attempts to decrease such symptoms could be viewed as threatening if the patient has little sense of self outside of the disorder or symptoms (Bulik & Kendler, 2000). "Giving up" a way of life and of experiencing one's body can be interpreted by patients as giving up their identity, a truly frightening possibility.

As the primary value, this focus on the body becomes integral to the maintenance of the eating disorder, and without alternative values or components of one's self-concept, weight and shape become the sole determinants of self-worth. In a disorder characterized by extremely negative body evaluation, the repercussions of overvaluing

body shape and weight thus can have disastrous effects on one's self-esteem and self-evaluation. Indeed, eating disorder patients were found to show weaker self-constructs or identities compared to healthy individuals, and they tended to view their eating disorders as strongly ego-syntonic (Bulik & Kendler, 2000).

Therapeutically, this has major implications, as any technique that seeks to distance the individual from the disordered behaviors and attitudes may be met with resistance if the disorder is viewed as a positive attribute. It also suggests that values and identity are important parts of eating disorder maintenance and an area that could be utilized in decreasing adherence to disordered attitudes and behaviors. If alternative, healthier values could be identified and internalized, it might be possible for individuals with unhealthy eating behaviors and body attitudes to distance their self-identity from their disorder, particularly if alternative values could serve a similar purpose as the eating disorder in terms of providing such constructs as security, mental strength, or self-confidence (Nordbø et al., 2006).

While not explicitly dealing with values, one study of college students proposed that if women affirmed one aspect of their identity, they would be more open to processing information that otherwise could be perceived as threatening to another aspect of their selves (Bucchanieri & Corning, 2012). Rather than become defensive when faced with potentially threatening information, the bolstered aspect of self keeps the individual's sense of integrity intact and thus able to accept and consider the new information. When women who self-affirmed aspects of their identity, such as "sense of humor" or "musical ability," were presented with information about body dissatisfaction among college students, they were significantly more accepting of this information than

women who had not self-affirmed another aspect of self. They also reported lower body dissatisfaction and less intention to be critical of their own bodies in the future when compared to women who had not participated in the self-affirmation condition. Thus, this suggests that by identifying an aspect of self that is unrelated to physical appearance, it might be possible to positively influence the degree to which women accept and alter ideas and behaviors about body image.

Religiosity and Body Image

While not explicitly tied to ACT, other studies that examine specific values have found relationships with positive body attitudes. Factors such as spirituality and religiosity have shown potential indications of decreasing body dissatisfaction, but overall they remain little-studied factors. Some studies indicate that for certain religious groups, such as Muslims, having a strong connection to faith is inversely related to body dissatisfaction (Mussap, 2009). Religion has been found to be significantly related to greater body satisfaction and decreased dieting among female Catholic and Protestant church members, as well (Kim, 2006). One study of female college and graduate students found that women who highly valued religion also reported less body dissatisfaction (Pollack, 2003). While these studies tend to be cross-sectional and are thus limited in predicting whether increasing attachment and identification with religion or spirituality would lead to decreased body dissatisfaction, Homan and Boyatzis (2009) theorize that a connection with God, specifically in viewing that one's body has been created in the God, can promote body acceptance.

Homan and Cavanaugh (2013) further propose that the perception of having a personal relationship with God may provide a sense of unconditional acceptance that prevents women from looking elsewhere for acceptance and meaning, such as turning to societal ideals about thinness when they feel otherwise unaccepted and unvalued. In their study of undergraduate women at a private, Christian college, they found that secure, nonanxious attachment to God significantly predicted positive affect, life satisfaction, body appreciation, and intuitive eating. While Homan and Cavanaugh are quick to caution that their findings do not prove a causal relationship, they refer to other qualitative findings wherein faith and spirituality are credited by former eating disorder patients for playing an important role in their recovery. Thus, it seems that a perceived positive relationship with God may play a role in body acceptance, healthy eating patterns, and overall well-being.

As an intervention tool, religion can also have an impact on body image. In a study of college women, participants were shown photographs of ultra-thin models and then read neutral statements, religious body affirmations, or spiritual body affirmations. The study found that women who only read neutral statements showed a decline in body image, while the women who read religious body affirmations showed significant body image improvements (Boyatzis, Kline, & Backof, 2007). Thus, religion and spirituality may provide an alternative source of self-worth for many women by rendering the thin ideal less salient. However, no studies to date have examined how religion may impact thin ideal internalization and disordered eating behaviors.

Ethnic Identity and Body Image

Ethnic identity is a more studied factor that has gained traction in body dissatisfaction research and has emerged as an important variable in the development of body dissatisfaction and eating disorder risk. Racial minorities used to be considered to be immune from eating disorders, which were incorrectly conceptualized as White phenomena (Franko, Becker, Thomas, & Herzog, 2007). Although White women compose the majority of clinical eating disorder populations (APA, 2000), recent research patterns point to an increasing trend of eating disordered behaviors among minority women, sometimes at rates similar to White women (Franko et al., 2007; Regan & Cachelin, 2006). Across minority groups, the frequencies of women endorsing certain eating disordered behaviors vary, and no consistent pattern has emerged from the existing literature, perhaps because it is in the process of changing.

However, there do appear to be racial differences in body dissatisfaction. Studies of college students have found that White women report greater body dissatisfaction and drive for thinness than do Black women (Gordon, Castro, Sitnikov, & Holm-Denoma, 2010; Ivezaj et al., 2010), and Black women have reported greater self-esteem regarding their weight and appearance compared to White women (Miller, Gleaves, Hirsch, Green, Snow, & Corbett, 2000). Of note, a recent meta-analysis reported that racial differences in weight, but not global body, dissatisfaction between Black and White women were becoming smaller over time, suggesting that the weight dissatisfaction gap may be becoming smaller (Roberts, Cash, Feingold, & Johnson, 2006). It is unclear whether this trend is due to increased dissatisfaction in Blacks or to decreased dissatisfaction in Whites.

Minority women and White women likely experience similar pressures to be thin. While in the past larger figures may have been valued among certain racial minority groups, this is no longer the case. Women of all backgrounds must grapple with societal demands, and while there may be some differences in terms of overall body dissatisfaction between groups, other components of eating disorder risk are not so separate. Simply belonging to a particular group does not equate greater or less risk. Rather, the workings of eating disorder risk and protective factors are much more nuanced than the mere labeling of racial or ethnic background.

Rogers-Wood and Petrie's (2010) sociocultural model of eating disorder risk suggests that high ethnic identity in racial minorities is inversely related to the internalization of the thin ideal, the elevation of which in turn is positively associated with disordered eating. Thus, being oriented to a group that does not idealize very thin body shapes and sizes could act as a buffer against thin ideal messages from the majority culture. Racial minority women with high ethnic identities may pay less attention to such messages from the majority culture, choosing instead to listen to messages that are culturally consistent. They may also identify with values that are unrelated to having a thin body and instead choose to define their self-worth in terms of other factors such as family connections, religion, or educational attainment.

This model has shown success in predicting disordered eating behaviors in African American women (Rogers-Wood & Petrie, 2010), but there have been no studies examining how inducing a state of increased ethnic identification might impact racial minority women's thin ideal internalization and body dissatisfaction. Given that dissonance-based programs have demonstrated success in decreasing thin ideal

internalization by promoting a set of values incompatible with such messages, it may be that promoting a set of values focused on one's racial or ethnic background may similarly decrease thin ideal internalization. Applying the sociocultural model within a framework of cognitive dissonance could potentially explain how ethnic identity and thin ideal internalization are linked.

Current Study

The current study seeks to investigate the effectiveness of dissonance-based body dissatisfaction interventions in a university-based population, particularly when participants have the chance to define how parts of their identity and values, such as their religious or ethnic background, are incompatible with pursuit of the thin ideal. The study examines the impact of such interventions along several dimensions, including thin ideal internalization, body dissatisfaction, dieting, bulimic symptoms, self-esteem, and negative affect. The effectiveness of dissonance-based interventions among student populations has been well-demonstrated in a number of studies (Matusek et al., 2004; Stice et al., 2013), and the current study seeks to examine whether findings supporting a modified, briefer format are replicated in a university setting. Additionally, this study adds to the current breadth of research by including a values-based component that allows participants to personalize the dissonance-based approach to aspects of their identity and values that matter most to them.

Although little research to date has investigated utilizing values and identity in a dissonance-based intervention format, the theoretical framework of cognitive dissonance, complimented by the language of acceptance-commitment therapy, provides a rationale

for why this approach could be helpful. Pearson et al. (2012) suggest that by identifying and committing to an alternative set of values, an identity based on body shape and disordered eating will no longer have such a strong hold on a woman struggling with body dissatisfaction. Thus, by prioritizing a healthier aspect of self, the thin ideal is no longer compatible with the identified values.

Although it is not possible to quantitatively assess all possible identity and value factors, it is important that the participants are able to choose their own rationale for not following the thin ideal rather than being told reasons, thus expanding the realm within which cognitive dissonance could be experienced. By altering the traditional structure of Body Project-inspired methodologies, the participant-driven structure allows for increased individuality within the dissonance-values condition while remaining true to the aims of the intervention. This exploratory approach measures whether a technique that explicitly deals with identity and values in particular, rather than dissonance in general, is as efficacious as the current dissonance standard. To date, no studies have explicitly measured whether infusing a dissonance-based body dissatisfaction intervention with ACT-like components such as exploration of values has any impact on reducing body dissatisfaction.

CHAPTER 2

METHODS

Procedure

Participants were adult women between the ages of 18 and 30 recruited primarily from a private, Mid-Atlantic university who indicated an interest in participating in a study examining interventions to help women accept their bodies. Additional participants were recruited from nearby, private universities.

The procedure was adapted from a previous protocol found to be successful in reducing body dissatisfaction and thin ideal internalization (Matusek et al., 2004; Stice et al., 2006). Participants were asked to meet in small groups with a group facilitator for a single ninety minute to two-hour session. As described by Matusek et al., (2004), the single-session format offers greater utility and accessibility to university students whose academic and extracurricular commitments may prevent them from participating in the longer, four-week workshop format.

The groups were semi-randomly assigned to one of three conditions: thin ideal dissonance, values-based dissonance, or healthy weight control. Given that participants selected from a range of dates offered to them based on what best fit their availability, their assignment the group was not truly randomized. However, attempts were made to randomize the condition being run on each particular day. The workshop facilitator on a given day was one of five graduate students in Psychology who had been trained in the intervention protocol.

Participants gathered in a group format of two to seven participants. As part of the informed consent process, the workshop facilitator explained that the workshop would

consist of discussing various topics related to body image and would require that each participant would be asked to share their reactions and ideas with the group. Participants were told that if they were not comfortable with this, they were welcome to discontinue their participation at any time without any penalty. The importance of confidentiality was emphasized, and the facilitator explained that a requirement of participation was to agree not to divulge to anyone the identities of the other workshop participation or anything that was discussed during the workshop.

If participants gave their consent, they then completed baseline survey data pertaining to body dissatisfaction, thin ideal internalization, disordered eating behaviors, negative affect, ethnic identity, religious orientation, values, and self-esteem. They also provided demographic information about age, year in university, and previous or current eating disorder treatment.

In the thin ideal dissonance condition, discussion was centered on deconstructing the thin ideal. Participants defined the thin ideal and discussed who benefits from it, in addition to consideration of the risks associated with pursuing the thin ideal. After about 45 minutes of discussion, participants engaged in a letter-writing exercise wherein they were asked to write a letter to a college student or graduate student who was struggling with body image. They were asked to draw upon points brought up during the discussion, as well as other reasons that might not have been mentioned, to convince the student not to pursue the thin ideal. Participants were then asked to share as much of their letter as they were comfortable divulging. With the participants, the workshop facilitator summarized the main points discussed and thanked them for their participation.

In the values-based dissonance condition, participants engaged in the same basic structure as the thin ideal dissonance condition. They participated in a discussion about the definition and origin of the thin ideal, who benefits from the thin ideal, and the costs of the thin ideal to themselves and to others. However, emphasis was put upon alternatives to the thin ideal and exploration of other values. After discussion, participants wrote a letter to a hypothetical college student who was similar to the participant in terms of values and identity and who was struggling with body image. The participants were encouraged to draw upon those values and aspects of identity in crafting their argument against the thin ideal. Participants shared their letters with the workshop group to the extent they were comfortable doing so, and the facilitator gave an overview of the discussion.

In the healthy weight condition, participants completed baseline questionnaires and engaged in a discussion of the healthy ideal and why it is a better pursuit than the thin ideal. The group facilitator provided psychoeducation about caloric expenditure and exercise, and participants were asked to consider ways they could increase their intake of nutritious foods, decrease their intake of foods with little nutritional value, and increase their overall exercise. Participants then created a list of ten reasons that the healthy ideal was important to them and shared their reasons with the group.

At conclusion, all participants were asked to complete post-test measures. Two weeks after the initial meeting, participants were contacted via e-mail and asked to complete a follow-up assessment via a website link. This assessment included the same measures of body dissatisfaction, thin ideal internalization, disordered eating behaviors,

negative affect, ethnic identity, religious orientation, values, and self-esteem that they completed at baseline.

