



GRADUATE SCHOOL  
EAST TENNESSEE STATE UNIVERSITY

East Tennessee State University  
**Digital Commons @ East  
Tennessee State University**

---

Electronic Theses and Dissertations

Student Works

---

5-2019

## Introducing a New Prevention of True Self and Cognitive Dissonance Intervention to Improve Help-Seeking for Female College Students with a Risk of an Eating Disorder

Margaret A. Hance  
*East Tennessee State University*

Follow this and additional works at: <https://dc.etsu.edu/etd>



Part of the [Psychology Commons](#)

---

### Recommended Citation

Hance, Margaret A., "Introducing a New Prevention of True Self and Cognitive Dissonance Intervention to Improve Help-Seeking for Female College Students with a Risk of an Eating Disorder" (2019). *Electronic Theses and Dissertations*. Paper 3555. <https://dc.etsu.edu/etd/3555>

This Dissertation - unrestricted is brought to you for free and open access by the Student Works at Digital Commons @ East Tennessee State University. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ East Tennessee State University. For more information, please contact [digilib@etsu.edu](mailto:digilib@etsu.edu).

Introducing a New Prevention of True Self and Cognitive Dissonance Intervention to Improve  
Help-Seeking for Female College Students with a Risk of an Eating Disorder

---

A dissertation  
presented to  
the faculty of the Department of Psychology  
East Tennessee State University  
In partial fulfillment  
of the requirements for the degree  
Doctor of Philosophy in Psychology

---

by  
Margaret A. Hance  
May 2019

---

Ginni Blackhart, Ph.D., Chair  
Julia Dodd, PhD  
Diana Morelen, PhD  
Stacey Williams, PhD

Keywords: eating disorder risk, eating disorder, cognitive dissonance intervention, CDI, true self,  
help-seeking

## ABSTRACT

### Introducing a New Prevention of True Self and Cognitive Dissonance Intervention to Improve Help-Seeking for Female College Students with a Risk of an Eating Disorder

by

Margaret A. Hance

In the United States, eating disorders affect approximately 20 million women annually (National Institutes of Health, 2011). With such a high prevalence, ensuring help-seeking in individuals with eating disorders is critical. A previously-supported eating disorder prevention approach includes cognitive dissonance intervention (CDI). CDI's purpose is to change a person's behavior to reflect their attitude or cognition. While true self intervention has not been withpreviously been applied to eating disorders, it has been efficacious in improving psychological risk factors associated with eating disorder risk. The current study combined true self and CDI to test a more holistic prevention tool (i.e. combining psychological and cognitive approaches to prevention). Specifically, the current study compared the combination prevention to true self intervention only, CDI only, and a control condition to examine outcomes of body satisfaction, eating disorder pathology, psychological outcomes, and help-seeking intentions. Overall, evidence did not support the preventions' combined prevention superiority to control within the entire sample. When exploring individuals at risk of an eating disorder, however, CDI was significantly better than true self in reducing binge episodes and self-esteem. Furthermore, the combination prevention was significantly better than true self at increasing self-esteem. The following results warrant more research exploring other potential preventions to increase positive psychological outcomes. Moreover, future research should explore more options for increasing help-seeking intentions.

## DEDICATION

This work is dedicated to Dr. Christina Shaw and Ms. Diane Ellis. I am fortunate to have the experience of knowing these women, who pushed me to become a better researcher, scholar, and individual. I could not have asked for two better role models who help promote body positivity and assist individuals in need. There is no one else who deserves this dedication more than Dr. Shaw and Ms. Ellis. I sincerely thank both of you for helping me become the person I am today.

## ACKNOWLEDGMENTS

I owe a debt of gratitude to many people without whom I would not have completed this dissertation, or doctoral degree. I would like to thank my dissertation chair and advisor, Dr. Ginni Blackhart. Dr. Blackhart has been a wonderful mentor since my arrival at East Tennessee State University. Without her support, constructive feedback, and encouragement, I would not have been able to achieve this milestone or become the researcher and academic I am today. Next, I must thank my committee members: Dr. Stacey Williams, Dr. Julia Dodd, and Dr. Diana Morelen, each of whom assisted with the development of my dissertation.

Additionally, I would like to acknowledge Dr. Sarah Savoy for her unfailing support and continuous encouragement throughout my years of study and assisting me with data collection. This accomplishment would not have been possible without her.

I want to thank my fellow colleagues and friends who supported me during the dissertation process, and for keeping morale up during the grueling hours of writing and editing. A few specific people are Lauren Driggers-Jones, Valerie Hoots, Sarah Job, Marissa Jones, Neusha Khaleghi, Taylor Cooper, Larry Childress, and Parker Dreves.

Nobody has been more important to me in the pursuit of this project than the members of my family: my parents, my brother and sister, and all my extended family for reassuring, encouraging, and cheering for me throughout the process of completing this degree and life in general. Along with my family, I want to thank my two dogs, Simba and Luna, both who provided me with unconditional love. Last, but most importantly, I would like to thank my husband, Drew, who provided me with unending support and inspiration to complete this dissertation and degree.

## TABLE OF CONTENTS

	Page
ABSTRACT.....	2
DEDICATION .....	3
ACKNOWLEDGMENTS.....	4
Chapter	
1. INTRODUCTION.....	10
Risk Factors of Eating Disorders.....	11
Psychological Factors.....	11
Behavioral Factors.....	15
Cognitive Factors .....	17
Social Factors.....	20
Summary.....	23
Help-Seeking and Eating Disorders.....	24
Intentions.....	24
Barriers.....	25
Preventions.....	27
Cognitive Dissonance Intervention (CDI).....	29
Strengths and Limitations of CDI.....	33
True Self Intervention.....	35
Limitations of True Self Intervention.....	38
Current Study.....	39
Hypothesis 1a.....	42

Hypothesis 1b.....	43
Hypothesis 2a.....	43
Hypothesis 2b.....	43
Exploratory Component.....	43
2. METHOD.....	44
Participants.....	44
Procedure.....	46
Materials and Measures.....	50
Eating Disorder Examination Questionnaire (EDEQ).....	51
Body Self Relationship Questionnaire (BSRQ).....	52
Body Area Satisfaction Scale (BASS).....	53
Body Image Assessment Scale-Body Dimensions (BIAS-BD) ...	53
Positive and Negative Affect Scale.....	54
Rosenberg Self-Esteem Scale.....	54
State-Trait Anxiety Scale Form Y1 (STAI-Y1) .....	55
Center for Epidemiologic Studies-Depression.....	55
Attitudes Toward Seeking Professional Help.....	55
Stigma Toward Seeking Help.....	56
Intentions to Seek Help Scale.....	56
Maladaptive Social Media Behaviors Scale.....	57
Social Media Usage Scale .....	58
Attentiveness Check Item.....	58
Data Analysis.....	58

3.RESULTS..... 61

    Hypothesis 1..... 61

    Hypothesis 2..... 61

    Exploratory Component..... 61

    Data Screening..... 61

    Preliminary Analyses..... 62

    Entire Sample..... 64

    At-Risk Sample..... 65

4.DISCUSSION..... 68

    Potential Implications..... 73

    Limitations..... 76

    Future Directions..... 78

    Concluding Remarks..... 80

REFERENCES..... 82

APPENDICES..... 101

    Appendix A: Questionnaire..... 101

    Appendix B: True Self Prevention Material..... 128

    Appendix C: Cognitive Dissonance Session..... 129

    Appendix D: Study Information Sheet..... 131

    Appendix E: Counseling Contact Services..... 132

VITA..... 133



LIST OF TABLES

Table	Page
1. Entire Sample Demographics Table .....	46
2. Measures Demographic Table .....	51
3. At-Risk Sample Demographics Table .....	60
4. Correlation Table .....	63
5. Entire Sample Results.....	64
6. At-Risk Sample Results.....	65

## LIST OF FIGURES

Figure	Page
1. Binge Episode Difference Score .....	62
2. Self-Esteem Difference Score.....	63

## CHAPTER 1

### INTRODUCTION

Currently in the United States, approximately 20 million women have been diagnosed with an eating disorder. According to the Diagnostic Statistical Manual-Version 5 ([DSM-5]; American Psychological Association [APA], 2013; Wade, Keski-Rahkonen, & Hudson, 2011), eating disorders are characterized by intense emotions and abnormal behaviors regarding food, weight, and shape. These rates are significantly higher than those associated with Alzheimer's disease (5.1 million), autism spectrum disorder (3.6 million), and schizophrenia (3.4 million) combined (National Institutes of Health [NIH], 2011). Additionally, the prevalence of eating disorders do not differ among non-Hispanic Whites, Hispanic Whites, other Hispanics, African Americans, or Asian American citizens (Hudson, Hiripi, Pope, & Kessler, 2007; Wade et al., 2011), suggesting that eating disorders are pervasive and affect people of varying cultural and racial backgrounds. In addition to high prevalence rates, eating disorders also have the highest rate of mortality out of all 297 disorders classified in the Diagnostic and Statistical Manual (Arcelus, Mitchell, Wales, & Nielsen, 2011). However, despite the magnitude of this problem, much remains unknown about the progression and treatment of this illness. In particular, many individuals are not seeking and receiving the treatment they need (Kazdin, Fitzsimmons-Craft, & Wilfley, 2017).

Approximately one in every 100 college females meet criteria for anorexia nervosa and four in every 100 college females meet criteria for bulimia nervosa (Crisp, Palmer, & Kalucy, 1976; Drewnowski, Yee, & Krahn, 1988). East Tennessee State University (ETSU) reported 14,334 currently enrolled students (graduate and undergraduate) (Forbes, 2017). With 57% of the student population being female, the approximate total of female students at ETSU is 8,170. Therefore, based on previous research and student demographics it can be concluded that

approximately 82 female students at ETSU meet criteria for anorexia and approximately 327 female students at ETSU meet criteria for bulimia. These numbers, although alarming, do not include female students who may exhibit preclinical symptoms of an eating disorder and thus may be at risk to develop a diagnosis.

There are several risk factors, such as low body satisfaction, that increase the likelihood of an individual developing an eating disorder. When these risk factors are identified prior to the development of an eating disorder, interventions aimed at reducing these risk factors may be key in preventing the development of an eating disorder. The current study compared a combined prevention tool, consisting of two noted interventions, with each of the interventions separately to determine whether the new combination prevention tool would increase help-seeking intentions and decrease the detrimental behaviors and cognitions in individuals at risk of developing an eating disorder.

### **Risk Factors of Eating Disorders**

**Psychological Factors.** With approximately 97% of eating disorders occurring comorbidly with other psychological disorders, it is important to understand the relationship between eating disorders and other psychological risk factors (Blinder Cumella, & Sanathara, 2006). Moreover, psychiatric morbidity (i.e., overall mental health status) is a predictor of eating disorders (Patton, Selzer, Coffey, Carlin, & Wolfe, 1999). Some of these overlapping morbidities share various psychological components, such as negative affect, anxiety, and low self-esteem.