Measures

Ideal-Body Stereotype Scale-Revised

The Ideal-Body Stereotype Scale-Revised (Stice, Ziemba, Margolis, & Flick, 1996) is a measure of thin ideal internalization. This measure asks respondents to indicate how much they agree with ten statements about what makes women physically attractive along a 5-point scale ranging from “strongly disagree” to “strongly agree.” Reliability for this measure has been reported to range from .88. to .91 (Stice, et al., 1996). In the present study, Cronbach's alpha was .60 at baseline, .79 at post-test, and .66 at follow-up.

Satisfaction and Dissatisfaction With Body Parts Scale

The Satisfaction and Dissatisfaction With Body Parts Scale (Berscheid, Walster, & Bohrnstedt, 1973) assesses body dissatisfaction. Respondents are asked to indicate how satisfied they are with nine body parts along a 6-point scale ranging from “extremely dissatisfied” to “extremely satisfied,” with higher scores indicating lower dissatisfaction. Reliability is reported to be about .94 (Berscheid et al., 1973). In the present study, Cronbach's alpha was .81 at baseline, .87 at post-test, and .87 at follow-up.

Eating Attitudes Test-26

The Eating Attitudes Test-26 (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982) is a 26-item self-report measure of disordered eating behaviors. Respondents are asked to endorse how often they engage in various eating behaviors or have various attitudes towards eating. These items form three subscales: Dieting, Bulimia and Food Preoccupation, and Oral Control. The Dieting subscale reflects an avoidance of fattening foods and a preoccupation with being thinner, the Bulimia and Food Preoccupation subscale reflects thoughts about food and the presence of bulimic symptoms, and the Oral Control subscale reflects the self-control of eating and the perceived pressure from others to gain weight. In the present study, Cronbach's alpha for the Dieting subscale was .86 at baseline and .81 at follow-up. On the Bulimia and Food Preoccupation subscale, Cronbach's alpha was .74 at baseline and .57 at follow-up. On the Oral Control subscale, Cronbach's alpha was .41 at baseline and .23 at follow-up.

Multiethnic Identity Measure-Revised

Phinney and Ong's (2007) Multiethnic Identity Measure- Revised is a six-item scale measuring ethnic identity. Respondents are asked to rate along 5-point scale ranging from "strongly disagree" to "strongly agree" how much they identify with statements about ethnic commitment, the commitment one has to a particular group, and ethnic exploration, the extent to which one seeks information and experiences about one's ethnic group. Reliability analyses have shown alphas of .76 for exploration, .78 for commitment, and .81 for the scale overall (Phinney & Ong, 2007). At baseline, Cronbach's alpha for overall ethnic identity was .90. At post-test, $\alpha=.93$, and at follow-

up, $\alpha=.92$. Cronbach's alpha for ethnic exploration was .93 at baseline, .95 at post-test, and .93 at follow-up. For ethnic commitment, Cronbach's alpha was .83 at baseline, .90 at post-test, and .91 at follow-up.

Santa Clara Strength of Religious Faith Questionnaire

The Santa Clara Strength of Religious Faith Questionnaire (Plante & Boccaccini, 1997) is a 10-item measure of religious faith. Respondents answer items along a 4-point scale ranging from “strongly disagree” to “strongly agree,” indicating the degree of importance that aspects of spirituality and religion have in their lives. The reported reliability is about .95 (Plante & Boccaccini, 1997). In the present study, Cronbach's alpha was .96 at baseline, .96 at post-test, and .97 at follow-up.

Valued Living Questionnaire

The Valued Living Questionnaire (Wilson, Sandoz, & Kitchens, 2010) is a two-part measure of valued living, or to the extent to which an individual is in contact with his or her identified values in day-to-day life. The first part asks individuals to rate the importance of ten domains of living (family, intimate relationships, parenting, friendship, work, education, recreation, spirituality, citizenship, and physical self-care) on a 10-point Likert-type scale. The second part of the measure asks individuals to rate how consistently he or she has lived in accord with various behavioral patterns within each domain over the past week. In the present sample, Cronbach's alpha for the importance subscale was .74 at baseline and .83 at follow-up. The consistency subscale was .57 at baseline and .74 at follow-up.

Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a ten-item scale measuring self-esteem. Items are ranked along a 4-point scale ranging from “strongly agree” to “strongly disagree.” Reported reliability estimates range from .85 to .88 for college samples (Rosenberg, 1965). In the present sample, Cronbach's alpha was .89 at baseline, .88 at post-test, and .90 at follow-up.

Positive and Negative Affect Schedule-Expanded Form

The Positive and Negative Affect Schedule-Expanded Form (PANAS-X; Watson & Clark, 1994) is a sixty-item measure of mood, specifically Positive Affect and Negative Affect. Emotion words are listed with the prompt for respondents to rank each one along a five-point scale the extent to which they felt that way in the past few weeks. Of note, the time frame used in the prompt, such as “past few weeks,” “today,” and “past month” can be used interchangeably depending on the researcher’s need. Responses range from “very slightly or not at all” to “extremely.” Cronbach’s alphas for Positive Affect generally range from .83 to .90 and .85 to .90 for Negative Affect. Scale reliability is reportedly unaffected by the time prompt used. In the present sample, Cronbach's alpha for the Negative Affect scale was .82 at baseline and .83 at follow-up. For the Positive Affect scale, Cronbach's alpha was .85 at baseline and .88 at follow-up.

Hypotheses

The following hypotheses were tested in this study:

1. It is expected that the dissonance-values condition will be as efficacious as the dissonance-thin ideal condition. It is also expected that the healthy weight condition, a didactic intervention, will additionally be as efficacious as the dissonance-thin ideal condition. Specifically, it is hypothesized that when comparing measures between baseline and post-test/follow-up, participants will report decreased body dissatisfaction, decreased thin ideal internalization, decreased negative affect, and decreased disordered eating.
2. It is hypothesized that in the dissonance-values condition, participants will report increased valued living at follow-up. It is also hypothesized that for participants in this condition who identified with a racial/ethnic minority group or who identified as being religious, they will report increased ethnic identity and increased strength of religious faith, respectively.
3. It is predicted that across all conditions, individuals who initially report strong religious faith, higher ethnic identity, or high valued living will also report lower thin ideal internalization, higher body satisfaction, and higher self-esteem.
4. It is expected that when controlling for body dissatisfaction, thin ideal internalization will predict bulimic symptoms, dieting, and negative affect. In addition, it is hypothesized that dieting and negative affect will predict bulimic symptoms.

CHAPTER 3

RESULTS

Descriptive Statistics

Seventy-nine women participated in the current study. The sample comprised 6.3% ($n=5$) Asian/Asian Americans, 8.9% ($n=7$) Black/African Americans, 11.4% ($n=9$) Hispanic/Latinas, 59.5% ($n=47$) Whites, 11.4% ($n=9$) mixed race, and 2.5% ($n=2$) who specified “Other.” The majority of participants were freshman students ($n=30$ [38.0%]) and sophomores ($n=26$ [32.9%]), with a smaller representation of juniors ($n=10$ [12.7%]), seniors ($n=6$ [7.6%]), graduate students ($n=4$ [5.1%]), and staff/faculty ($n=3$ [3.8%]). The mean body mass index (BMI) was 22.74 ($SD=3.71$), which, according to the National Heart, Blood, and Lung Institute’s (NHLBI) guidelines, falls in to the Normal Weight category (normal weight BMI 18.5-24.9; NHLBI, 2000). Most participants had never received treatment for an eating disorder ($n=76$ [96.2%]), with only 3.8% ($n=3$) of participants reporting a history of eating disorder treatment and 1.3% ($n=1$) of participants reporting current eating disorder treatment. See Table 1 for a summary of demographic descriptors.

Table 1. Demographic Characteristics

Demographic	Mean(SD) or Percentage
Age	20.03(2.82)
University affiliation	
Freshman	38.0%
Sophomore	32.9%
Junior	12.7%
Senior	7.6%
Graduate	5.1%
Staff/Faculty	3.8%
Race or ethnicity	
Asian or Asian American	6.3%

Black or African American	8.9%
Hispanic or Latina	11.3%
White	59.5%
Mixed	11.4%
Other	2.5%
BMI	22.67(3.66)
History of treatment	3.8%
Current treatment	1.3%

Overall retention was 54.4% between post-test and follow-up, with 43 participants completing follow-up measures. Retention was 53.8% ($n=14$) in the dissonance-values condition, 57.1 ($n=16$) in the dissonance-thin ideal condition, and 52.0% ($n=13$) in the healthy weight condition. These rates were not significantly different, $\chi^2(2)=.15$, $p=.93$.

Testing Assumptions

As assessed by inspection of boxplots for values greater than 1.5 box-lengths from the edge of the box, there were four extreme outliers in the data. These were removed from the following analyses. The Shapiro-Wilk test for normality revealed that the assumption of normality was violated for the EAT-26 subscales.

One-way analyses of variance (ANOVAs) and chi-square analyses revealed no significant differences between conditions for demographic variables of BMI, $F(2,75)=.13$, $p=.87$, year in university, $\chi^2(12, N=79)=14.05$, $p=.30$, history of eating disorder treatment, $\chi^2(2, N=79)=1.85$, $p=.40$, current eating disorder treatment, $\chi^2(2, N=79)=1.85$, $p=.40$, or ethnicity/race, $\chi^2(52, N=79)=50.68$, $p=.53$. ANOVA analysis revealed that Levene's test was significant for the variable of age, $F(2, 76)=3.71$, $p<.05$, and reported results thus do not assume equal variances and use Welch's F as a correction.

Pearson's correlation revealed a significant positive association between age and oral control, $r=.33$, $p<.01$, and a significant positive association between BMI and body dissatisfaction, $r=-.33$, $p<.01$. Thus, ANOVAs comparing changes in scores use age and BMI as covariates on these variables, respectively.

Similarly, Levene's statistic revealed heterogeneity of variance for thin ideal internalization, $F(2,76)=3.92$, $p<.05$, bulimia and preoccupation with food, $F(2,76)=6.64$, $p<.05$, ethnic exploration, $F(2,76)=3.41$, $p<.05$, and overall ethnic identity, $F(2,76)=4.78$, $p<.05$, and Welch's F correction was used. With this correction, there were no differences between groups on these factors.

ANOVAs indicated that at baseline, groups showed homogeneity of variance and were equal in terms of body dissatisfaction, $F(2,76)=.41$, $p=.67$, dieting, $F(2,75)=.10$, $p=.37$, oral control, $F(2,76)=3.23$, $p=.05$, ethnic commitment, $F(2,76)=.67$, $p=.51$, religiosity, $F(2,76)=.62$, $p=.54$, negative affect, $F(2,76)=.48$, $p=.62$, self-esteem, $F(2,76)=.75$, $p=.48$, and valued living, $F(2,66)=.24$, $p=.78$.

Testing Hypothesis 1

Means and standard deviations for all measures across the three conditions at baseline, post-test, and follow-up are reported in Table 2.

Mixed ANOVAs were performed to compare differences in the dependent variables between baseline, post-test, and follow-up for all three conditions. Mauchly's test indicated that the assumption of sphericity had been violated for body dissatisfaction, $\chi^2(2)=23.53$, $p<.001$, religiosity, $\chi^2(2)=69.94$, $p<.05$, self-esteem, $\chi^2(2)=28.61$, $p<.001$, ethnic commitment, $\chi^2(2)=16.53$, $p<.05$, ethnic exploration, $\chi^2(2)=6.32$, $p<.05$, and

overall ethnic identity, $\chi^2(2)=16.30$, $p<.05$. Therefore, Greenhouse-Geisser corrected tests are reported for those variables ($\varepsilon=.78$ for body dissatisfaction, $\varepsilon=.14$ for religiosity, $\varepsilon=.62$ for ethnic commitment, $\varepsilon=.84$ for ethnic exploration, $\varepsilon=.63$ for overall ethnic identity). Bonferroni's adjustment was used for the multiple comparisons.

Table 2. *Mean Values for Dependent Variables*

	DV (n=26)			DTI (n=28)			HW (n=25)		
	Baseline	Post-Test	Follow-Up	Baseline	Post-Test	Follow-Up	Baseline	Post-Test	Follow-Up
Ideal-Body Stereotype Scale-Revised									
<i>M</i>	3.67	3.21	3.65	3.67	3.45	3.62	3.69	3.53	3.69
<i>SD</i>	0.55	0.56	0.37	0.37	0.68	0.59	0.38	0.38	0.13
Satisfaction and Dissatisfaction with Body Parts Scale									
<i>M</i>	46.00	50.88	47.36	43.96	47.75	46.06	45.02	47.16	44.85
<i>SD</i>	9.37	9.72	9.25	7.40	8.54	8.35	7.95	8.05	10.67
Eating Attitudes Test-26 Dieting Subscale									
<i>M</i>	7.46	--	9.36	10.14	--	7.87	8.16	--	4.46
<i>SD</i>	7.86	--	7.92	6.49	--	5.10	7.43	--	4.27
Eating Attitudes Test-26 Bulimia and Food Preoccupation Subscale									
<i>M</i>	1.46	--	2.64	2.96	--	1.73	1.12	--	0.46
<i>SD</i>	2.27	--	3.59	3.53	--	2.58	2.40	--	0.97
Eating Attitudes Test-26 Oral Control Subscale									
<i>M</i>	1.23	--	2.07	2.50	--	2.13	1.44	--	0.92
<i>SD</i>	1.34	--	1.82	2.63	--	1.81	1.64	--	1.55

Multiethnic Identity Measure-Revised Total									
<i>M</i>	20.54	21.38	23.50	20.11	19.18	15.06	19.96	18.16	19.92
<i>SD</i>	6.03	6.85	4.6	4.78	6.16	5.08	7.61	8.19	6.80
Multiethnic Identity Measure-Revised Exploration Subscale									
<i>M</i>	9.42	9.77	10.64	9.54	8.89	6.60	9.88	9.04	9.77
<i>SD</i>	3.81	4.21	3.82	2.99	3.76	3.02	4.27	4.31	4.34
Multiethnic Identity Measure-Revised Commitment Subscale									
<i>M</i>	11.12	11.62	12.86	10.57	10.29	8.56	10.08	9.12	10.15
<i>SD</i>	3.49	3.59	2.28	2.36	2.97	3.24	3.64	4.09	2.91
Santa Clara Strength of Religious Faith Questionnaire									
<i>M</i>	26.08	26.65	25.86	23.35	23.54	23.44	23.60	23.96	25.62
<i>SD</i>	10.34	10.40	10.26	10.00	10.28	11.24	9.94	9.66	8.73
Valued Living Questionnaire									
<i>M</i>	141.63	--	139.79	145	--	139.13	145.56	--	153.38
<i>SD</i>	17.06	--	28.03	19.16	--	21.61	22.32	--	23.49
Rosenberg Self-Esteem Scale									
<i>M</i>	19.85	21.46	21.07	18.79	20.30	19.44	20.64	22.46	21.62
<i>SD</i>	6.30	6.37	5.76	4.85	4.62	4.52	5.40	4.76	7.23
Positive and Negative Affect Schedule- Expanded Form Negative Affect Subscale									
<i>M</i>	22.62	--	19.50	22.07	--	19.00	20.76	--	16.77
<i>SD</i>	7.81	--	7.63	5.68	--	4.99	7.21	--	4.07
Positive and Negative Affect Schedule- Expanded Form Positive Affect Subscale									
<i>M</i>	33.77	--	30.57	30.18	--	29.31	31.88	--	31.69
<i>SD</i>	6.76	--	7.39	7.41	--	8.54	7.54	--	7.28

Results show that there was not a significant interaction between the type of condition and the time point for thin ideal internalization, $F(4,152)=2.01$, $p=.10$ (see Figure 1). There was a main effect of time, $F(2,152)=16.75$, $p<.001$, partial $\eta^2=.18$, on thin ideal internalization, with baseline being significantly higher than post-test, $p<.001$, and post-test being significantly lower than follow-up, $p<.001$. No main effect of group was found, $F(2,76)=.73$, $p=.48$.

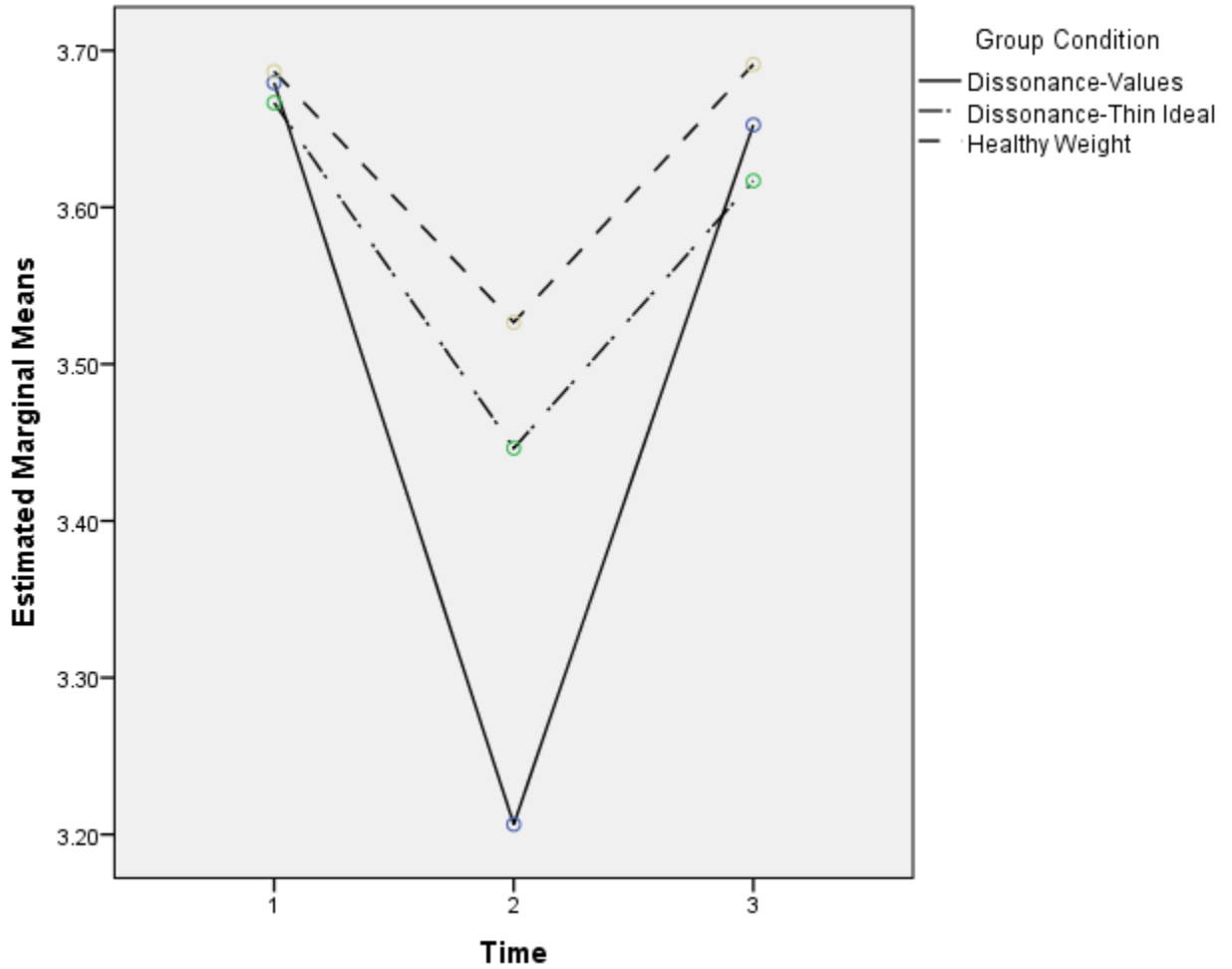


Figure 1. Changes in Thin Ideal Internalization Over Time.

For body dissatisfaction, a significant interaction between group condition and time was not found, $F(3.15, 119.78) = .63$, $p = .36$ (see Figure 2). There was a significant main effect of time, $F(1.58, 119.78) = 8.97$, $p < .01$, partial $\eta^2 = .11$. Specifically, body dissatisfaction at baseline ($M = 45.00$) was higher than at post-test ($M = 48.60$, $SE = .61$, $p < .001$). In turn, body dissatisfaction at follow-up ($M = 46.09$, $SE = 1.01$, $p < .05$) was slightly yet significantly higher than at post-test. Analyses did not reveal a significant main effect of group, $F(2, 76) = 1.03$, $p = .36$.

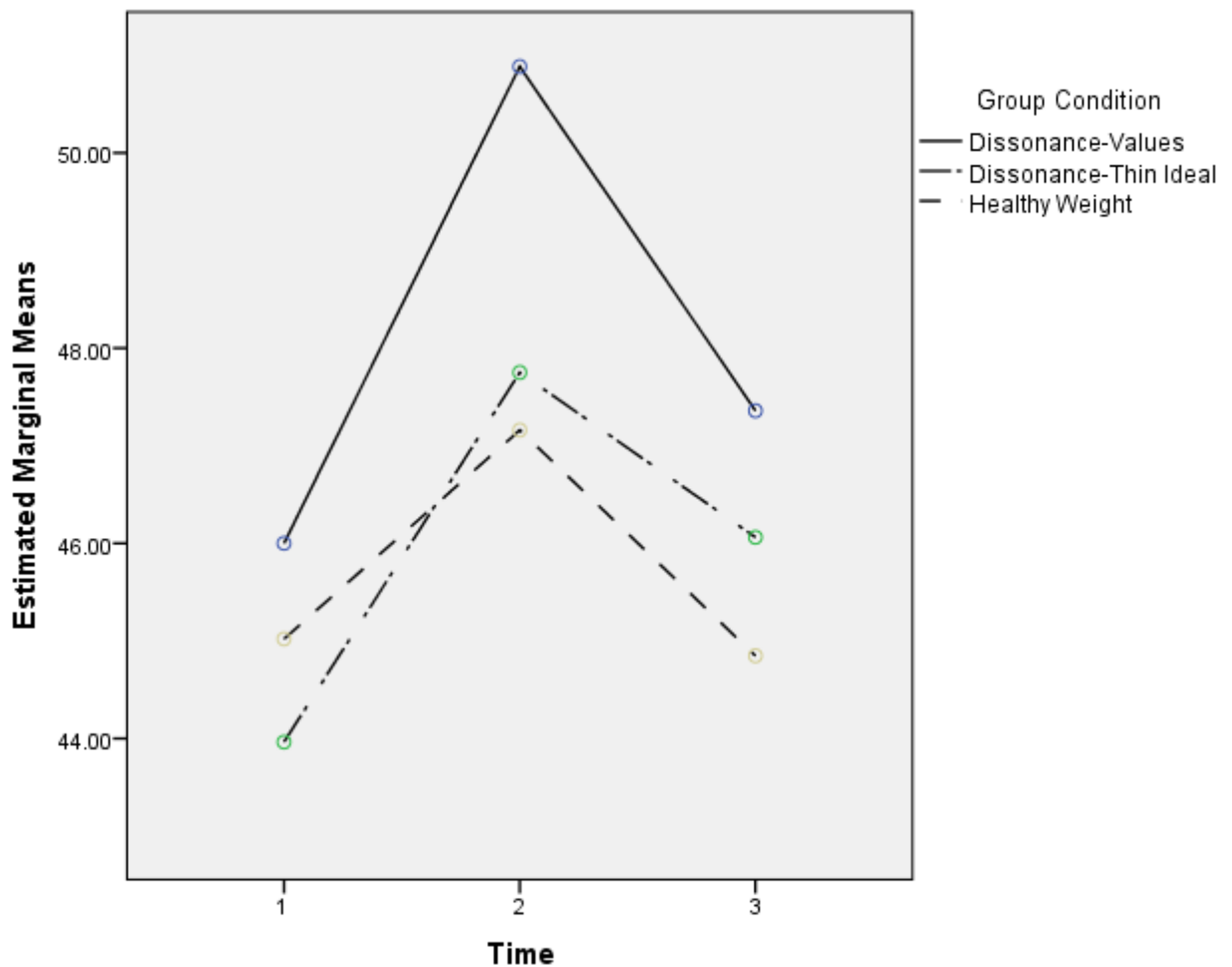


Figure 2. Changes in Body Dissatisfaction Over Time.

Note: Body dissatisfaction scores are inverted; high scores indicate low dissatisfaction.

There was a significant interaction between type of condition and time point for ethnic identity, $F(4,152)=10.02$, $p<.001$, partial $\eta^2=.21$ (see Figure 3). While significant differences in ethnic identity at baseline were not found, $F(2,76)=.06$, $p=.94$, or at post-test, $F(2,76)=1.39$, $p=.25$, there were significant differences at follow-up, $F(2,76)=27.63$, $p<.001$, partial $\eta^2=.42$. Specifically, the dissonance-values group showed significantly higher ethnic identity when compared to the dissonance-thin ideal group ($M=15.06$, $SE=1.14$, $p<.001$) and to the healthy weight group ($M=19.92$, $SE=1.17$, $p<.01$) at follow-up. Ethnic identity was significantly higher in the dissonance-thin ideal group compared to the healthy weight group ($SE=1.15$, $p<.001$). There was a significant simple main effect of time for the dissonance-values group, $F(1.24,30.88)=4.88$, $p<.05$, partial $\eta^2=.16$, with ethnic identity at baseline ($M=20.54$, $SE=1.06$, $p<.05$) being significantly lower than at follow-up ($M=23.50$). There was also a significant simple main effect of time for the dissonance-thin ideal group, $F(1.33,16.51)=18.40$, $p<.001$, partial $\eta^2=.41$, with ethnic identity being significantly higher at baseline ($M=20.11$, $SE=.99$, $p<.001$) than at follow-up ($M=15.06$) and significantly lower at follow-up compared to post-test ($M=19.18$, $SE=1.07$, $p<.01$). Analyses did not show a significant simple main effect of time for the healthy weight group, $F(1.59, 38.02)=1.46$, $p=.24$.