Negative affect and depression are not only outcomes of eating disorders, but also predictors. When documenting the potential onset of eating disorders, negative affect significantly and directly predicted onset (Stice, Killen, Hayward, & Taylor, 1998). Not only has negative affect been observed as an independent contributor to the development of disordered

eating, but research suggests negative affect mediates the relationship between dieting and bingeing behaviors (Stice, Akutagawa, Gaggan, & Agras, 2000). Moreover, because negative affect is a hallmark symptom of depression (Shallcross, Troy, Boland, & Mauss, 2010), depression has also been explored as a predictor of eating disorders. Gruber and Dilsaver (1996) noted that among patients with depression, 25% met criteria for an eating disorder. This finding led the researchers to examine the subsample records for other predictors of this specific comorbidity. An analysis of patient records revealed that approximately 92% of the eating disorder subsample had a diagnosis of depression prior to adolescence. Therefore, depression emerged as a predictor as well as an outcome of eating disorders (Gruber & Dilsaver, 1996). Moreover, when examining eating disorder patients, specifically those with bulimia, those who were in an induced negative affective state reported increases in body dissatisfaction and body-size perception (Carter, Bulik, Lawson, Sullivan, & Wilson, 1996).

Anxiety, such as worry and perceived stress, is another documented predictor of eating disorders. Worry, a domain of general anxiety, is defined as a conglomerate of negative thoughts or fears regarding potential negative events in the future (Borkovec, Ray, & Stober, 1998). Worry has been a noted outcome of eating disorders (Sassaroli, Bertelli, Decoppi, Crosina, Milos, & Ruggiero, 2005), but Sala and Levinson (2016) utilized a longitudinal structural equational modeling (SEM) study to examine whether worry could also be a precursor for eating disorders. Their analysis revealed that worry, in particular worry regarding a drive for thinness, predicted eating disorders at all time points. Although the same study reported that eating disorders produce worry, drive for thinness -- a component of eating disorders -- did not predict worry over time (Sala & Levinson, 2016). This suggests that a general tendency to worry predicts a drive for thinness and not the other way around.

Another component of anxiety is perceived stress, or a disturbance to one's psychological well-being (Crowley et al., 2011). Although research has linked stress to food consumption and types of food consumed, specific types of stress responses with food (e.g., over-eating versus under-eating) are important concepts when considering coping with perceived stress as a precursor to eating disorders. Emond and colleagues (2016) instructed participants to watch a film either exhibiting academic stress (i.e., stress over an upcoming exam) or attachment stress (i.e., maternal dispute). While watching the videos, participants had access to a variety of foods in the lab. Researchers recorded the foods that were consumed and coded for calories, carbohydrates, and sugars. Individuals who reported over-eating during stressful situations consumed significantly more calories, carbohydrates, and sugar than under-eaters in the academic stress condition but not in the attachment stress condition (Emond et al., 2016). This suggests that perceived stress coping leads to increases in eating, which could become a binge episode for bulimic individuals.

In addition to perceived stress, social anxiety is another recurring dimension of anxiety that can predict disordered eating. Social anxiety is defined as the fear of interacting with others or the fear of being judged by others. Having social anxiety does not mean one wishes to be alone at most times, but that they may want to be left alone when encountering people they do not know (Brown et al., 2007). With respect to eating disorders, social anxiety has been shown to predict the severity of eating disorders – specifically in the domain of social appearance anxiety (Levinson & Rodebaugh, 2011). Social appearance anxiety is a subcategory of social anxiety which involves a fear of being evaluated negatively due to appearance (Hart, Flora, Palyo, Fresco, Holle, & Heimberg, 2008). Levinson & Rodebaugh (2011) utilized SEM to determine social anxiety's prediction on eating disorder diagnosis. The researchers noted social appearance

anxiety significantly predicted eating disorder symptomology, specifically drive for thinness, body dissatisfaction, eating concern, weight concern, and shape concern. Utilizing SEM, Levinson & Rodebaugh (2011) documented an indirect effect between social anxiety and eating disorder diagnosis through social appearance anxiety. Moreover, the researchers discovered another indirect effect between social anxiety and eating disorder diagnosis through fear of social negative evaluation (i.e. apprehension about others' evaluations and expectation of a negative evaluation from others; Watson & Friend, 1969; Levinson & Rodebaugh, 2011). Additionally, the relationship between social anxiety and eating disorders is mediated by reactivity to social conflicts and self-esteem (Ciarra & Mathew, 2017). In other words, social anxiety leads to decreases in self-esteem and increases in reactivity to social conflicts, which both in turn contribute to disordered eating.

Based on findings such as this, low self-esteem has been examined on its own as a risk factor for developing disordered eating (Sowislo & Orth, 2013). Self-esteem is defined as an individual's sense of self-worth or personal value. Self-esteem is estimated by using positive or negative self-evaluations and assessing how people feel about these evaluations (Smith & Mackie, 2007). Although low self-esteem (i.e., possessing more negative evaluations of the self than positive or lacking positive evaluations of the self) has been noted as an outcome in multiple psychological disorders, such as major depression and substance abuse, low self-esteem has also been implicated as a risk factor for developing eating disorders (Silverstone & Salsali, 2003). Likewise, self-esteem is a documented mediator between body dissatisfaction and eating disorder symptomology (Brechan & Kvaem, 2015). When examining self-esteem directly, low self-esteem was positively correlated with higher bingeing and purging behaviors in women (Watson, Steele, Bergin, Fursland, & Wade, 2011). Additionally, low self-esteem is positively associated

with the drive for thinness as well as restrained eating (Brechan & Kvalem, 2015; Fernandez & Pritchard, 2012). Most importantly, negative and low self-esteem predicted eating disorder symptomatology four years later (Leon, Keel, Klump, & Fulkerson, 1997). These findings suggest that low self-esteem can lead individuals to not only report negative psychological states but to also participate in potentially unhealthy behaviors.

**Behavioral Factors.** Unhealthy behaviors such as dietary restraint, compulsive exercising, and frequent weigh-ins have been documented as risk factors for developing disordered eating (Schaumberg & Anderson, 2016; Naylor, Mountford, & Brown, 2011; Neumark-Sztainer, van den Berg, Hannan, & Story, 2006). Although these behaviors are potential outcomes of eating disorders, the initiation of such behaviors may also forecast the development of an eating disorder.

Dietary restraint is the active effort by the individual to cognitively and behaviorally avoid the consumption of food, or avoid types of foods, for weight control purposes (Schaumberg & Anderson, 2016). Fitness trackers, such as the Fitbit™ watches, the My Fitness Pal™ phone application, or the Health tracker on the Apple™ watch, are technologies that could encourage and enable dietary restraint. Utilizing these devices for dietary restraint is known to account for approximately 52% of the variance for eating disorder symptomology (Simpson & Mazzeo, 2017). Dietary restraint is one of the strongest predictors of disordered eating. In fact, even when controlling for various other precursors of disordered eating, dietary restraint significantly predicted eating disorders (Schaumberg & Anderson, 2016). Another aspect of dietary restraint is the control the individual applies towards food consumption (Westenhoefer, Stunkard, & Pudel, 1998). Rigid control (i.e., consciously counting *all* calories throughout the day) and flexible control (i.e., somewhat *trying* to not go over calories for the day) both



significantly predict body checking and objectified (i.e., appearance related) reasons for exercising (Linardon & Mitchell, 2017).

Compulsive exercise is defined as the individual not having a choice in exercising but feeling forced to exercise as a result of guilt, shame, or anxiety (Gavin, 2013). When individuals engage in compulsive exercising primarily for weight purposes, it is associated with the onset of disordered eating as well as a lower quality of life (Mond & Calogero, 2009). Even when individuals not at-risk of an eating disorder increase their time spent on compulsive exercise, it significantly increases reports of eating disorder symptoms and bulimic tendencies (Shroff et al., 2006; Adkins & Keel, 2005). When examining exercise behavior before treatment, 70% of eating disorder patients report compulsive exercise (Davis, Kennedy, Ravelski, & Dionne, 1994). Moreover, compulsive exercise predicts relapse in the process of eating disorder treatment (Carter, Blackmore, Sutandar-Pinnock & Woodside, 2004). Research has considered possible reasons for compulsive exercising among individuals at-risk for developing eating disorders. For those at-risk of an eating disorder, compulsive exercising was significantly associated with obsessive weight beliefs and obsessive-compulsive behaviors (i.e., checking behavior; Naylor et al., 2011). Therefore, it could be that the obsession with weight, paired with the obsessive-compulsive aspect of checking, explains compulsive exercising.

Like checking behavior, another behavioral risk for eating disorders is self-weighing. Although research has demonstrated greater weight-loss outcomes when increasing self-weighing in healthy individuals (Welsh, Sherwood, VanWormer, Hotop, & Jeffery, 2009), individuals who engage in restrained eating and self-weigh daily reported weight gain over twelve weeks (Strimas & Dionne, 2010). Not only do individuals with a frequent self-weighing habit report more weight gain than weight loss, but these high levels of self-weighing predict

unhealthy eating habits, such as bingeing, and unhealthy weight control, such as purging (Neumark-Sztainer et al., 2006). Additionally, frequent self-weighing is also positively correlated with over-weight preoccupation and shape concern, as well as other cognitive risk factors (Klos, Esser, & Kessler, 2012).

**Cognitive Factors.** Although eating disorders have numerous cognitive outcomes, those same cognitive concepts have also been noted as precursors for eating disorder development. Cognitive aspects of self-perception, such as body dissatisfaction, preoccupation, rumination, schemas, and social comparison, have been documented as precursors for eating disorders.

Low body satisfaction has been so consistently documented among young women that it is often described as normative discontent (e.g., Rodin, Silberstein, & Striegel-Moore, 1985; Stronge et al., 2015). The pervasiveness of body dissatisfaction in college women is concerning, given lower reports of body satisfaction have been associated with the risk of eating disorder in this population (Klemchuk, Hutchinson, & Fran, 1990). Longitudinal studies suggested that low body satisfaction is a consistent predictor of disordered eating behaviors (Cooley & Toray, 2010; Striegel-Moore, Silberstein, Frensch, & Rodin, 1989). Indeed, when examining first-year college women, low body satisfaction rose as disordered eating increased (Striegel-Moore et al., 1989). This pattern of first-year college women desiring a lower weight and being dissatisfied with their bodies is still an issue today. For example, Cooley and Toray (2010) found that 94% of their sample of first-year college women with an average BMI of 22.87 (which is within the healthy range according to national standards; CDC, 2015) described their ideal weight as lower than their current weight. They also reported that the average difference between participants reported ideal weight and current weight was 14.56 pounds.

In addition to low body satisfaction, preoccupation with food, weight, or shape is another documented risk factor for eating disorders. When examining recall to various words, those who were at-risk of an eating disorder were significantly better at recalling the food-related words than the neutral or body-related words, suggesting an attentional bias toward food-related information. In addition, at-risk individuals were significantly worse on overall recall during the task than low-to-no-risk individuals (Fenton & Ecker, 2015). However, when examining preoccupation and attentiveness to images, Jiang and Vartanian (2011) found different effects. Although both restrained and unrestrained eaters recalled body images more than neutral images, restrained eaters had better overall recognition of the images regardless of the level of attention (Jiang & Vartanian, 2011). Therefore, preoccupation has been documented as a reason for individuals at risk of an eating disorder performing better with either food-related or body image stimuli. Besides preoccupation, mental rumination has demonstrated similar effects. Mental rumination is described as using cognitive resources to focus on the consequences and negative aspects of a dilemma, rather than on possible solutions (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Rumination has been associated with bulimic symptoms (Breithaupt, Rallis, Mehlenbeck, & Kleiman, 2016). Moreover, rumination was also significantly correlated with body image distortion and disordered eating (Rudiger & Winstead, 2013).