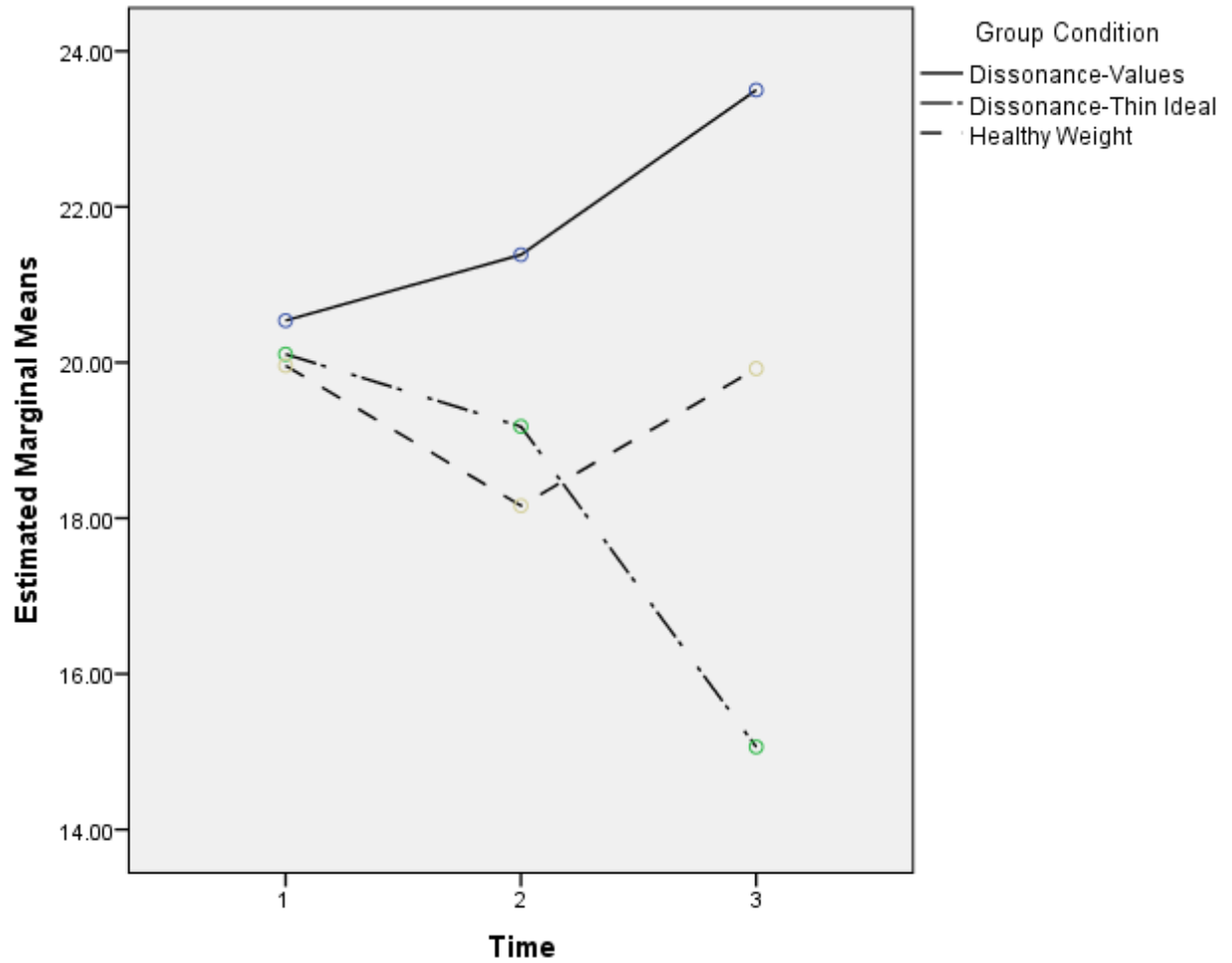


Figure 3. Changes in Ethnic Identity Over Time.

A significant interaction was not found between condition and time point for strength of religious faith, $F(2.19, 83.38) = .47$, $p = .64$ (see Figure 4). No main effect of time was detected, $F(1.10, 83.38) = .32$, $p = .59$, or of group, $F(2, 76) = .78$, $p = .46$.

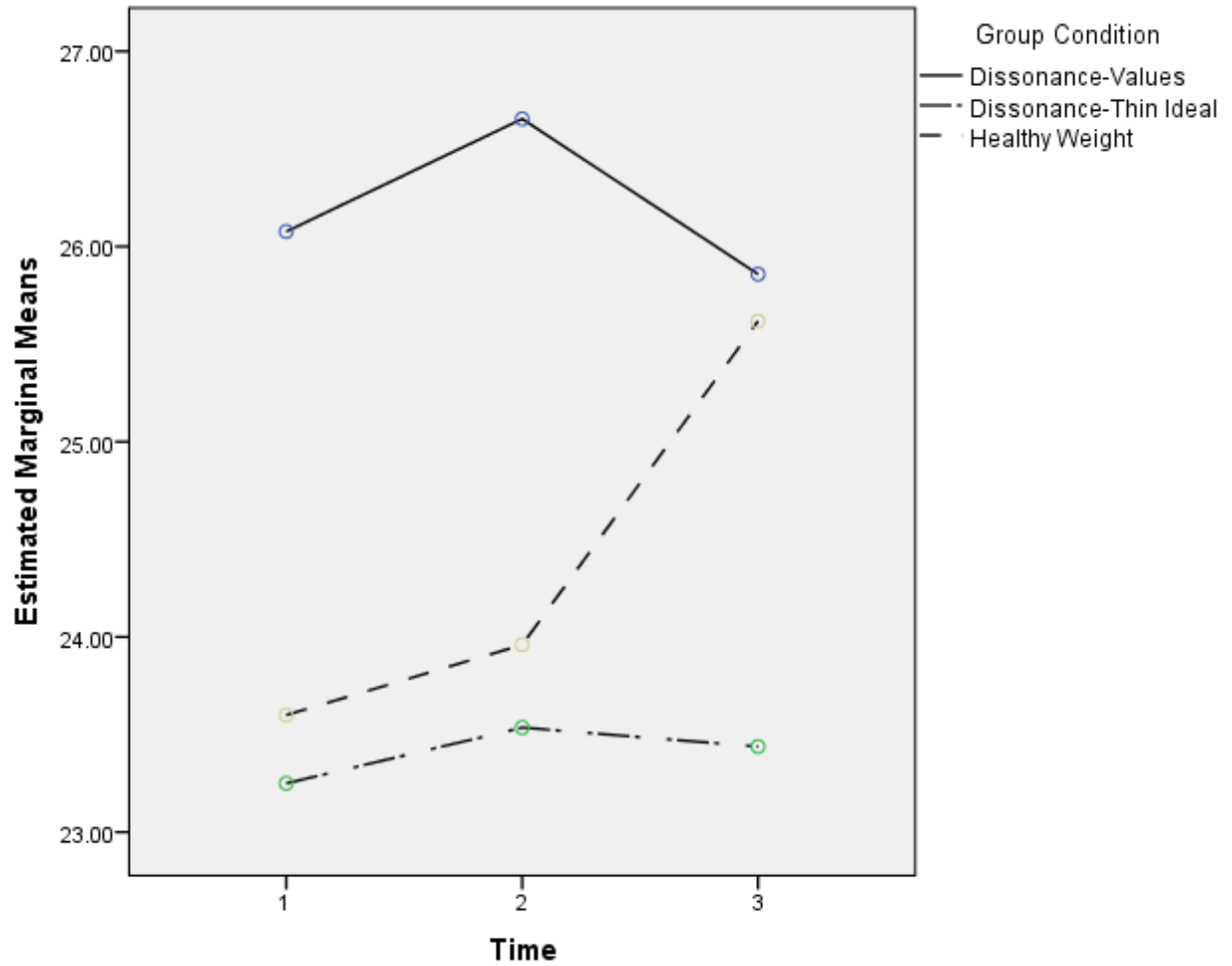


Figure 4. Changes in Strength of Religious Faith Over Time.

For self-esteem, no significant interaction between condition and time point was detected, $F(3.02, 111.76) = .08, p = .97$ (see figure 5). There was a significant main effect of time, $F(1.51, 111.76) = 5.00, p < .05$, partial $\eta^2 = .06$. Specifically, self-esteem was significantly lower at baseline ($M = 19.83$) than at post-test ($M = 21.39, SE = .33, p < .001$). No main effect of group was detected, $F(2, 74) = 1.52, p = .23$.

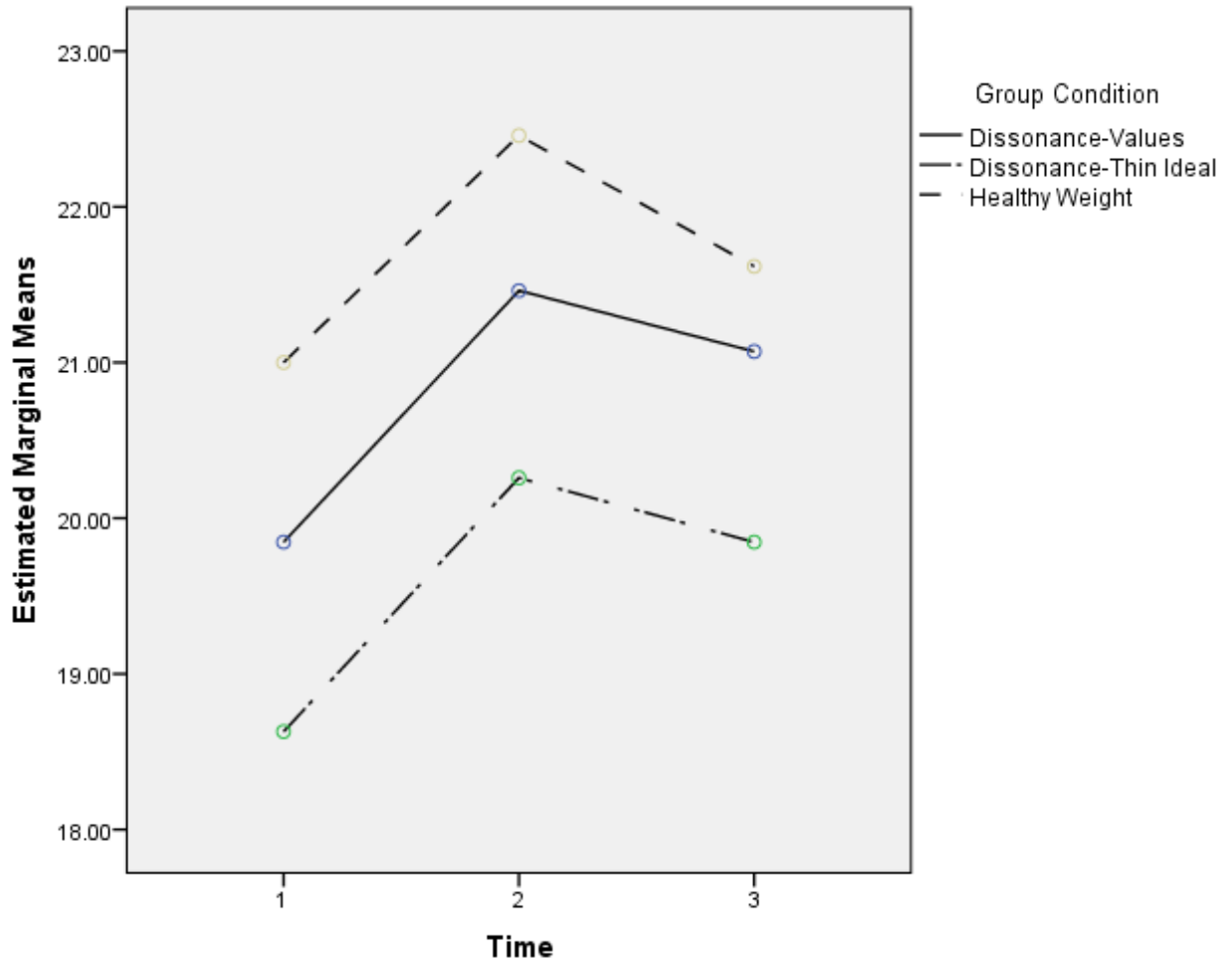


Figure 5. Changes in Self-Esteem Over Time.

There was a significant interaction effect between condition and time point for dieting behaviors, $F(2, 76)=6.86$, $p<.01$, partial $\eta^2=.15$ (see Figure 6). Analyses did not detect a significant simple main effect for group at baseline, $F(2, 76)=1.00$, $p=.37$, but significance was found at follow-up, $F(2, 76)=8.72$, $p<.001$, partial $\eta^2=.19$. Specifically, at follow-up, participants in the dissonance-values condition ($M=9.36$) reported significantly more dieting than the healthy weight condition ($M=4.46$, $SE=1.20$, $p<.001$), and the dissonance-values condition reported significantly more dieting ($M=7.87$,

$SE=1.18$, $p<.05$) than the dissonance-thin ideal condition. There was a significant simple main effect of time for the dissonance-values group, $F(1, 25)=4.84$, $p<.05$, partial $\eta^2=.16$, with dieting showing an increase at follow-up ($M=9.36$, $SE=.86$, $p<.05$) compared to baseline ($M=7.46$). There was also a significant main effect of time for the dissonance-thin ideal group, $F(1, 27)=4.27$, $p<.05$, partial $\eta^2=.14$. For this group, dieting behaviors decreased between baseline ($M=10.14$) and follow-up ($M=7.87$, $SE=1.09$, $p<.05$). In the healthy weight condition, there was also a significant simple main effect of time, $F(1, 24)=7.91$, $p<.05$, partial $\eta^2=.25$, with dieting significantly decreasing between baseline ($M=8.16$) and follow-up ($M=4.16$, $SE=1.32$, $p<.05$).

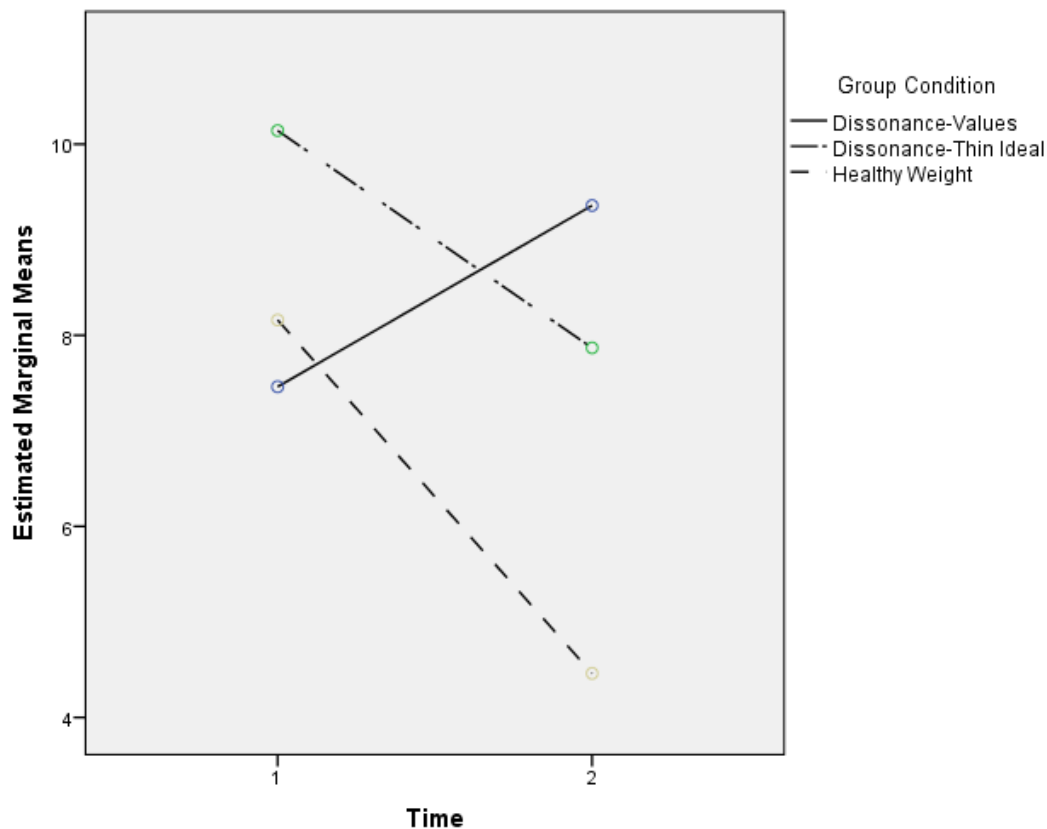


Figure 6. Changes in Dieting Over Time.

There was a significant interaction between time and group condition for bulimic symptoms, $F(2, 76)=7.66$, $p<.01$, partial $\eta^2=.17$ (see Figure 7). There was a simple main effect of group at baseline, $F(2, 76)=3.27$, $p<.05$, partial $\eta^2=.08$, though post-hoc tests showed only a nonsignificant trend for the dissonance-values group reporting more bulimic symptoms and food preoccupation ($M=2.96$) than the healthy weight group ($M=1.12$, $SE=.82$, $p=.07$). There was a significant simple main effect of group at follow-up, $F(2, 76)=8.55$, $p<.001$, partial $\eta^2=.19$. Games-Howell post-hoc tests show that the dissonance-values condition reported significantly higher reports of bulimic symptoms and food preoccupation ($M=2.64$) than the healthy weight condition ($M=0.46$, $SE=0.53$, $p<.01$), as did the dissonance-thin ideal condition ($M=1.73$, $SE=0.38$, $p<.01$). For the dissonance-values condition, there was also a significant simple main effect of time, $F(1, 25)=13.00$, $p<.01$, partial $\eta^2=.34$, with bulimic symptoms being higher at follow-up than at baseline ($SE=.33$, $p<.01$). For the dissonance-thin ideal condition, there was a significant simple main effect of time, $F(1, 27)=5.16$, $p<.05$, partial $\eta^2=.16$, with bulimic symptoms being lower at follow-up than at baseline ($SE=.54$, $p<.05$). A simple main effect of time for the healthy weight condition was not found, $F(1, 24)=2.07$, $p=.16$.

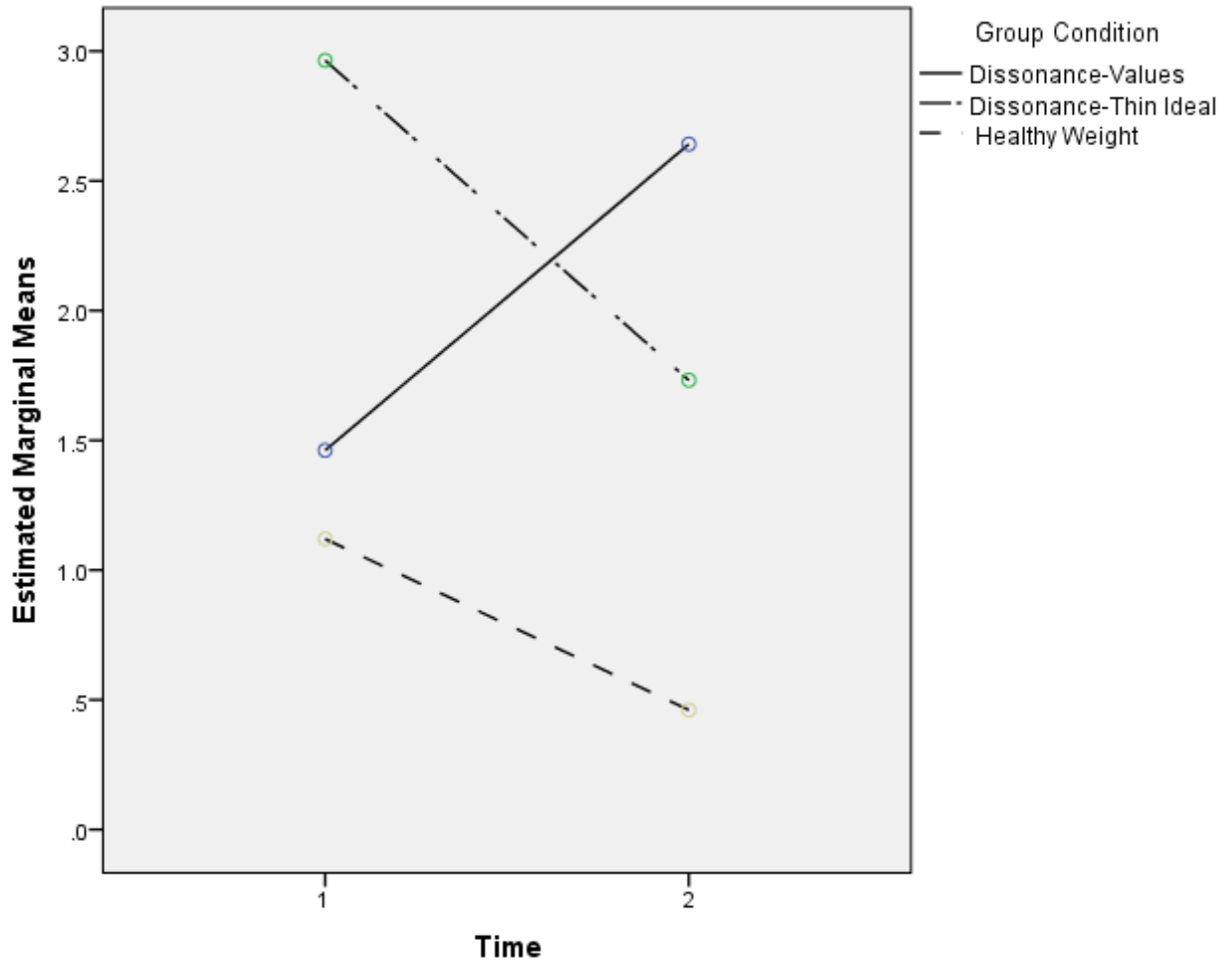


Figure 7. Changes in Bulimic Symptoms Over Time.

There was a significant interaction between time and group condition for oral control, $F(2, 76)=3.66$, $p<.05$, partial $\eta^2=.09$ (see Figure 8). After adjustment for age, there was also a significant simple main effect for group, $F(2, 75)=5.04$, $p<.01$, partial $\eta^2=.12$. At baseline, oral control was significantly lower in the dissonance-values group ($M=1.34$ adjusted, $SE=.50$, $p<.05$) compared to the dissonance-thin ideal group ($M=2.64$ adjusted). The healthy weight group was also significantly lower ($M=1.61$ adjusted, $SE=.52$, $p<.05$) than the dissonance-thin ideal group at baseline. There was also a significant simple main effect for group at follow-up, $F(2, 75)=7.52$, $p<.01$, partial

$\eta^2=.17$. Both the dissonance-values ($M=2.08$ adjusted, $SE=.36$, $p<.01$) and dissonance-thin ideal ($M=2.14$ adjusted, $SE=.35$, $p<.01$) had significantly higher reports of oral control compared to the healthy weight condition ($M=.90$ adjusted). There was not a significant simple main effect of time for the dissonance-values group, $F(1, 24)=.13$, $p=.73$, or for the healthy weight group, $F(1, 23)=1.67$, $p=.21$. For the dissonance-thin ideal condition, however, there was a significant simple main effect of time, $F(1, 26)=14.71$, $p<.01$, partial $\eta^2=.36$.

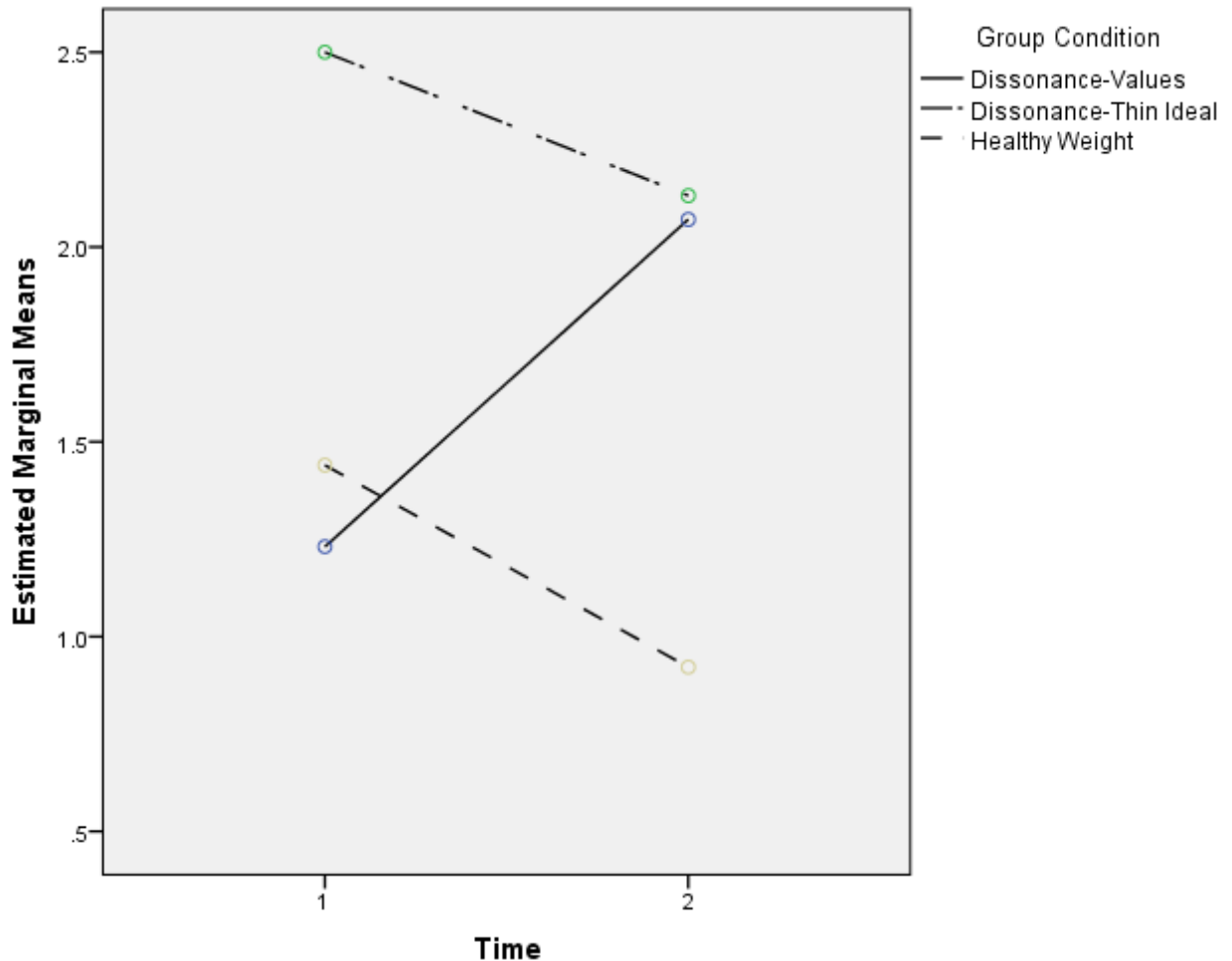


Figure 8. Changes in Oral Control Over Time.