Schemas (i.e., preconceived ideas) about weight constitute another risk factor for developing eating disorders. Body weight schema refers to preconceived ideas about one's body weight and the judgment or evaluation of themselves (Stein, 1996). Individuals with overweight schemas will struggle with the idea of possibly becoming overweight, or they will reflect on a time of being overweight. Based on self-report measures, schemas have a positive association with body concerns (Boone, Braet, Vandereycken, & Claes, 2013), meaning individuals who

have body image concerns also have greater maladaptive self-schemas. Furthermore, individuals with higher eating disorder risk scores reported significantly higher self-schemas relating to emotional inhibition (e.g., I control so much of myself people think I'm unemotional) and unrelenting standards for the self (e.g., I must be the best at most of what I do) than individuals with low eating disorder risk scores (Cooper, Rose, & Turner, 2006).

Having specific ideas about what one's body should look like often causes individuals to begin comparing themselves to others, especially in a social setting. Social comparison is often discussed as a potential risk factor for eating disorders. Festinger's (1954) social comparison theory stated that when objective standards are not available, an individual will compare the self to others to assess where he or she fits in the current social situation. The social comparison theory, in terms of body comparison, states that individuals compare their weight or shape with others similar in age, height, sex, etc., thus potentially leading to body dissatisfaction and negative feelings (Bardone-Cone & Cass, 2007). Additionally, the social comparison has been associated with the drive for thinness and dietary restraint (Lin & Soby, 2016). More importantly, general social comparison and appearance-related social comparison mediates the relationships between social physique anxiety and disordered eating (Fitzsimmons-Craft, Harney, Brownstone, Higgins, & Bardone-Cone, 2012). On a college campus, women are exposed to similarly aged women with whom they interact (either directly or indirectly) daily. Therefore, cognitive precursors can often interact with social situations, either as a disengagement from conversation, such as engaging in preoccupation or mental rumination of food/weight rather than engaging in conversation with others, or as an active engagement within a social risk, such as social comparison between the self and family/friends.

**Social Factors.** Social risk factors can range from familial to online risks. Familial risks, besides hereditary precursors, have been stated in previous works. For instance, individuals overhearing parents engaging in fat talk (i.e., discussing negative aspects about their weight) is positively associated with eating disorder symptomology. Girls who overhear their mothers engaging in fat talk are predicted to engage in unhealthy weight control behaviors (Neumark-Sztainer et al., 2010). In addition to parental fat talk, parental encouragement of child dieting also exhibits a direct link to eating disorder symptoms. Children who were encouraged by one parent to diet were more likely to engage in early dieting (before age eleven). Furthermore, children who were encouraged by both parents to diet were eight times more likely to engage in early dieting (Balantekin, Savage, Marini, & Birch, 2014). In sum, exposure to such messages can place the individual at risk and increases chances of eating disorder onset.

Like familial relationships, peer groups can also hold attitudes that place pressure on the individual and lead to eating disorder onset. The combination of friend weight talk, using friends as a source of physical appearance influence, and body comparison within friend groups significantly predicted eating disorder risk (Paxton, Schutz, Wertheim, & Muir, 1999). Much like parental fat talk, peer fat talk significantly increases body dissatisfaction (Stice, Maxfield, & Wells, 2003). Additionally, negative social interactions with peers also predict eating disorder risk. Individuals who experienced peer teasing demonstrated significantly greater body image concern and dietary restraint (Paxton et al., 1999). Furthermore, college students at risk of an eating disorder were more likely to engage in fat talk with friends than students not at risk (Ousley, Cordero, & White, 2007). Although one would think engaging fat talk would be perceived negatively by the other individuals in the social interaction, Britton and colleagues (2006) had male and female participants read a vignette of two women engaging in fat talk and

asked participants to report about how the group would respond to the third female either engaging or not engaging in the fat talk. The researchers found that if the third female in the group did not engage in fat talk or self-degrading, participants reported the perception of the third individual would be hindered. Within the study, women reported accepting another woman in their group more if she were to engage in fat talk or self-degrading techniques (Britton, Martz, Bazzini, Curtin, & Leashomb, 2006).

When examining at-risk college students, it is important to examine social groups, since this may be the group of people the student is around the most. Therefore, exploring student groups, such as sororities on campus, are important when reviewing social risks. Although research noted 10% of female college students are at-risk of an eating disorder, for women in sororities the average percent at-risk is 15% (Hoerr, Bokram, Lugo, Bivins, & Keast, 2002). Although some studies did not see a significant difference between sorority women and non-sorority women, by the third year of undergraduate education women in sororities report increases in the drive for thinness since freshman year – a trend that has not been observed in non-sorority women (Allison & Park, 2004).

In addition to peer groups, the individual's engagement in athletics may also be a risk component for eating disorder onset. Some sports have been documented predictors of eating disorder risk for individuals. When examining college females within the National Collegiate Athletic Association, 1% of the national sample met criteria for bulimia, but 9.2% reported incidents with bulimic symptoms. Furthermore, when examining the binge-purge cycle of bulimia, 10.85% of the female athletes reported engaging in binge eating, and 5.52% of the athletes reported engaging in purging behaviors. Although 0% of the sample met DSM-IV criteria for anorexia, 2.85% of the sample reported incidents with anorexia symptoms (Johnson,

Powers, & Dick, 1999). When athletes reported reasons for engaging in various unhealthy weight control behaviors, approximately 41% reported negative teacher/coaching (e.g., negative remarks about their shape) as their influence of unhealthy behaviors, while 23% stated the pressure to be thin within their sport (Francisco, Alarcão, & Narciso, 2012). Meanwhile, Arthur-Cameselle and colleagues (2017) reported associations with performance pressure and team weigh-ins with eating disorder risk per athletes. Furthermore, previous research did not find differences in the type of sport such as lean esthetic (e.g., gymnastics) versus non-lean esthetic (e.g., softball) with regards to body dissatisfaction. That is, all sports were significantly associated with body dissatisfaction (Karr, Davidson, Bryant, Balague, & Bohnert, 2013).

Besides direct communication with peers and social groups that may put individuals at risk of an eating disorder, indirect communication, especially through social media, is another social risk that may add to the previously mentioned risks. Social media invites users to be active participants, whereas media with pictures or film engages a passive audience. In college-aged women, body shame and body image avoidance have been documented as mediators of the relationship between Internet usage and bulimic tendencies (Melioli, Rodgers, Rodrigues, & Chabrol, 2015). On Instagram, individuals who post from a fitspiration account (i.e., the inspiration for being strong versus being slim) had significantly higher reports of a drive for thinness, bulimia symptoms, drive for muscularity, and compulsive exercise when compared to individuals who post from a travel inspiration account (Holland & Tiggemann, 2017).

Longitudinal work with college students has suggested that maladaptive social media usage, such as writing negative statuses about oneself, comparing their physical appearance when viewing a friend's photo, or making negative evaluations of oneself after reading a friend's status, predicted an eventual increase in bulimic symptoms and episodes of overeating. Additionally,

low body satisfaction fully mediated the link between maladaptive social media usage and the increase in overeating episodes (Smith, Hames, & Joiner, 2013). Laboratory-based exposure to other users' profiles can also influence body satisfaction. Women who were exposed to thin-promoting messages and underweight profile pictures on other users' Facebook profiles reported lower psychological well-being and lower body satisfaction (Lee, Taniguchi, Modica, & Park, 2013; Taniguchi & Lee, 2012). Very little laboratory-based research has experimentally investigated how a participant's experience with social media may affect body satisfaction. Mabe, Fourney, and Keel (2014) documented that viewing one's own Facebook maintained weight and shape concerns, as well as anxiety among college-aged women, whereas viewing a neutral website led to a significant decrease in both. Mabe and colleagues (2014) were the first to experimentally explore the effects of activity in one's own Facebook account on body satisfaction and affect. Taken as a whole, these results suggest that social media use can impact peoples' evaluation of themselves in a social context.

**Summary.** With these psychosocial risk factors, there are a multitude of ways for the onset of an eating disorder to emerge. Psychologically, eating disorders can be predicted from depression (Gruber & Dilsaver, 1996). Behaviorally, the combination of restrictive eating and compulsive exercise can lend itself to the onset of eating disorders (Schaumberg & Anderson, 2016). Cognitively, low body satisfaction has consistently predicted eating disorder diagnosis (Rodin, Silbertstein, & Striegel-Moore, 1985, Stronge et al., 2015). Socially, eating disorders can develop from pressure by family and friends to be thin (Balantekin et al., 2014; Paxton et al., 1999). Therefore, research must review and promote possible ways to aid these individuals with seeking help before their risk becomes a criteria-met diagnosis.



## Help-Seeking and Eating Disorders

Given the multitude of potential precursors that contribute to the onset of an eating disorder, it is imperative to examine and explore the various reasons some individuals get treatment, as well as the rationale for those individuals who do not wish to seek treatment. Understanding documented intentions and barriers may assist future preventions by enhancing the motives that increase help-seeking and minimizing the variables that decrease help-seeking.

**Intentions.** Understanding and promoting intentions for help-seeking is vital for at-risk individuals to get the treatment they need. When examining an at-risk population, only 28% engaged in help-seeking and merely 17% received treatment (Cachelin & Striegel-Moore, 2006). These statistics are alarming since the majority (72%) did not even believe they should seek out treatment. Moreover, it was significantly predicted that individuals who reported eating disorder symptoms at baseline would meet diagnostic criteria two-years following (Eisenberg, Downs, Golberstein, & Zivin, 2009). Therefore, it is imperative to understand what variables lead to the intention to seek help.

When individuals are exposed to a workshop about eating disorder consequences, they report increased recognition of eating disorders and decreased stigmas about individuals with eating disorders. In one study, after a three-month follow-up, 85% of the sample reported assisting a friend in seeking help for a psychological illness (Gratwick-Sarll & Bentley, 2014). Furthermore, when presenting individuals with normative feedback (i.e., demonstrating how uncommon certain eating behaviors are on a college campus), individuals report assisting a friend with seeking help for an eating disorder significantly more than assisting a friend with a sleep disorder (Savoy, Hance, Pelfrey, Khaligi, & Solomon, n.d.). Understanding help-seeking in friendships is important because, in most cases, the individual at risk of an eating disorder

prefers to disclose to a friend, family member, or significant other before disclosing to a healthcare professional (Goodwin, Behan, Kelly, McCarthy, & Horgan, 2016; Prouty, Protinsky, & Canady, 2002). Furthermore, disclosing to a trusted individual predicted that the individual would receive faster access to a specialist (Gilbert et al., 2012).

Besides loved ones, individuals seeking help can also make use of various campus resources. With programs from the National Eating Disorder Association (e.g., NEDAwareness Week), students who attended at least one of the weekly events reported more knowledge in the campus counseling services than students who did not attend any events (Tillman, Arbaugh, & Balaban, 2012). Therefore, understanding eating disorders, as well as providing information on counseling services, seems to increase or provide at least some intention for help-seeking either for the at-risk individual or a loved one. However, barriers towards help-seeking and the role they play in maintaining the noted eating disorder risks have not been acknowledged.