A significant interaction between time and group condition for valued living was not found, $F(2, 66)=2.21$, $p=.12$ (see Figure 9). There was not a significant main effect of time, $F(1, 66)=.00$, $p=.97$, nor was there a detected significant main effect of group, $F(2, 66)=2.71$, $p=.07$.

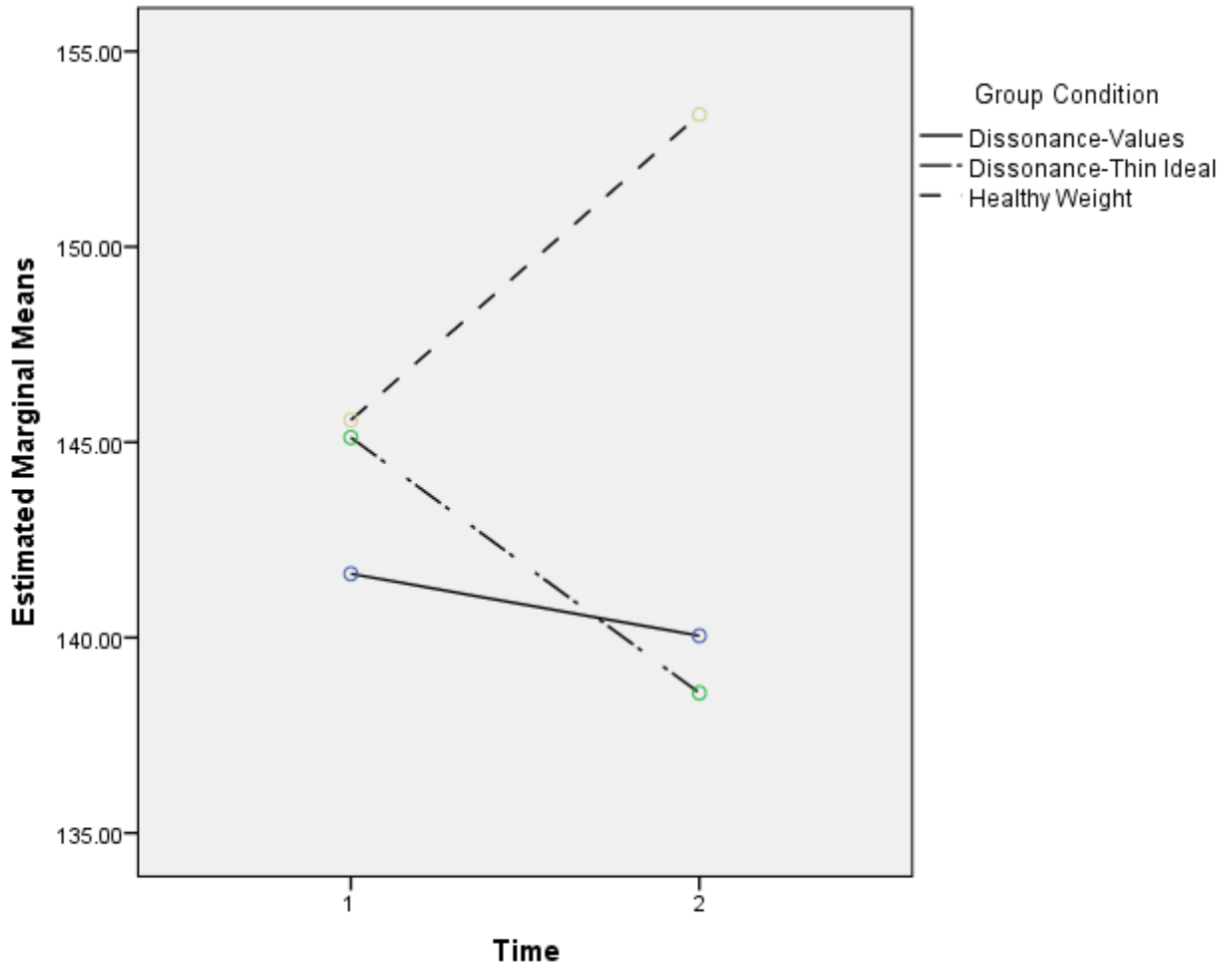


Figure 9. Changes in Valued Living Over Time.

Analyses did not find a significant interaction between time and group condition for negative affect, $F(2, 76)=.17$, $p=.84$ (see Figure 10). There was a significant main

effect of time, $F(1, 76)=22.61$, $p<.001$, partial $\eta^2=.23$, with negative affect being lower at follow-up ($M=18.42$) than at baseline ($M=21.82$, $SE=.71$, $p<.001$). A significant main effect of group was not found, $F(2, 76)=1.62$, $p=.20$.

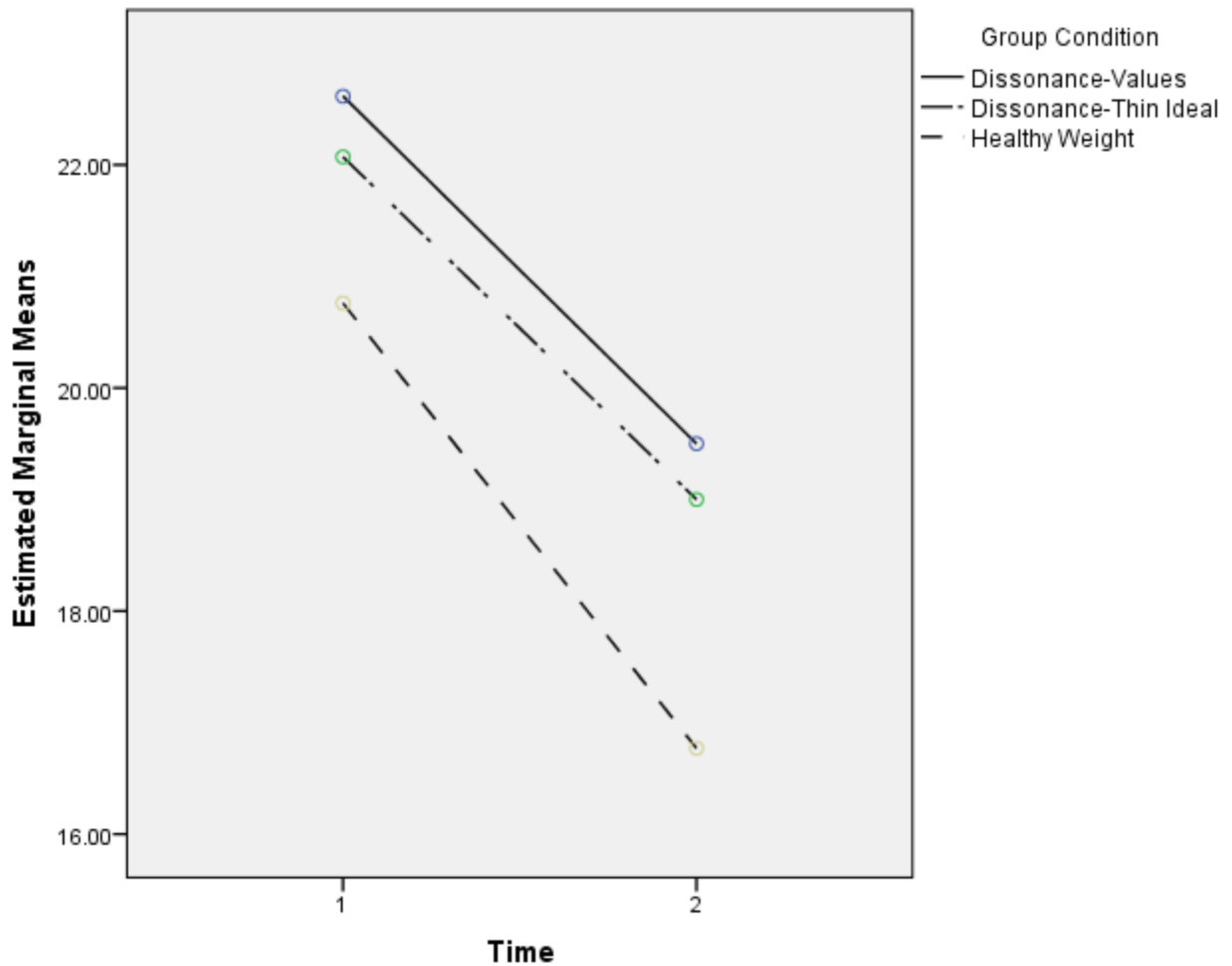


Figure 10. Changes in Negative Affect Over Time.

Testing Hypothesis 2

To test the hypothesis that in the dissonance-values condition, participants would report increased valued living at follow-up, a paired t-test was performed. Results showed

that there were not any significant differences in valued living between baseline ($M=141.63$, $SD=17.06$) and follow-up ($M=140.05$, $SD=20.08$), $t(18)=.26$, $p=.80$.

In testing whether participants in the dissonance-values condition who identified with a racial or ethnic minority group or who identified as being religious also reported increased ethnic identity and increased strength of religious faith at post-test, a paired t-test was performed. As hypothesized, for participants in the dissonance-values condition who identified with a racial or ethnic minority group, ethnic identity significantly increased between baseline ($M=23.092$, $SD=3.62$) and post-test ($M=24.85$, $SD=3.78$), $t(12)=-2.22$, $p<.05$. Ethnic identity was not significantly different at follow-up compared to baseline, $t(12)=1.16$, $p=.27$, or post-test, $t(12)=.20$, $p=.84$. There were no such significant changes for racial/ethnic minority participants in the dissonance-thin ideal or healthy weight conditions.

Contrary to the original hypothesis, participants in the dissonance-values condition who reported strong religious faith showed no changes in the strength of their religious faith between baseline ($M=33.67$, $SD=4.29$) and post-test ($M=34.07$, $SD=4.70$), $t(15)=-.63$, $p=.54$.

Testing Hypothesis 3

Next, the hypothesis that across all conditions, individuals who report strong religious faith, ethnic identity, or valued living would report lower thin ideal internalization, higher body satisfaction, and higher self-esteem was tested using independent t-tests.

Individuals who reported stronger religious faith indicated a stronger sense of valued living at baseline ($M=150.03$, $SD=19.13$) compared to those with lower religious faith ($M=138.77$, $SD=18.74$), $t(67)=-2.47$, $p<.05$, a relationship that persisted at follow-up, $t(77)=-2.15$, $p<.05$. There were no differences in thin ideal internalization at baseline, $t(77)=-.57$, $p=.57$, post-test, $t(77)=1.37$, $p=.18$, or follow-up $t(77)=-1.35$, $p=.18$. Although having a stronger religious faith was not initially related to body satisfaction at baseline, $t(77)=-.91$, $p=.37$, or at follow-up, $t(77)=.40$, $p=.69$, it was associated with significantly higher post-test body satisfaction, $t(77)=-2.95$, $p<.01$. There were no significant differences in self-esteem at baseline, $t(77)=-.24$, $p=.81$, post-test, $t(75)=-1.51$, $p=.14$, or follow-up, $t(77)=-1.02$, $p=.31$, between individuals with strong religious faith and low religious faith.

Individuals who reported stronger ethnic identity were no different than individuals with lower ethnic identity when looking at valued living scores at baseline, $t(67)=-1.37$, $p=.18$, and follow-up, $t(77)=-1.48$, $p=.14$. There were no significant differences in thin ideal internalization at baseline, $t(77)=.29$, $p=.77$, post-test, $t(77)=-.51$, $p=.61$, or follow-up, $t(77)=.40$, $p=.69$. There were also no significant differences in body dissatisfaction at baseline, $t(77)=-.94$, $p=.35$, post-test, $t(77)=-1.28$, $p=.20$, or follow-up, $t(77)=-1.34$, $p=.19$. Individual who had strong ethnic identities reported higher self-esteems at baseline, $t(77)=-2.20$, $p<.01$, and post-test, $t(75)=-2.07$, $p<.05$, when compared to individuals with lower ethnic identities, but this was not the case at follow-up, $t(77)=-1.03$, $p=.14$.