**Barriers.** Although research has provided possible opportunities to increase help-seeking intentions, other literature has documented the barriers which keep individuals from self-disclosing or actively seeking professional help for their eating disorder risk. One notorious barrier to help-seeking is stigma. Goffman (1963) suggested stigma as a process by which the reaction of others spoils normal identity; a special kind of gap between virtual social identity and actual social identity. Furthermore, Goffman (1963) also implied eating disorders, as a mental illness, would be viewed as a “blemish of the individual character perceived as weak” (pg. 4), thus meaning that although mental illness is a concealable attribute, it causes stigma nonetheless. Furthermore, stigma is differentiated by discredited (i.e., visible) and discreditable (i.e., concealable, requiring disclosure) stigma.

A discreditable stigma is an identity that carries social devaluation, such as a mark of failure or shame, but can be kept hidden from others (Crocker, Major, & Steele, 1998; Goffman 1963). When examining outcomes between discredited and discreditable stigma, individuals with discreditable stigma conveyed more social isolation than individuals with discredited stigma (Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009). Moreover, previous research documented differences between discreditable stigmas, noting that those with mental illness reported significantly higher internalization (i.e., negative beliefs about the self) and salience (i.e., frequency of thinking about their discreditable stigma) than participants who experienced child or domestic abuse (Quinn et al., 2014). With regards to eating disorders and stigma, stigma is negatively associated with help-seeking intentions and positively associated with higher eating disorder symptoms and longer duration of the eating disorder (Griffiths, Mond, Murray, & Touyz, 2015).

Besides stigma, various stereotypes of the “typical” individual with an eating disorder can be a barrier to seeking help. A general myth of eating disorders is that they occur primarily in Caucasian girls; however, this myth has been debunked (Marques et al., 2011). Although research debunking this myth has been published and cited at least 291 times, some people still believe this stereotype. When examining help-seeking and treatment for Mexican Americans versus European Americans, Mexican Americans were less likely to seek treatment and those who did were likely to get a misdiagnosis or were not treated by a healthcare professional. Furthermore, European Americans were often referred to or chose to seek help with a specialist (i.e., psychologist or therapist), whereas Mexican Americans often self-disclosed and sought help from a primary care physician (Cachelin & Striegel-Moore, 2006). A similar study examining minority Americans versus Caucasian Americans found African Americans and Native

Americans were less likely to be asked by their doctor about eating disorder symptoms than the Caucasian Americans. As a result, minority individuals were less likely to seek treatment one to one and half years following the initial inquiry about their eating disorder (Becker, Franko, Speck, & Herzog, 2003). Therefore, experiences with various stereotypes and discrimination is an additional barrier, especially in minority populations. With documented outcomes of variables that either improve or hinder help-seeking intentions, research must bridge this gap of work with potential preventions to decrease these barriers and increase help-seeking intentions.

### **Preventions**

With regards to preventing eating disorders, there are two empirically tested prevention programs: primary and secondary. Primary preventions (also known as universal programs) are programs designed to raise awareness regarding eating disorders among the general population, such as national, state, or school-based programs. Secondary preventions (also known as targeted preventions) approach subsets of the sample and apply the program only to those specified in the qualifications. Thus, secondary preventions target only those individuals identified as at-risk for an eating disorder (Stice & Shaw, 2004).

Primary preventions were developed under the premise that eating disorder behaviors are fundamentally the outcome of societal pressures (Stice & Shaw, 2004). The original goal of primary preventions was to reduce the incidence of eating disorder behaviors and cognitions (Shisslak, Crago, Neal, & Swain, 1987). These programs often provide detailed education about the consequences of eating disorders, effects of dieting, and skills used to handle societal pressures of body image (Carter, Stewart, Dunn, & Fairburn, 1997). Carter and colleagues (1997), who implemented a primary prevention in a school setting for 9-weeks, discovered that participants reported attenuated eating disorder behavior scores post-intervention. Other primary

interventions documented improvements in body dissatisfaction and negative affect post-intervention as well as a 3-month follow-up (Bearman, Stice, & Chase, 2003; Chase, 2001). Lastly, researchers found primary programs led to significant increases in knowledge of eating disorders and decreases in dieting frequency post-intervention and at a 1-month follow-up (Chase, 2001).

Unfortunately, primary prevention programs are not without limitations. Some researchers reported not seeing any difference from the pre-intervention to post-intervention. In the Carter and colleagues (1997) study, participants' 6-month follow-up did not significantly differ from their pre-intervention eating disorder behavior scores. Additionally, Bearman and colleagues (2003) did not find any significant difference pre-and-post-intervention in dieting behavior and bulimic tendencies. Even further, Chase (2001) did not find significant effects post-intervention in thin idealization, eating pathology, negative affect, or body mass.

This lack of findings for primary preventions could be due to recruitment for these studies. Because primary preventions are designed for the general public, and not specifically for those at risk of an eating disorder, individuals partaking in primary prevention programs may not need to change their dieting behavior, bulimic tendencies, thin idealization, eating pathology, negative affect, or body mass. That is, the majority of participants within these studies may have been in a healthy state prior to the prevention. As a result, these programs may not significantly reduce risk factors for disordered eating.

In contrast to primary prevention programs, secondary prevention programs aim to prevent eating disorders by changing behaviors and cognitions of at-risk individuals (Shisslak et al., 1987; Stice, Shaw, & Marti, 2007). With the strategy of targeting at-risk individuals, the main goal of secondary preventions is to have at-risk individuals address and change their

cognitions and behaviors before the onset of a diagnosis (Franko, 1998). The two most popular secondary prevention programs are healthy weight interventions and cognitive dissonance intervention (CDI; Stice, Becker, & Yokum, 2013).

Healthy weight interventions discuss the consequences of unhealthy weight regulation and approaches to maintaining a healthy weight through nutrition and moderate exercise. This approach has not only been utilized with those at-risk of anorexia and bulimia but also with those who are at risk of binge eating disorder (Franko, 1998). Alternatively, with CDI, a professional discusses how self-reported attitudes, when discussing someone else with similar behaviors or cognitions, contradict the individual's own behaviors or attitudes self-reported prior to the intervention. The goal is to change a person's behavior to appropriately reflect their beliefs or cognitions (Kantola, Syme, & Campbell, 1984).

Furthering the support of secondary preventions, a meta-analytic review conducted by Stice and Shaw (2004) reported that secondary preventions had significantly stronger effect sizes post-intervention than primary preventions. This is likely due to the fact that primary preventions recruit individuals from the general public, so not all of the sample would need the program. With secondary preventions, at-risk individuals are targeted, thus increasing the impact of such a prevention program. The current study focused on implementing a secondary prevention, namely CDI, within the sample.

### **Cognitive Dissonance Intervention (CDI)**

Cognitive dissonance has been defined as experiencing conflicting thoughts, feelings, attitudes, or behavioral decisions that contradict one another (Festinger, 1957). The intervention's purpose is to change a person's behavior to reflect their attitudes or cognitions. According to the design of the intervention, the facilitator discusses with the individual how their

reported attitudes may contradict either their behavior or prior attitudes (Kantola, Syme, & Campbell, 1984).

Cognitive dissonance intervention (CDI) can be implemented in various forms to address body image or eating-related concerns. In such interventions, the facilitator first obtains self-reports of the participants' initial attitudes toward their weight and shape. The facilitator then implements the intervention, which can vary depending on the study or facilitator's preference. There are two main implementations of the intervention. The first type of implementation of CDI is an interview with the facilitator. In the interview implementation, the facilitator discusses with the participant the consequences of eating disorders as well as the importance of a healthy body rather than an ideal body. Furthermore, the facilitator will ask the participant to explain various downsides they have experienced while trying to obtain their ideal figure. The participant is asked to engage in this conversation and discuss their interpretation of the information the facilitator is presenting. Then, the facilitator addresses the discrepancies with the participant and any dissonant thinking taking place.

The second type of implementation of CDI is through self-guided assignments. In this implementation, the facilitator presents the participant with an assignment designed to highlight their dissonant thinking. These tasks may range from having a participant write a letter to a younger person who is trying to obtain the ideal figure, creating rebuttals to common phrases concerning weight and shape, or writing down positive aspects about themselves with words including weight and non-weight related words. Next, the facilitator instructs the participant to think about their answers to the tasks versus their own cognitions and behaviors toward food and weight.

Previous researchers applied CDI to decrease eating disorder behaviors in subclinical samples. For those exposed to CDI, reports of dieting significantly decreased from implementation to one-year-follow-up compared to a control condition (Stice et al., 2001). Stice and colleagues (2001) also found that those who engaged in a CDI reported decreases in restrictive eating and calorie counting behavior from baseline to one-year-follow-up. Furthermore, newer research indicates that CDI decreases bulimic episodes and risk of eating disorders for up to three years (Stice et al., 2008). Comparing ethnic groups after engaging in CDI, Rodriguez, Marchand, Ng, and Stice (2008) found no significant differences between ethnicities for thin idealization, eating disorder behaviors, or body satisfaction. Rodriguez and colleagues' (2008) findings are promising given that ethnicity has been previously noted as a barrier for seeking treatment.

Cognitive dissonance intervention has additionally been compared to a healthy weight intervention, which emphasizes the importance of being healthy instead of thin. This intervention involves having participants describe an ideal body weight and a healthy body weight, and then has them look for similarities and differences between the two bodies (e.g., ideal and healthy). Afterwards, the facilitators teach the participants about eating nutrient-rich foods, healthy sleep patterns, and the importance of having a healthy weight. Participants in CDI reported lower bulimic incidences post-intervention than participants in the healthy weight intervention (Becker et al., 2008). Cognitive dissonance intervention may thus be more effective at reducing maladaptive eating behaviors than healthy weight intervention because CDI possibly addresses more of the cognitive aspects of disordered eating than the healthy weight intervention. That is, besides focusing on healthier options and the importance of a healthy weight versus an ideal body, CDI encourages individuals to be introspective and to question their own thinking.



Cognitive risk factors associated with eating disorders have been shown to decrease post-CDI. For instance, CDI significantly decreased individuals' drive for thinness when other interventions, such as yoga practices, did not have a significant impact on drive for thinness (Mitchell, Mazzeo, Rausch, & Cooke, 2007). Research has also examined thin-ideal body internalization as an outcome of CDIs, such as Stice and colleagues (2008), wherein they found that those who completed CDI versus an expressive writing condition had significant decreases in thin-ideal internalization. Furthermore, these decreases held during the two and three-year follow ups (Stice et al., 2008). More recent research examined CDI with the outcome of thin-ideal internalization and reported the same outcome as Stice and colleagues (2008), with CDI reducing thin-ideal internalization post-intervention (Brown & Keel, 2015; Halliwell & Diedrichs, 2014; Silberman, 2014; Smith & Petrie, 2008; Symons, 2014), and at follow-up sessions (Becker, Smith, & Ciao, 2006; Becker et al., 2008; Becker et al., 2010). In addition to thin idealization, researchers explored body satisfaction change pre- and post-intervention with CDI. In multiple studies, CDI decreased body dissatisfaction reports post-intervention (Brown & Keel, 2015; Mitchell et al., 2007; Symons, 2014) and in follow up sessions (Becker et al., 2006; Becker et al., 2008; Becker et al., 2010; Stice et al., 2008).

Besides body image cognitions, research with CDI reported positive outcomes with other cognitive detriments for at-risk eating disorder populations. Participants exposed to CDI reported decreases in alexithymia (i.e., a cognitive defect where individuals cannot describe their feelings, distinguish feelings and emotions from bodily sensations, or think creatively) compared to participants exposed to a yoga practice intervention, an expressive writing intervention, and a control intervention (Stice et al., 2008; Mitchell et al., 2007). The researchers concluded that exposure to CDI possibly increased self-awareness, which may have led to decreases in

alexithymia. There is also some evidence to suggest that mood may improve with exposure to CDI. After CDI implementation, individuals with higher scores for eating disorder risks and symptoms reported significant decreases in negative affect (Becker et al., 2010; Stice et al., 2008; Stice et al., 2001). Even those not at risk of an eating disorder reported decreases in negative affect post-CDI (Becker et al., 2010). Furthermore, reports of anxiety also decreased post-CDI (Mitchell et al., 2007). Given that negative affect and anxiety are significant predictors of disordered eating, reductions in these domains resulting from CDI could indicate protection against the development of eating disorders.

Although most research examining CDI for those at risk of disordered eating have examined the effectiveness of CDI implemented in person, a study by Sedar (2012) found that online implementation of CDI was also successful. Sedar (2012) compared face-to-face and online implementations of CDI. Sedar's (2012) findings suggested that online implementations of CDI are as effective as face-to-face implementation when treating individuals at risk of an eating disorder. Furthermore, the researchers found that online and face-to-face CDI conditions are significantly better for treating individuals at risk of an eating disorder than assessment-only interventions (Sedar, 2012). This work could be an asset and demands further exploration as online interventions may be easier to implement and could reach individuals within difficult-to-reach populations.

**Strengths and Limitations of CDI.** Thus far, CDI has been reported as a prominent tool for intervening with eating disorder risk. CDI addresses inconsistencies in individual's thinking and behavior and attempts to correct these inconsistencies. As a result, those participating in CDI may rearrange their thoughts and/or behaviors to match the idea that unhealthy weight control is not ideal and that striving for an ideal body frame is neither realistic nor healthy. Although there

are other methods for assisting those at risk, cognitive dissonance has strengths that may address other interventions' limitations. In support of the effectiveness of CDI as an intervention, CDI has replicated with significant improvements, such as decreases in thin idealization, body dissatisfaction, and dieting/disordered eating behaviors. When comparing CDI to other interventions in university settings, CDI repeatedly showed significantly greater decreases in eating disorder symptoms and thin idealization and significantly greater increases in body dissatisfaction than other interventions (Yager & O'Dea, 2008). Further, CDI studies reported larger effect sizes than other interventions (i.e., healthy weight intervention, media advocacy, and yoga) when these interventions were compared to a control group (i.e., waitlist, assessment only) within a university setting (Stice, Shaw, Becker, & Rohde, 2008).

However, CDI is not without its limitations. The demographics of previous work with CDI and eating disorder risk are not diverse. The majority of research published has been conducted with women on college campuses (Yager & O'Dea, 2008). To the author's knowledge, only one published work examined CDI and eating disorder risk in homosexual men (Brown & Keel, 2015). Some of the published works with women on college campuses use sorority women, most of whom are likely to be white and of middle to higher socioeconomic status (Becker et al., 2008; Stice et al., 2009). Not only do the samples lack diversity, but they are also relatively small, which has also been noted as a limitation to previous research (Yager & O'Dea, 2008). Additionally, effect sizes for CDIs have been reported as small to moderate (Rodriguez et al., 2008; Yager & O'Dea, 2008). Although Stice and colleagues (2008) reported the effect sizes of CDI to be significantly better than other preventions, other researchers (Yager, & O'Dea, 2008) reported the effects possibly fade away faster than reported by Stice and colleagues (2008). Lastly, CDI has yet to examine intentions to seek help after the prevention. As

a result, future research should examine whether CDI may increase help-seeking intentions, directing those at risk to seek additional treatment or help after the prevention.

Based on these limitations, I proposed a combination prevention of CDI that is preceded by true self intervention. I proposed that incorporating true self intervention into CDI would provide a psychological as well as a cognitive approach towards prevention research, as well as produce stronger and more durable effects than those seen in previous research examining CDI alone.

### **True Self Intervention**

The true self is a philosophical concept in which the core aspect (e.g., attributes, characteristics, roles) of a person does not change despite cultural and developmental influences (Bargh, McKenna, & Fitzsimmons, 2002; Schlegel, Hicks, King, & Arndt, 2011). Carl Rogers (1961) noted that the true self is often repressed by the ideal or public self, which is pushed on individuals through societal, gender, or developmental norms. Rogers believed that for one to have true self-awareness, one must have an organic and authentic experience in which the individual acknowledges his or her own personal feelings and the self. The goal of a true self intervention is to have the individual acknowledge his or her true self and discover the importance of the true self versus the ideal self (Rogers, 1961).

True self intervention begins with participants discussing issues they are having in their lives. Once the baseline is established, participants recall their core values, even if those core values do not conform to their outward behaviors or habits, or to the endeavor of becoming their ideal selves. A participant, for example, may not identify perfectionism as part of his or her true self, but may identify that he or she regularly demonstrates perfectionism in his or her lifestyle. The facilitator may then have participants elaborate on the positive aspects of their true selves. If

participants are unable to generate a positive aspect of the true self, the facilitator can supply participants with a list of words that could help them discover or describe their true selves. Previous research reported having participants reveal their true selves is the best way to not only implement the intervention, but to also assesses the individual's core values and beliefs.

Implementations of true self have also been examined in online settings. Bargh and colleagues (2002) found that individuals could retrieve true self aspects from a conversation with a new associate on the Internet faster than those who had the same conversations face-to-face. Additionally, the same study reported that those who disclosed with a partner on the Internet conveyed more successful instances of presenting their true selves than those who disclosed with a partner face-to-face. The study conducted by Bargh and colleagues therefore supported the idea that true-self-examination could be applied in an online setting and that it may be more effective online than face-to-face. Although the study did not incorporate true self intervention, expressing the true self is a critical aspect for the true self therapeutic process and suggests that a true self intervention implemented online may be as, if not more, effective than in a face-to-face therapeutic setting.

Most studies examining the effectiveness of true self-therapy have examined mood outcomes following true self intervention. Individuals who think about their true self report higher positive affect and increased self-esteem than individuals who think about their actual self (i.e., the day-to-day self or public self; Andersen & Williams, 1985; Schlegel, et al., 2011). When individuals use diary entries to express their true self daily, they report increases in positive affect, decreases in negative affect, and increases in overall well-being post examination (Heppner, Kernis, Nezlek, Foster, Lakey, & Goldman, 2008). More importantly, when thinking about the true self, individuals report decreases in defensive expressions, such as upward social

comparison, self-handicapping, and conformity (Arndt, Schimel, Greenberg, & Pyszczynski, 2002; Schimel, Arndt, Banko, & Cook, 2004; Schimel, Arndt, Pyszczynski, & Greenberg, 2001). The positive outcomes of the true self intervention may work due to an increased focus on core values that directs attention away from the (possibly unattainable) ideal self. Being comfortable with one's true self and not focusing on an unattainable ideal self may thus reduce the need to engage in defensive mechanisms.

Often, when people describe their true selves, they are presenting good attributes (Bench, Schlegel, Davis, & Vess, 2015; Newman, Bloom, & Knobe, 2014). Past research linked the priming of positive words to reports of higher positive affect (King, Hicks, Krull, & Del Gaiso, 2006). As a result, thinking about the true self may prime individuals to have more satisfaction. To examine this phenomenon from a cognitive perspective, Schlegel, Hicks, Arndt, and King (2009) asked participants to report words associated with their true selves and with their public personas. Participants then completed a Me/Not Me task to assess reaction time to the true self, public persona, and control words (e.g., words not used in either description). Participants who had a faster reaction time to the true self words reported significant increases in positive affect, which then mediated the relationship between true self and self-reported life meaningfulness. This was not the case in the control or the public persona conditions. Therefore, true self applies to the recognition of core values as well as to higher reports of positive affect.

Although research has not yet examined whether the true self intervention may benefit those at risk of developing an eating disorder, a case study examined a true self aspect of treatment within an eating disorder treatment center. Pearson (1998) utilized a "Real Me Paradox," where participants discussed the separation of the eating disorder "identity" from their true self. During this time, Pearson (1998) noted how important it was for the patients to remove

themselves from the disorder's "identity" and accept and disclose their core values and attributes. Pearson (1998) observed that participants started separating themselves from their disorder throughout the treatment and documented the importance of implementing a Real Me Paradox so to remove the egocentric aspects of the eating disorder.

**Limitations of True Self Intervention.** The biggest limitation of the true self intervention is that the examination of true self intervention with individuals at risk of an eating disorder has yet to be examined empirically. Although Zerbe (2009) documented case studies using true self intervention with a psychoanalysis perspective, and Pearson (1998) documented benefits of the Real Me Paradox in a qualitative study of patients with eating disorders, empirical data have yet to be published. As a result, the strengths and limitations of true self and risk of an eating disorder are unknown. Nonetheless, true self intervention may be beneficial to those at risk of an eating disorder, because of previous theories about potential developments of the disorder. For instance, Bruch (1981) theorized that individuals at risk of an eating disorder, especially women, use the obsession with food and weight as a source of self-definition. Stein and Corte (2007) theorized those with eating disorders would have more negative- and weight-related self-schema than individuals who do not meet criteria for an eating disorder. Their study stated that individuals with anorexia or bulimia reported more negative self-schemas than those who did not meet criteria for either disorder. Furthermore, individuals with bulimia additionally reported more fat words when discussing themselves than healthy controls (Stein & Corte, 2007). Therefore, using true self intervention to decrease self-definition with food and weight and to instead focus on more true core components of the self could be beneficial to those at risk of developing eating disorders.

Besides lack of empirical research with individuals at risk of an eating disorder, individual's depression is another limitation to true self intervention. For those who report depression prior to the intervention, their reports of the benefits of the therapy are not as high as those who have positive affect prior to the session (Lenton, Slabu, Sedikides, & Power, 2013). More importantly, negative affect may prohibit individuals from accessing their true self (Lenton, et al., 2013). Addressing or requesting individuals to report positive aspects of their true self, however, could curtail this possible limitation.

### **Current Study**

Although research has noted previous preventions for risk of eating disorders, the effect size is small (Yagar & O'Dea, 2008). The current study therefore aims to improve one secondary prevention, CDI, by adding the true self intervention. Not only is the study aiming to examine whether a new, combined prevention may be more effective at reducing negative outcomes from eating disorder risks and increasing positive outcomes like body satisfaction, but it is also aiming to examine whether this prevention can be successfully implemented online. Both CDI and true self have been evaluated online separately and, in some cases, implementation of CDI and true self is preferred online due to convenience and effectiveness (Bargh, et al., 2002; Sedar, 2012). I therefore examined whether the combined prevention, which consisted of true self and CDI together, was more efficacious than either intervention alone in terms of reducing risks of eating disorders and increasing help-seeking behavior. Each intervention was implemented online and compared to a control group.

I expected that the combination prevention would be significantly better at reducing the negative outcomes (e.g. eating disorder symptomology, negative affect, anxiety) and increasing positive outcomes (e.g. body satisfaction, positive affect, help-seeking intentions) than either



intervention alone because the true self portion of the prevention would provide a separation from the eating disorder “identity” apart from their real self and psychological resources (i.e., positive affect and self-esteem), and the CDI portion of the prevention would address and resolve discrepancies between attitudes and behaviors.