Analyses were then repeated for just individuals who identified with a non-White racial or ethnic group. Individuals with high ethnic identity showed a higher sense of

valued living, $t(25)=-3.43$, $p<.01$, at baseline, but not at follow-up, $t(30)=-.15$, $p=.88$. Higher ethnic identity at baseline was not associated with differences in thin ideal internalization, $t(30)=1.77$, $p=.09$, or at follow-up, $t(30)=1.54$, $p=.14$, but it was significantly associated with lower thin ideal internalization at post-test, $t(30)=3.02$, $p<.01$. There were no significant differences in body dissatisfaction at baseline, $t(30)=-.25$, $p=.80$, or post-test, $t(30)=-2.47$, $p<.05$, but individuals with high ethnic identity had lower body dissatisfaction at follow-up, $t(30)=-2.64$, $p<.05$. At baseline, there were no significant differences in self-esteem, $t(30)=-1.33$, $p=.19$, nor were there differences at follow-up, $t(30)=-.39$, $p=.70$, but at post-test, non-White individuals with high ethnic identity reported significantly higher self-esteem compared to those with low ethnic identity, $t(30)=-2.47$, $p<.05$.

Individuals who reported higher valued living at baseline reported significantly higher self-esteem at baseline ($M=21.85$, $SD=4.61$), $t(67)=-2.78$, $p<.01$, post-test ($M=23.79$, $SD=4.19$), $t(65)=-3.27$, $p<.01$, and follow-up, $t(67)=-2.16$, $p<.05$. In comparing thin ideal internalization, there were no significant differences at baseline, $t(67)=-.68$, $p=.44$, post-test, $t(67)=-.18$, $p=.86$, or follow-up, $t(67)=.70$, $p=.48$, between individuals with higher and lower valued living. There were also no differences in body dissatisfaction at baseline, $t(67)=-1.72$, $p=.07$, post-test, $t(67)=-1.15$, $p=.26$, or follow-up, $t(67)=-.36$, $p=.72$.

Testing Hypothesis 4

Finally, the hypothesis was tested that thin ideal internalization would predict body dissatisfaction, which in turn would predict dieting, negative affect, and bulimic

symptoms. A linear regression was performed and showed a trend for thin ideal internalization positively predicting body dissatisfaction, $F(2,77)=3.27$, $p=.07$, adj. $R^2=.03$.

Next, a step-wise regression was performed to predict dieting behavior. The combination of thin internalization and body dissatisfaction significantly predicted dieting behavior, $R^2=.14$, $F(1,76)=6.25$, $p<.01$; adjusted $R^2=.12$ (Table 3).

Table 3. Regression Model Predicting Dieting

Step and Predictor Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Thin ideal internalization	2.88	1.89	.17
Step 2			
Thin ideal internalization	1.72	1.83	.10
Body dissatisfaction	-.30	.10	-.34**

Note. $R^2=.03$ for Step 1; $\Delta R^2=.11$ for Step 2 ($p<.01$).

** $p<.01$.

Another regression was performed to examine the prediction of negative affect. The addition of body dissatisfaction to the prediction of negative affect led to a statistically significant increase in R^2 by .07, $F(1,76)=5.98$, $p<.05$. The full model of thin ideal internalization and body dissatisfaction to predict negative affect was also statistically significant, $R^2=.11$, $F(2,76)=4.60$, $p<.05$; adjusted $R^2=.09$.

Table 4. Regression Model Predicting Negative Affect

Step and Predictor Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Thin ideal internalization	3.10	1.78	.19
Step 2			
Thin ideal internalization	2.23	1.76	.14
Body dissatisfaction	-.23	.09	-.27*

Note. $R^2=.04$ for Step 1; $\Delta R^2=.07$ for Step 2 ($p<.05$).

* $p<.05$.

Next, a regression was performed to determine the combined impact of thin ideal internalization, body dissatisfaction, and dieting on negative affect. Thin ideal internalization alone was not found to significantly predict negative affect, though there was a positive trend for this relationship, $R^2=.04$, $F(1,77)=3.02$, $p=.09$; adjusted $R^2=.03$. The addition of body dissatisfaction significantly improved the model and produced a significant positive prediction of negative affect, $R^2=.11$, $F(1,76)=4.60$, $p<.05$; adjusted $R^2=.09$. In the third step, the complete model was significantly improved and showed a positive prediction of negative affect, $R^2=.16$, $F(1,75)=4.77$, $p<.01$; adjusted $R^2=.13$.

A regression was performed to examine the prediction of bulimic symptoms. Results showed that the addition of body dissatisfaction to thin ideal internalization in the prediction of bulimic symptoms once again led to a statistically significant increase in R^2 of .05, $F(1,76)=4.14$, $p<.05$. In the third step, the addition of dieting behavior also showed a significantly significant increase in R^2 of .31, $F(1,75)=38.04$, $p<.001$. The

addition of negative affect in the fourth step did not significantly alter R^2 , $F(1,74)=.01$, $p=.91$. The full model of thin ideal internalization, body dissatisfaction, dieting, and negative affect to predict bulimic symptoms was statistically significant, $R^2=.39$, $F(4,74)=12.04$, $p<.001$; adjusted $R^2=.36$.

Table 5. Regression Model Predicting Bulimic Symptoms

Step and Predictor Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Thin ideal internalization	1.29	.75	.19
Step 2			
Thin ideal internalization	.98	.75	.15
Body dissatisfaction	-.08	.04	-.23*
Step 3			
Thin ideal internalization	.56	.63	.08
Body dissatisfaction	-.01	.04	-.02
Dieting	.24	.04	.60***
Step 4			
Thin ideal internalization	.56	.63	.08
Body dissatisfaction	-.01	.04	-.02
Dieting	.24	.04	.60***
Negative affect	.01	.04	.01

Note. $R^2=.04$ for Step 1; $\Delta R^2=.05$ for Step 2 ($p<.05$); $\Delta R^2=.31$ for Step 3 ($p<.001$); $\Delta R^2=.00$ for Step 4 ($p=.91$).

* $p < .05$.

*** $p < .001$

CHAPTER 4

CONCLUSION

This study sought to investigate the effectiveness of a modified dissonance-based body dissatisfaction intervention in a university setting. By including a condition wherein participants could personalize the dissonance between their own values and pursuit of an unhealthy thin ideal, it also sought to examine whether such an approach could compare against the standard dissonance intervention. To date, little research has incorporated or utilized aspects of participants' personal values and identities in a body dissatisfaction intervention, and the present study sought to take a step forward in advancing the current research.

This study supported past research that proposed a particular pathway in predicting eating disorder risk. Stice (2001) demonstrated that thin ideal internalization predicts body dissatisfaction, which in turn predicts increased dieting and negative affect. In turn, dieting and negative affect predict bulimic symptoms. In the current sample, this model was mostly upheld, though negative affect did not play as important a role as it has in previous studies. Curiously, thin ideal internalization also did not emerge as a strong significant predictor of body dissatisfaction, though this trend was observed in the current study. However, the current results support the hypothesis that body dissatisfaction is an important link between thin ideal internalization and unhealthy eating behaviors.

In addition, the current study showed encouraging results by demonstrating that body dissatisfaction interventions can be successful when they provide an opportunity for participants to reflect on aspects of their values and identities that would make pursuit of

an unhealthy thin ideal less appealing to them. Analyses showed that the dissonance-values condition was equally effective as the standard dissonance-thin ideal condition and the standard healthy weight condition in reducing body dissatisfaction and thin ideal internalization and in increasing self-esteem in the time immediately following the intervention, as well as being equally effective in decreasing negative affect between baseline and follow-up. As the current study aimed to examine the effectiveness of a new intervention approach, it is encouraging that there were not significant differences between groups in terms of their immediate impact on thin ideal internalization, body dissatisfaction, negative affect, and self-esteem. This suggests that even when the intervention is slightly less standardized and more personalized to the individuals involved, improvements can be found.

There were also exciting findings regarding the uniqueness of the dissonance-values condition. Overall, ethnic identity was higher at follow-up for individuals in the dissonance-values condition, but not for participants in the other two conditions-- ethnic identity actually decreased at follow-up for participants in the dissonance-thin ideal condition. First, it is possible that because participants in the dissonance-values condition had an opportunity to reflect on aspects of their cultural identities, this contributed to a continued, positive sense of increased ethnic identity. As the other two groups had no such component, it is logical to assume that they would not have experienced a similar sense of increased exploration and consideration of their cultural identity. It is unclear why ethnic identity would have decreased in the dissonance-thin ideal condition, however. It is possible that discussing the majority White culture's emphasis on ultrathinness could have decreased a sense of affiliation with a White identity for the

White participants, while for the non-White participants, acknowledging an acceptance of White beauty ideals decreased their sense of identifying with their non-White racial or ethnic groups. This group's decrease could also reflect a normative decrease in ethnic exploration among college students over time, independent of affiliation with any particular racial or ethnic group (Tsai & Fuligni, 2012).

There were other unique findings for the dissonance-values condition as it pertained to individuals who identified with a racial or ethnic minority group. In this condition, but not the others, such individuals reported an increase in ethnic identity after participating in the intervention. It is possible that having the opportunity to reflect on how their own cultural values were incompatible with pursuit of the thin ideal contributed to an increased sense of affiliation with their given groups, as overt discussion of culture and how race might influence the thin ideal was not a part of the dissonance-thin ideal condition or of the healthy weight condition. If so, then this could provide further support for the idea that the dissonance-values group offered the opportunity to view their backgrounds in a positive way that encouraged increased affiliation, rather than a distancing from one's background.

Similarly, across all groups, a stronger religious faith was significantly associated with lower body dissatisfaction immediately following the intervention. The reasons for this are unclear, as only the dissonance-values group included any discussion of religion or spiritual beliefs. However, it is possible that the simple inclusion of a measure assessing religiosity during the baseline assessment was enough to prime highly religious participants to identify with this potentially protective aspect of aspect. It could also be that despite not being an explicit part of most discussions, with the exception of the

dissonance-values group discussion, individuals who have a strong religious faith are more open to acknowledging the risks of the thin ideal and to replacing any initial adherence to it with an alternative, healthy ideal.

One of the more puzzling findings regarded changes in disordered eating behaviors. Whereas the healthy weight group reported no significant changes between baseline and follow-up, there were conflicting findings for the dissonance-values and dissonance-thin ideal conditions. The dissonance-values group showed increased dieting behaviors at follow-up compared to baseline, which seems to contradict the group's overall improvement in other domains. This group also showed increases in bulimic symptoms and food preoccupation, whereas the dissonance-thin ideal group reported decreases with these behaviors and attitudes. While it is possible that the dissonance-thin ideal truly decreased some disordered eating patterns, whereas the dissonance-values group increased them, this seems unlikely given the lack of significant differences between them in other relevant areas like body dissatisfaction, negative affect, and thin ideal internalization. It is possible that a priori differences between the groups were exaggerated in the follow-up, particularly in terms of differences between responders and nonresponders between the three group conditions. For example, if dissonance-values participants who responded during follow-up also reported higher scores at baseline compared to participants who dropped out at follow-up, then their responses might have been skewed toward disordered eating regardless of their condition.

The impact of the healthy weight condition suggests that contrary to past research that found that psychoeducational programs do not produce significant effects, it can actually have a beneficial impact. Similar to previous Body Project research studies

(Stice et al., 2006), the healthy weight condition in the present study showed similar benefits as the two dissonance-based conditions. It might be that although this condition does not specifically or directly focus on disputing the thin ideal, the discussion about valuing a healthy ideal and identifying steps towards a more healthy, balanced lifestyle indirectly influenced people's attitudes about an ultra-thin ideal.

A particular strength of the current study was its racial and ethnic diversity compared to other, similar studies conducted in university settings. While still a majority White sample (59.5%), it contained somewhat higher percentages of racial and ethnic minority groups than are typically seen in the main university population where the study was conducted, suggesting that women who identify with racial and ethnic minority groups were appropriately represented in this sample. Nonetheless, as is too common in current research, this study could have only benefitted from the inclusion of additional women of color, particularly given the findings that such women benefitted in unique ways.

As a preliminary, exploratory study, the present study is certainly not without limitations. Given the relatively small sample size, it is possible that there were impacts from the interventions that were not able to be detected due to low power. Some studies under the domain of the Body Project have involved several hundred participants, and the relationship between dissonance-based interventions and decreased body dissatisfaction and thin ideal internalization can be observed with much greater confidence in those circumstances. Given that such research endeavours require substantial funding and resources, this was not possible to replicate within the available circumstances that framed the current study. Indeed, effect sizes in the current study were in the smaller

range, and heterogeneity within the data suggests that variations within the smaller sample size could have impacted the analyses and findings.