A major strength of the combined approach is that incorporating a true self intervention prior to the CDI could create a more holistic (i.e. comprehensive) prevention. First, during the true self intervention, participants focus on their own core beliefs and true aspects, and direct attention away from their disordered thinking/behaviors and from their physical appearance. The goal of the true self intervention is to separate the eating disorder “identity” from the actual self. Second, during CDI, participants discredit weight-focused and negative body image statements, while also discussing the positive attributes of the self that were outlined in the true self intervention. The goal of the CDI step is to align attitudes and behaviors with aspects of the true self. By combining CDI and the true self intervention, not only would participants experience the positive benefits of focusing on the true self, but could use these aspects of the true self as a target for reducing their cognitive dissonance.

Second, providing the true self intervention should increase positive affect and self-esteem (Fosha, 2005; Heppner, et al., 2008; Sheldon, et al., 1997) prior to the CDI tasks. Increasing positive affect and self-esteem prior to the CDI may make individuals more receptive to the CDI, thus addressing a noted limitation of CDI (i.e., less effective when individuals have negative affect prior to the prevention; Stice, Rhode, Gau, & Shaw, 2009). Therefore, implementing true self prior to CDI is expected to increase effect sizes from a small effect size (approximately .25) to a moderate effect size or higher (approximately .6 or above). Of note, the Broaden-and-Build theory supports this expectation (Fredrickson, 2001). The Broaden-and-Build

theory suggests that positive emotions influence individuals' momentary thoughts, which provides psychological and intellectual resources. For instance, Cohn and colleagues (2009) utilized daily emotion diaries to examine increases in resiliency at the beginning and end of the month of data collection. Participants who reported more positive emotions exhibited significantly more post-study resiliency (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009). Accordingly, I predicted that the increases in positive affect and self-esteem resulting from engagement in the true self intervention would provide participants with the adequate psychosocial resources they need to fully engage in and complete the CDI. In relation to the disordered eating literature, Mond and colleagues (2013) reported that individuals struggling with body dissatisfaction report a lower subjective life quality. Therefore, increased positive feelings resulting from engagement in true self intervention may enable participants to overcome hesitation or lack of assurance in completing the CDI tasks (e.g., anti-thin ideal argument tasks that might take confidence in oneself to pursue).

Besides investigating the effectiveness of a new combination prevention on eating disorder risks, I also wanted to examine the influence of these interventions on help-seeking intentions. To my knowledge, previous CDI and true self intervention research have yet to explore help-seeking intentions. With regards to CDI, even with the maximum of five sessions (Becker, Bull, Schaumberg, Cauble, & Franco, 2008), that may still not be enough time to completely change eating disorder behaviors and cognitions. The average treatment length for an eating disorder ranges from 14 months to three years (Dally & Sargant, 1966; Walsh, 2008). Therefore, the current model of length in CDI may not be enough time to create any substantial and lasting change, which would explain the small and fading effect sizes. However, engaging in tasks where the individual must discredit weight and shape importance may reduce cognitive

dissonance and increase help-seeking intentions. One potential benefit of this work is that for individuals who are at-risk, they will become aware of these interventions as potential treatment options. Individuals' experience with a short online treatment may demonstrate how, in principal, treatment will be for them and may increase help-seeking intentions. For both preventions, the positive outcomes may provide immediate change, as well as to move some individuals toward seeking additional treatment. In sum, it is imperative for research to not only investigate increasing the effectiveness of eating disorder preventions, but to also examine help-seeking intentions post-prevention. Doing so would provide more to the eating disorder prevention literature as well as possible clinical applications.

Therefore, by examining four conditions (true self intervention, CDI intervention, a combination prevention of true self and CDI, and a control), the current study proposed the following:

**Hypothesis 1a.** Participants in the experimental conditions (true self, CDI, and combined prevention) would report greater increases from baseline to post-prevention implementation in body satisfaction, positive affect, self-esteem, and help-seeking intentions than participants in the control condition. This hypothesis is aimed to replicate previous CDI studies, to assess the effectiveness of the combined prevention and true self intervention alone, and to examine the effects of these preventions on help-seeking intentions.

**Hypothesis 1b.** Participants in the experimental conditions (true self, CDI, and combined prevention) would report greater decreases from baseline to post-prevention implementation in eating disorder symptomology, anxiety, and negative affect than the control condition. This hypothesis aimed to replicate previous CDI studies and to assess the effectiveness of the combined prevention and true self intervention alone.

**Hypothesis 2a.** Participants in the combined prevention condition would report greater increases from baseline to post-prevention implementation in body satisfaction, positive affect, self-esteem, and help-seeking intentions than participants in the true self and CDI conditions. Although I think the CDI and true self will also result in greater increases in these factors than the control condition, I predicted that the combined prevention will have stronger effects than the compared preventions as the combined prevention will have cumulative effects, resulting in stronger effects than either intervention alone.

**Hypothesis 2b.** Participants in the combined prevention would report a greater reduction from baseline to post-prevention implementation in eating disorder symptomology and negative affect than the true self and CDI conditions. Although I predicted that the CDI and true self would result in greater decreases in negative affect, anxiety, and eating disorder symptomology than the control condition, the combined prevention would have stronger effects than the individual preventions alone as the combined prevention would have cumulative effects, resulting in stronger effects than either intervention alone.

**Exploratory Component.** Since social media may be a potential eating disorder risk (Smith et al., 2013) and the current study was implemented online, I aimed to explore whether the preventions would decrease maladaptive social media behaviors. While there is no work examining whether eating disorder preventions decrease maladaptive social media behaviors, it is important for research to start investigating this avenue. Furthermore, examining social media as an exploratory measure to prevention outcomes may supply future research directions and clinical applications. I planned to investigate this component by adding social media measures to the study so to examine any change baseline to post-prevention.

## CHAPTER 2

### METHOD

#### **Participants**

Women between the ages of 18 to 30 were recruited to participate in the current study. Because the onset of eating disorder symptoms is highest between ages 18-30 in college women (Guidi et al., 2009), only women within this age range were recruited to participate in the study. Furthermore, because previous research has indicated that body image-related concerns vary by gender (e.g., Gillen & Lefkowitz, 2012), only females were recruited for this study to limit individual baseline differences in body image-related concerns. Males and non-English speaking individuals were excluded from participating in the study.

A power analysis was conducted prior to data collection using a small to moderate expected effect size ( $f^2 = .12$ ) (as a conservative measure of effect size, based in part on Mabe et al. [2014] findings) and power set at .95. The power analysis indicated that the sample size needed was  $N = 186$ . Because participants were being asked to complete five data collection sessions, however, I oversampled due to the likelihood of participant attrition. Participants were recruited from undergraduate psychology courses at East Tennessee State University and Stephen F. Austin State University through Sona Systems, an online research recruitment portal. There were no significant differences between the recruitment site locations. Participants who completed this study received partial course credit or extra credit. Additionally, participants who completed the study were enrolled in a raffle to win one \$25 Visa gift card. A total of 985 female participants ( $M_{\text{Age}} = 19.20$ ,  $SD_{\text{Age}} = 1.51$ ) were initially recruited for the study. A total of 354 participants (36%) failed to complete all five data collection sessions. In addition, another 45% ( $n = 160$ ) of the recruited sample were removed from analyses for not properly reporting their study identification (e.g., reporting a different study ID during the baseline and post-intervention

sessions). The final sample consisted of 197 female participants ( $M_{Age} = 19.36$ ,  $SD_{Age} = 1.67$ ). The composition by race and ethnicity was 81% White, 8% Black or African-American, 3% Hispanic, 2% Asian, and 7% more than one race. A Chi-squared analysis indicated that race was equally distributed across experimental conditions,  $\chi^2(12, N = 197) = 15.24, p = .29$ . The sample comprised of 57% freshmen, 18% sophomores, 14% juniors, and 11% seniors. Based on a measure of height and weight, the average body mass index (BMI) for participants was 25.31 ( $SD = 6.27$ ). According to the U.S. Department of Health and Human Services (2015), an underweight BMI is less than 18.5, healthy weight BMI is a range of 18.5 to 24.9, overweight BMI is a range of 25.0 to 29.9 and obese is a BMI of 30 and higher. Therefore, a female who has a height of 5'9'' and weighs 150 pounds would have a BMI of 22.1 and would be considered healthy. Since the average BMI of the sample was overweight, I examined the difference between participants' current weight and their ideal weight. On average, participants wanted to lose 20 pounds to reach their ideal weight, and there was no significant difference between location or study conditions. For sample demographics for the sample, see Table 1.

Table 1.

*Entire Sample Demographics*

	<u>ETSU (N)</u>	<u>SFA (N)</u>
<u>Study Condition</u>		
True Self	23	13
CDI	38	25
Combination	31	24
Control	25	18
<u>Race</u>		
White	103	57
Black/African American	5	10
Latina	2	4
Asian	2	1
More than One Race	5	8
<u>Classification</u>		
Freshman	58	55
Sophomore	21	13
Junior	21	8
Senior	17	4
<u>Age</u>		
18-19	71	68
20-21	35	8
22-23	5	3
24-26	4	1
27-30	2	0
BMI	<i>M</i> = 25.07 <i>SD</i> = 5.79	<i>M</i> = 25.66 <i>SD</i> = 6.93

**Procedure**

The study utilized Qualtrics survey software for data collection. Qualtrics software provides their own password protected server for members instead of using a “cloud” to store data. Therefore, the data were password secure and de-identified.

After reading and agreeing to the baseline informed consent form (Appendix A), participants completed an online baseline survey in Qualtrics before being randomly assigned to

a prevention session. In order to compare data collected from the five data collection sessions, participants created self-generated identification codes. The ID consisted of the first name initial, the month of birth initial, and the numbers of the day they were born. For example, the researcher's ID would be MJ04. This information could not be used to link the individual's identity to their data since it did not include both first and last name, campus student ID, or Sona ID. The baseline questionnaire (Appendix B) consisted of the following: the Eating Disorder Examination Questionnaire (EDEQ) to assess eating disorder risk; the Body Satisfaction Relationship Questionnaire (BSRQ), Body Area Satisfaction Scale (BASS), and Body Image Assessment Scale- Body Dimensions (BIAS-BD) to measure body satisfaction; the Center of Epidemiology Studies-Depression Scale (CES-D) to assess depression; the State-Trait Anxiety Scale Form Y1 (STAI-Y1) to assess state anxiety in an adult population; the Rosenberg Self-Esteem Scale to assess general levels of self-esteem; the Positive Affect Negative Affect Scale (PANAS) to assess affect; and the Attitudes Toward Seeking Professional Help, Stigma Toward Help-Seeking, and the Intentions to Seek-Help to assess help-seeking intentions. The prescreen questionnaire took no more than 60 minutes to complete. After answering the questionnaires, campus counseling contact information, as well as the National Eating Disorder Awareness contact information, appeared on the screen for the participants. At the end of the session, participants entered their Sona identification for their compensation on another webpage. The Sona information was not linked to their responses.