Additionally, it is unclear to what extent the studied interventions had an impact on long-term beliefs and behaviors. The two-week follow-up period was chosen to determine whether the interventions had any lasting impact within a relatively short time frame, intended to mimic what might happen week-to-week in an outpatient therapy setting. While similar studies have affirmatively found that both dissonance-based interventions and healthy-living interventions demonstrate benefits several months to years after participation, the same cannot be stated with any confidence for the current study. Data analysis suggested that for the current sample, the interventions were not powerful enough to indicate an impact on thin ideal internalization, body dissatisfaction, or self-esteem at two-week follow-up despite the participants' initial post-test improvement.

The reasons for this are unclear. The first, and perhaps most probable, explanation is that the interventions were simply not powerful enough in their effects to cause lasting changes in attitudes about the thin ideal or body satisfaction. Past research has found that high-dissonance interventions, marked by more difficult homework assignments and increased verbal communication (McMillan & Stice, 2011), have a significantly greater impact than low-dissonance interventions, even when based on the same principles. It is possible that the current study's intervention conditions could be categorized as being low-dissonance given the brief nature of the interventions and absence of homework assignments. Despite their impact in the short-term, the dissonance was not strong enough to encourage longer-term changes.

Additionally, it cannot be ignored that many of the sample's participants came from undergraduate Psychology courses and were fulfilling course requirements by participating in a research project. Although all participants actively participated in the discussions, it is possible that their compensation of receiving research participation points or extra credit diluted the strength of the dissonance and its resulting impact, especially in the longer-term. If participants could rationalize that they were merely fulfilling a requirement and thus did not need to completely accept the aims of the intervention, then this would have obvious and negative effects on the long-term impact of the interventions.

In particular, it is possible that this contributed to dropout rates between post-test and follow-up, as dropout rates were very high for this study. If participants could be guaranteed to receive extra credit after post-test, with only the possibility of winning a gift card after follow-up, then it is possible that the study compensation was simply not appealing enough to justify long-term participation. However, increased compensation could have affected the validity of the study, as justifying participation by compensation would clearly reduce the impact of any cognitive dissonance.

Furthermore, it is possible that the group nature of this study made recruitment difficult. In addition to the challenges that coordinating the schedules of multiple participants involves, it is possible that some potential participants were not comfortable attending a workshop wherein they would be expected to speak in the presence of peers about a sensitive topic such as body image. While confidentiality was emphasized, some students might have been uneasy with such a format and opted not to participate despite the potential benefits.

Additionally, it is possible that unspecified, unmeasured effects caused by different group facilitators could have occurred. While attempts were made to minimize any variations in delivery of the interventions, such as by adhering to a strict protocol and using a script to guide discussion, it is possible that individual differences, such as ease of facilitating conversation or skill in encouraging in-depth discussion, could have contributed to some groups of participants receiving a more salient “dosage” of the intervention.

Despite such limitations, the current study represents an important move forward in individualizing and expanding interventions intended to decrease body dissatisfaction. Future studies would likely benefit from large sample sizes, diversity among participants, and examination of values that could enhance a dissonance-based approach. Particularly in investigating novel approaches and variations, it could prove useful to include a variety of follow-up intervals in order to more precisely assess for how long any immediate effects last, as well as at what point they begin to diminish.

In a time when mental health practitioners are encouraged and expected to be culturally sensitive and respect diversity, there has been surprisingly little empirical research on interventions for body dissatisfaction that include a cultural component, and most research has focused on individual studies without reflecting any overall shifts in how clinicians approach body dissatisfaction. For example, with 71% of college students indicating that religion has been helpful to them in some way (Kellems, Hill, Cook-Lyon, & Freitas, 2010), it would be expected that interventions used in a university setting would acknowledge the role that spirituality plays in many students lives, especially when many clients with disordered eating behaviors consider their religion to play a role

in their struggles and in their recovery (Richards, Hardman, Frost, Berret, Clark-Sly, & Anderson, 1998).

Despite calls to implement culturally-informed evidence-based practices (Castro, 2008), there have been mixed responses. Although some newer interventions have included relevant cultural content in their implementation, such as discussion of race-related race myths in a predominantly African American rape prevention program (Sue, Zane, Hall, & Berger, 2009), it is unclear how many prevention interventions for body dissatisfaction, if any, include clear cultural components. It seems that this misses out on a large aspect of potential mechanisms of change. Rogers-Wood and Petrie (2010), in considering how to provide culturally-relevant interventions for African American college students, suggest that providing a group setting wherein women can explore their cultural values and consider the costs of abandoning them in favor of those of mainstream culture could help provide these women with a more realistic standard of beauty. However, it does not seem that clinical researchers have taken this step of evaluation the impact of creating such a therapeutic space.

The overarching goal of this study was to demonstrate whether an intervention that stays true to empirically-supported concepts and designs and that also includes a component wherein individuals can reflect on and share their values and aspects of identity could be as effective as a noncultural, standard intervention. Despite the lack of overall long-term findings for any of the conditions, it is promising that the dissonance-values condition, a novel interpretation of dissonance-based interventions, was equally effective as the standard in the short-term. Hopefully, this shows how current, accepted

interventions can be easily modified to acknowledge and utilize culture as a protective factor.

Moving forward, it will be important for intervention and prevention programs to appropriately assess the communities they serve and contain culturally-relevant components. As with dissonance-based body dissatisfaction interventions, it may be that the current standards of care already implicitly contain elements that address relevant aspects of culture within the treated population. However, a one-size-fits-all model should not preclude exploration of models that more explicitly examine cultural values as a potential source of strength and protection, particularly when existing programs make such adjustments a natural, faithful component of the intervention.

APPENDIX A

IDEAL BODY STEREOTYPE SCALE- REVISED

How much do you agree with these statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Slender women are more attractive	1	2	3	4	5
2. Women who are in shape are more attractive	1	2	3	4	5
3. Tall women are more attractive	1	2	3	4	5
4. Women with toned (lean) bodies are more attractive	1	2	3	4	5
5. Shapely women are more attractive	1	2	3	4	5
6. Women with long legs are more attractive	1	2	3	4	5

APPENDIX B

BODY PARTS SATISFACTION SCALE-REVISED

Please indicate how satisfied you are with different parts of your body using the following scale:

1	2	3	4	5	6
Extremely dissatisfied					Extremely satisfied

Weight

Hair

Complexion

Overall face

Arms

Stomach

Breasts

Buttocks

Hips

Upper thighs

General muscle tone

Overall body

APPENDIX C

MULTIETHNIC IDENTITY MEASURE-REVISED

In this country, people come from a lot of different cultures and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Mexican-American, Hispanic, Black, Asian-American, American Indian, Anglo-American, and White. Every person is born into an ethnic group, or sometimes two groups, but people differ on how important their ethnicity is to them, how they feel about it, and how much their behavior is affected by it. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

In terms of ethnic group, I consider myself to be: _____

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

1	2	3	4	5
Strongly Disagree		Neutral		Strongly Agree

I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.

I have a strong sense of belonging to my own ethnic group.

I understand pretty well what my ethnic group membership means to me.

I have often done things that will help me understand my ethnic background better.

I have often talked to other people in order to learn more about my ethnic group.

I feel a strong attachment towards my own ethnic group.

My ethnicity is

- (1) Asian or Asian American, including Chinese, Japanese, and others
- (2) Black or African American
- (3) Hispanic or Latino, including Mexican American, Central American, and others
- (4) White, Caucasian, Anglo, European American; not Hispanic
- (5) American Indian/Native American
- (6) Mixed; Parents are from two different groups
- (7) Other (write in): _____

My father's ethnicity is (use numbers above)

My mother's ethnicity is (use numbers above)

APPENDIX D

SANTA CLARA STRENGTH OF RELIGIOUS FAITH QUESTIONNAIRE

Please answer the following questions about religious faith using the scale below.
Indicate the level of agreement (or disagreement) for each statement.

1 = strongly disagree 2 = disagree 3 = agree 4 = strongly agree

- _____ 1. My religious faith is extremely important to me.
- _____ 2. I pray daily.
- _____ 3. I look to my faith as a source of inspiration.
- _____ 4. I look to my faith as providing meaning and purpose in my life.
- _____ 5. I consider myself active in my faith or church.
- _____ 6. My faith is an important part of who I am as a person.
- _____ 7. My relationship with God is extremely important to me.
- _____ 8. I enjoy being around others who share my faith.
- _____ 9. I look to my faith as a source of comfort.
- _____ 10. My faith impacts many of my decisions.

To score, add the total scores. They will range from 10 (low faith) to 40 (high faith)

APPENDIX E

ROSENBERG SELF-ESTEEM SCALE

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.

STATEMENT				
1. I feel that I am a person of worth, at least on an equal plane with others.	SA	A	D	SD
2. I feel that I have a number of good qualities.	SA	A	D	SD
3. All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD
6. I take a positive attitude toward myself.	SA	A	D	SD
7. On the whole, I am satisfied with myself.	SA	A	D	SD
8. I wish I could have more respect for myself.	SA	A	D	SD
9. I certainly feel useless at times.	SA	A	D	SD
10. At times I think I am no good at all.	SA	A	D	SD

APPENDIX F

POSITIVE AND NEGATIVE AFFECT SCHEDULE- EXPANDED FORM

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past few weeks. Use the following scale to record your answers:

1 very slightly or not at all	2 a little	3 moderately	4 quite a bit	5 extremely
_____ cheerful	_____ sad	_____ active	_____ angry at self	
_____ disgusted	_____ calm	_____ guilty	_____ enthusiastic	
_____ attentive	_____ afraid	_____ joyful	_____ downhearted	
_____ bashful	_____ tired	_____ nervous	_____ sheepish	
_____ sluggish	_____ amazed	_____ lonely	_____ distressed	
_____ daring	_____ shaky	_____ sleepy	_____ blameworthy	
_____ surprised	_____ happy	_____ excited	_____ determined	
_____ strong	_____ timid	_____ hostile	_____ frightened	
_____ scornful	_____ alone	_____ proud	_____ astonished	
_____ relaxed	_____ alert	_____ jittery	_____ interested	
_____ irritable	_____ upset	_____ lively	_____ loathing	
_____ delighted	_____ angry	_____ ashamed	_____ confident	
_____ inspired	_____ bold	_____ at ease	_____ energetic	
_____ fearless	_____ blue	_____ scared	_____ concentrating	
_____ disgusted with self	_____ shy	_____ drowsy	_____ dissatisfied with self	

APPENDIX G

DISSONANCE-VALUES ESSAY

Writing Exercise

Please write a letter to a college student who is struggling with body image concerns about the costs associated with pursuing the thin ideal. Imagine that she is like you in terms of what is important to her, how she identifies herself, and what she values. Think of as many costs as you can, and think of how pursuing the thin ideal might be incompatible with honoring her other values. Feel free to consult your fellow group members or the group leader in generating ideas or use any of the ones we discussed in the group.

APPENDIX H

DISSONANCE-THIN IDEAL ESSAY

Writing Exercise

Please write a letter to a college student who is struggling with body image concerns about the costs associated with pursuing the thin ideal. Think of as many costs as you can. Feel free to consult your fellow group members or the group leader in generating ideas or use any of the ones we discussed in the group.

APPENDIX I

HEALTHY WEIGHT ESSAY

Top 10 Reasons to Pursue a Healthy Lifestyle

Please come up with your top 10 reasons for pursuing a healthy lifestyle. You can use some of the reasons we discussed in the group (such as decreased risk for disease), and also come up with some of your own.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

APPENDIX J

Example Letter From Dissonance-Values Condition

Dear Nat,

I know that you feel like you have gained too much weight, and that you are disgusting. I do not want you to feed into this thin idea because you will lose more than pounds. You may put more emphasis on maintaining this ideal body than your spiritual relationship with God. I know how important that is to you and God wants ~~you~~ to remain in relationship with you. If you put your obsession with weight before God, you will be losing a huge part of yourself. You will also put a strain on your relationship with your boyfriend because he loves you just the way you are. I am challenging you to love yourself and be the best you can be. Don't lose sight of what is important to you.

Love,

 your best friend

APPENDIX K

Example Letter From Dissonance-Values Condition

Hey homegirl,

Trust me, I have been there. The things you're thinking about, I think about them every day. Society sucks. Our culture is trying to get us to focus on thinness and the perfect body so we miss out on things like education and job opportunities. The guys who are in power want us to think we're not good enough until we're fragile and thin and unable to tell them hell no. But we have to try to look past that. They don't want us to see our worth. They don't want you to see your worth. But you're worthy. You're enough, as you are, right now. Don't let them convince you otherwise. Think about what you care about. Justice. Kind hearts. Laughter. These things don't come only to those in magazine spreads or under a layer of makeup or missing a layer of cellulite. They come to those who focus on what holds meaning and doesn't let the rest distract them. You're gorgeous. People love you. You have love and light in your life. Now, step away from the scale and the mirror trying to imprison you. Say hell no. Then say hell YES to yourself. Follow your bliss. Love

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