One week after completing the baseline measures, and after reading the informed consent (Appendix C) for the remainder of the study, a block assignment was used to place participants into one of the four conditions: true self, CDI, combined prevention, or control. Participants' IDs (the ones created by participants when they completed the baseline survey) determined which



condition participants experienced for the next three weeks. Participants with IDs ending in a one or two were in the true self-condition. Participants whose IDs ended with numbers three through five were in the CDI condition. Participants whose IDs ended with numbers six through eight were in the combined prevention condition. Finally, participants whose IDs ended with numbers nine or zero were in the control condition. At the end of the week, participants received an email with a link to their next session and were instructed to complete their assigned session once within the following week. Within the middle of the week, participants who had yet to complete the session were sent a reminder email to complete the session in order to reduce attrition. Participants completed their assigned condition once per week for three weeks. Participants remained in the same condition each week.

For the true self condition (Appendix D), the sessions instructed participants to write words that described their true self. The true self activity was created by the researcher based on scholarly work by Strohminger, Knobe, & Newman (2017) on improving true self research and therapy. Before completing the activity, participants read a definition of the true self. The sessions then directed participants to write at least 10 positive words that described themselves that could not be appearance related. The session provided some example adjectives to aid the participant, as well as counted the words to meet the requirement. Participants worked on this activity for at least five minutes. For each of the three sessions, participants were encouraged to avoid repeating the same adjectives for themselves. Instead, participants were asked to think of synonyms for their previous words instead of using the same words for each of the three sessions. The purpose of this exercise was to encourage participants to think about their core self and to explore and realize several positive aspects of their true self instead of repeating the same adjectives over again.

For the CDI condition (Appendix E), participants completed excerpt assignments from The Body Project (Stice, Shaw, Burton & Wade, 2006). The Body Project is a cognitive dissonance-based prevention program that has been implemented for approximately 3.5 million individuals (Becker & Stice, 2017). The first-week activity consisted of participants writing a letter to a younger girl who is struggling with body image and the costs associated with trying to look like the ideal. The instructions asked participants to discuss their own previous insecurities when they were younger and the costs they encountered in an attempt to dissuade the young girl from trying to achieve the perfect body. The second-week activity consisted of participants writing about positive aspects of themselves, physical and non-physical. This session did not discuss core values; therefore, it was not intended as a replica of the true self condition. The final-week activity consisted of participants writing rebuttals to various statements about beauty standards and self-worth. An example of one of the statements is “To be the best runner, I have to be down to my lightest weight. I am only doing this for my health – this will help me avoid injuries.” In all sessions, participants had to spend at least five minutes completing the task.

The combined prevention condition consisted of a combination of the true-self and CDI conditions. To allow participants in this condition the same timeline as participants in other conditions, the combined prevention condition had participants complete both true self and CDI tasks each week for three weeks. Participants first engaged in the true-self portion of the prevention for five minutes, then they engaged in the CDI portion for five minutes. Participants’ weekly sessions for the CDI portion were the same as for those who were in the CDI condition.

The control condition consisted of participants completing an affect measure (i.e., the Positive Affect Negative Affect Scale [PANAS]) each week for three weeks. I chose an affect measure because the measure is not body image- or eating disorder-framed and required

approximately the same amount of time as the experimental conditions. Participants were instructed to carefully read and reflect on the scale's items and complete the measure.

For all conditions, once participants completed the prevention tool to which they were assigned, they were presented with a study information sheet reminding them of the purpose of the study (Appendix F). At the end of each session, participants viewed contact information for the campus counseling center and for the National Eating Disorder Awareness hotline (Appendix G). After viewing the contact information, the session opened another webpage for participants to enter their Sona identification. This method kept participants' Sona identification separate from their session responses. Each session took place one week apart for a total of three sessions across three weeks.

After one week had passed since the third, and final, session, participants completed the baseline measures again to measure post-prevention outcomes. After participants completed the measures, participants were reminded of the purpose of the study and shown contact information for the counseling center as well as the National Eating Disorder Awareness hotline. Finally, the study directed participants to another webpage to enter their Sona identification. Like previous sessions, this process did not link participants' Sona identification to their responses. For the gift card, Sona IDs of the participants who completed the entire study (i.e., all five sessions) were entered into a generator that randomly selected the recipient of the gift card. The researcher emailed the participant who won the gift card through the university's Sona System.

## **Materials and Measures**

The current study utilized Qualtrics Online Survey software for data collection and SPSS for statistical analysis. Demographics for the current study's measures can be found in Table 2.

Table 2.

*Measures Demographic Table*

	<u>Baseline (<math>\alpha</math>)</u>	<u>Post-Prevention (<math>\alpha</math>)</u>
<u>Eating Disorder Examination Questionnaire (EDEQ)</u>		
Restrict	.703	.709
Eating	.750	.780
Weight	.869	.870
Shape	.860	.883
<u>Positive Affect Negative Affect Scale (PANAS)</u>		
Positive Affect	.864	.912
Negative Affect	.831	.894
Body Area Satisfaction Scale (BASS)	.910	.924
Body Satisfaction Relationship Scale (BSRQ)	.699	.744
Body Image Assessment Scale- Body Dimensions (BIAS-BD)	$r = .404$	$r = .316$
Rosenberg Self-Esteem Scale (RSE)	.900	.923
State-Trait Anxiety Scale-Form Y-1(STAI)	.910	.930
Center of Epidemiological Studies-Depression (CES-D)	.907	.938
Attitudes towards Help-Seeking	.778	.784
Stigma towards Help-Seeking	.835	.843
Social Media Importance Scale	.829	.862
Social Media Maladaptive Scale	.799	.812

**Eating Disorder Examination Questionnaire.** The 41-item Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994) was used to assess eating disorder-related concerns. The scale included four subscales: Restraint (5-items; e.g., “Have you tried to follow definite rules regarding your eating [for example, a calorie limit] in order to influence your shape or weight [whether or not you have succeeded]”), Eating Concern (5-items; e.g., “Have you had a definite fear of losing control over eating?”), Shape Concern (8-items; e.g., “How dissatisfied have you been with your shape?”), and Weight Concern (5-items; e.g. “How dissatisfied have you been with your weight?”). These subscales have been normed with college students and can be used to determine the level of risk for developing an eating disorder (Quick

& Byrd-Bredbenner, 2013). Each EDE-Q item assessed thoughts, feelings, and behaviors that occurred over the last month (approximately 31 days). Participants reported their behaviors, feelings, or thoughts on a 7-point scale (0 = *Not at all*; 2 = *Slightly*; 4 = *Moderately*; 6 = *Markedly*). A composite was created for each subscale by computing the average of all the items. A difference score for each subscale was computed by subtracting the composite score of the baseline survey from the composite score computed at the end of the post-prevention questionnaire. Internal consistency reliability for both sessions within each subscale was moderate ( $\alpha_{\text{restrict}} = .703-.709$ ;  $\alpha_{\text{eating}} = .750-.780$ ;  $\alpha_{\text{shape}} = .869-.870$ ;  $\alpha_{\text{weight}} = .860-.883$ ).

The EDEQ (Fairburn & Beglin, 1994) also assessed eating disorder behavior frequency. Two items were summed together to utilize for binge eating (e.g., “How many times have you eaten what other people would regard as an unusually large amount of food [given the circumstances]?”) and two summed items assessed purging behaviors (e.g., “How many times have you made yourself sick (vomit) as a means of controlling your shape or weight?”). Participants reported how many days did they engage in this activity over the past month (28 days). A difference score for each behavior was computed by subtracting the composite score of the baseline from the composite score of the post-prevention questionnaire.

**Body-Self Relations Questionnaire.** Using the Body-Self Relations Questionnaire (BSRQ; Brown, Cash, & Mikulka, 1990), participants indicated the degree to which they were satisfied with the current shape and size of their body as an indicator of body satisfaction. An example item included, “I like my looks just the way they are.” Participants reported satisfaction using a 5-point scale (1 = *Very Dissatisfied*, 2 = *Dissatisfied*, 3 = *Neither Satisfied nor Dissatisfied*, 4 = *Satisfied*, 5 = *Very Satisfied*). Five items were reverse scored (e.g., “I dislike my physique”) and higher scores indicated higher satisfaction with their body. A difference score

was computed by subtracting the composite score of the baseline survey from the composite score computed at the end of the post-prevention questionnaire. Internal consistency for sessions varied between low to moderate ( $\alpha = .699-.744$ ).

**Body Area Satisfaction Scale.** The Body Area Satisfaction Scale (BASS; Cash, 2004) assessed satisfaction with both weight-related (e.g., stomach) and non-weight-related (e.g., nose, eyes) areas of the body. Participants indicated how satisfied/dissatisfied they were with different areas of the body on a 5-point scale (1 = *Very Dissatisfied*; 2 = *Mostly Dissatisfied*; 3 = *Neither dissatisfied nor satisfied*; 4 = *Mostly Satisfied*; 5 = *Very Satisfied*). I calculated the composite score by averaging all items. A difference score was computed by subtracting the composite score of baseline survey from the composite score computed at the end of the post-prevention questionnaire. Higher scores indicated greater increases in body satisfaction. Internal consistency for both sessions was high ( $\alpha = .910-.924$ ).

**Body Image Assessment Scale-Body Dimensions.** Body Image Assessment Scale-Body Dimensions (BIAS-BD; Gardner, Jappe, & Gardner, 2009) assessed dissatisfaction with body weight and appearance using visual stimuli. Participants selected which figural drawing represented their perceived body and which figural drawing represented their ideal body. The female figures ranged from very thin to very obese and were created based on actual body dimensions at various BMI values. Since the drawings are based on actual representations, it is possible to measure body size distortion as well as body dissatisfaction. Each of the 17 stimuli figures varied in BMI by 5% between each figure, with the values ranging from -60% (i.e., very thin) to 140% (i.e., obese) deviation from the average BMI (100%). To adapt the measure for body satisfaction, the discrepancy was quantified by subtracting current weight from the ideal weight. Higher scores indicated higher body satisfaction. A difference score was computed by

subtracting the baseline score from the computed score during the post-prevention questionnaire. The internal validity was determined by calculating the correlations between this measure with participants' BMI. The relationship had a moderate correlation ( $r_{pre} = -.404$ ,  $r_{post} = -.316$ ).

**Positive and Negative Affect Scale.** The 20-item Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegan, 1988) contained two affect subscales, one measuring positive affect (e.g., “enthusiastic”) and the other measuring negative affect (e.g., “ashamed”). Participants reported affect on a 5-point scale (1= *Very slightly or not at all*, 2 = *A little*, 3 = *Moderately*, 4 = *Quite a bit*, 5 = *Extremely*) to indicate the extent to which they were currently experiencing various emotions. Instructions for each affect scale were revised to instruct the participant to reflect and report their affect over the past 3 weeks for the baseline and over the past week for the post-prevention questionnaire. A difference score was computed by subtracting the baseline composite score from the composite score of the post-preventions survey. For both sessions, internal consistency for the PANAS subscales was high ( $\alpha_{positive} = .864-.912$ ;  $\alpha_{negative} = .831-.894$ )

**Rosenberg Self-Esteem Scale.** The 10-item Rosenberg Self-Esteem Scale assessed positive and negative feelings participants had toward the self (e.g., “On the whole, I am satisfied with myself”; Rosenberg, 1965). Responses were rated on a 5-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) with 5-items reverse scored (e.g., “At times, I think I’m no good at all”). Higher scores indicated greater self-esteem. A difference score was computed by subtracting the baseline composite score from the composite score of items completed after during the post-prevention session. Internal consistency for both sessions appeared high ( $\alpha = .900 -.923$ ).

**State-Trait Anxiety Form Y-1.** The 20-item State-Trait Anxiety Form for Adults (Form Y-1; Spielberg, Gorsuch, Lushene, Vagg, & Jacobs, 1977) measured participants' state anxiety (e.g., "I am presently worrying over possible misfortunes"). Participants reported level of anxiety on a 4-point Likert scale (1 = *Not at All*; 2 = *Somewhat*; 3 = *Moderately so*; 4 = *Very much so*) to indicate the extent to which they were experiencing anxiety. Reverse-scored items (e.g., "I feel at ease") were recoded and a composite score was computed by summing all items. A difference score was computed by subtracting the baseline composite score from the composite score of items completed after during the post-prevention session. Higher scores indicated greater state-level anxiety. For both sessions, the internal consistency for the STAI-Y1 was high ( $\alpha = .910-.930$ )

**Center for Epidemiologic Studies-Depression.** The Center for Epidemiologic Studies-Depression (CES-D) 20-item scale was used to measure depression symptoms within the sample (Radloff, 1977). The 4-point Likert scale assessed various depression symptoms (e.g., "I had trouble keeping my mind on what I was doing") reported within a given week (1 = *Rarely or none of the time, less than 1 day*, 2 = *Some or a little of the time, 1-2 days*, 3 = *Occasionally or a moderate amount of time, 3-4 days*, 4 = *Most or all the time, 5-7 days*). Scores ranged from 0 to 60, with higher scores indicating the presence of depression symptoms. A difference score was computed by subtracting the baseline composite score from the composite score post-prevention questionnaire. Internal consistency for both sessions appeared high ( $\alpha = .907-.938$ )

**Attitudes Toward Seeking Professional Help.** The 10-item Attitudes Toward Seeking Professional Help (Fischer & Farina, 1995) scale measured participants' help-seeking intentions (e.g., "I might want to have psychological counseling in the future"). Responses ranged on a 4-point Likert scale from 0 (*Disagree*) to 3 (*Agree*) with 5-items reversed (e.g., "The idea of



talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts”). Higher scores indicated more positive attitudes toward seeking professional help. A difference score was computed by subtracting the baseline composite score from the composite score collected in the post-prevention survey. Internal consistency for both sessions was moderate ( $\alpha = .778-.784$ ).

**Stigma Toward Seeking Help.** The 10-item Stigma Toward Seeking Self Help (STSSH; Vogel et al., 2013) measured participants’ stigma toward help-seeking for themselves (e.g., “It would make me feel inferior to ask a therapist for help”). Responses were rated on a 5-point Likert scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*) with 5-items reverse scored (e.g., “My self-confidence would NOT be threatened if I sought professional help”). Higher scores indicated greater self-stigma. A difference score was computed by subtracting the baseline composite score from the post-prevention composite score. Internal consistency for both sessions appeared high ( $\alpha = .835- .843$ ).

**Intentions to Seek Help Scale.** The 1-item Willingness to Seek Services Scale (Williams & Polaha, 2014) measured participants’ intentions to seek mental/behavioral health services. The item was adapted into two items so to separate participants’ report of likelihood (e.g., “I would go see a counselor, therapist, or psychologist in a center that is designated to provide mental/behavioral health services”) and previous experience (e.g., “I have gone to see a counselor, therapist, or psychologist in a center that is designated to provide mental/behavioral health services”). For the current study, a yes or no response was utilized for the previous experience item. For the likelihood item, responses were rated on a 5-point Likert scale with 1 (*Not at all*), 2 (*Somewhat*), 3 (*Neutral*), 4 (*Possibly*), and 5 (*Definitely*). A composite score was calculated by summing the two items. Higher scores indicated greater intentions for seeking

mental health services. A difference score was computed by subtracting the baseline composite score from the post-preventions composite score.

**Maladaptive Social Media Behaviors Scale.** The Maladaptive Facebook Usage Survey (Smith et al., 2013) is a seven-item survey assessing actions that are indicative of maladaptive Facebook usage. The scale was adapted to assess all social media, not just Facebook. The 7-point Likert scale (1 = *Strongly disagree*; 2 = *Disagree*; 3 = *Somewhat disagree*; 4 = *Neither agree nor disagree*; 5 = *Somewhat agree*; 6 = *Agree*; 7 = *Strongly agree*) measured participants' maladaptive social media habits. The scale defines maladaptive usages as including social comparison (e.g., "How often do you compare your photos to photos of your female friends?"), posting self-defeating updates (e.g., "I sometimes write negative things about myself in my social media updates to see if others will respond with negative comments about me."), and placing high emphasis on number of responses to an update (e.g., "How important is it to you that people comment on your status updates?"). A composite score was computed by summing all items. A difference score was computed by subtracting the responses from the baseline questionnaire to the post-prevention questionnaire. Higher scores indicated more tendencies toward maladaptive social media usage (such as posting a negative status about oneself or comparing others' photos to photos of oneself). Internal consistency for both sessions was adequate ( $\alpha = .799-.812$ ).

**Social Media Usage Scale.** A Facebook survey created by Mabe and colleagues (2014) contained eight items regarding to importance of Facebook use on a 5-point Likert scale (1= *Never*; 2 = *Rarely*; 3 = *Sometimes*; 4 = *Often*; 5 = *Always*). The scale was adapted to address all social media, not just Facebook. These items assessed how important participants perceived using social media (e.g., "Do you believe social media friends/followers form opinions of you

based on your profile?”). A composite score was computed by summing all items. A difference score was computed by subtracting the responses from the baseline questionnaire to the post-prevention questionnaire. Higher scores indicated greater importance of social media. The internal validity for both sessions appeared high ( $\alpha = .829-.862$ ).

**Attentiveness Check Item.** An attentiveness check item was added to the study three times within the baseline survey and the post-prevention survey (6-items; Oppenheimer, Meyvis, & Davidenko, 2009). The first check was within the State-Trait Anxiety Inventory, the second check was within the Eating Disorder Examination Questionnaire, and the third check was within the Rosenberg Self-Esteem Scale. For the post-prevention survey, the attention checks were in the same location as the baseline survey.

### **Data Analysis**

Four separate between-groups multivariate analysis of variance (MANOVAs) were conducted to test the effects of the preventions (true self only, CDI only, true self plus CDI, and control, coded as the independent variable within the MANOVAs conducted) on body satisfaction, help-seeking intentions, eating disorder pathology, and social media usage. The first MANOVA examined body satisfaction, with difference scores for body satisfaction indicators (Body Area Satisfaction Scale [BASS], The Body-Self Relationship Questionnaire [BSRQ], and the Body Image Assessment Scale-Body Dimensions [BIAS-BD]) as separate dependent variables. The second MANOVA examined help-seeking intentions, with difference scores for help-seeking intentions (Attitudes Towards Help-Seeking, Intentions to Seek Help, and Stigma towards Help-Seeking) as separate dependent variables. The third MANOVA examined eating disorder pathology, with difference scores for eating disorder pathology indicators (EDEQ-restraint, EDEQ-eating, EDEQ-shape, EDEQ-weight) as separate dependent variables. The

fourth MANOVA examined social media usage, entering the difference scores for both social media indicators (Social Media Importance and Social Media Maladaptive) as separate dependent variables. In addition, four separate between groups analysis of variance (ANOVAs) were conducted to test the effects of the preventions on positive affect, negative affect, self-esteem, and anxiety by entering the difference score for each dependent variable into the ANOVA.

To examine the preventions and their impact on eating disorder risk, the study conducted the same analyses but only with participants deemed at risk of an eating disorder. Therefore, the study's statistical analyses were conducted twice – the entire sample and the at-risk sample. To determine which participants were at-risk, a total score for the EDEQ was assessed by summing the baseline composite scores from all the subscales (restraint, eating, weight, and shape). Participants whose scores fell above the 50th percentile were classified as the high eating disorder-related concern group. Those whose scores fell on or below the 50th percentile were classified as the low eating disorder-related concern group. The percentile-based cutoff score was selected from a recent survey of 2,248 college women (Quick & Byrd-Bredbenner, 2013). Demographics for the at-risk sample can be found in Table 3.

Table 3.

*At-Risk Sample Demographics*

	<u>ETSU (N)</u>	<u>SFA (N)</u>
<u>Study Condition</u>		
True Self	13	7
CDI	17	11
Combination	16	12
Control	10	11
<u>Race</u>		
White	48	28
Black/African American	3	9
Latina	1	2
Asian	1	0
More than One Race	3	2
<u>Classification</u>		
Freshman	31	28
Sophomore	7	5
Junior	11	5
Senior	7	3
<u>Age</u>		
18-19	34	33
20-21	17	6
22-23	3	1
24-26	2	1
27-30	0	0
BMI	$M = 26.61$ $SD = 5.87$	$M = 28.41$ $SD = 8.11$

## CHAPTER 3

### RESULTS

The current study examined four conditions (true self, CDI, combination prevention, and control) and the outcomes of eating disorder pathology, affect, anxiety, self-esteem, body satisfaction, help-seeking intentions, and social media behaviors. I hypothesized the following:

**Hypothesis 1.** Participants in the experimental conditions would report greater increases in body satisfaction, positive affect, self-esteem, and help-seeking intentions than participants in the control condition. Furthermore, participants in the experimental conditions (true self, CDI, and combined prevention) would report stronger decreases in eating disorder symptomology, anxiety, and negative affect than the control condition.

**Hypothesis 2.** Participants in the combined prevention condition would report greater increases in body satisfaction, positive affect, self-esteem, and help-seeking intentions than participants in the true self and CDI conditions. Moreover, participants in the combined prevention would report a greater reduction in eating disorder symptomology, anxiety, and negative affect than the true self and CDI conditions.

**Exploratory Component.** Examined any potential changes in maladaptive social media usage between baseline and post-prevention measures between the preventions and the control.

**Data screening.** Data for all participants who failed any of the attentiveness checks ( $n = 8$ ) in the baseline or the post-prevention survey (6-items; Appendix B) were excluded from the dataset before analysis (Oppenheimer, Meyvis, & Davidenko, 2009). I examined each measure at pretest and posttest for skewness and kurtosis. As the current sample was medium in size ( $50 < N < 300$ ), the cutoff values for skewness and kurtosis were set at 2.00 (Kim, 2013). No pretest or posttest measures exceeded this cutoff.

## Preliminary Analyses

Because of the rather high participant attrition rate and reporting of wrong identification within this study ( $n = 663$ , 77%), I examined whether there were any significant differences between those participants who began but did not complete the study and those participants who completed the study. Significant differences were found for anxiety, depression, and positive affect between these two groups of participants. Specifically, participants who did not complete the study ( $n = 663$ ) reported significantly higher anxiety ( $M = 45.18$ ,  $SD = 11.09$ ) than participants who completed the study ( $M = 43.29$ ,  $SD = 10.88$ ),  $t(1, 835) = 2.08$ ,  $p = .036$ ,  $CI = .105, 3.65$ . In addition, participants who did not complete the study reported significantly higher depression scores ( $M = 3.27$ ,  $SD = .69$ ) than participants who completed the study ( $M = 19.18$ ,  $SD = 11.27$ ),  $t(1,823) = 2.17$ ,  $p = .030$ ,  $CI = .202, 4.04$ . Finally, those who completed the study reported significantly higher positive affect ( $M = 3.27$ ,  $SD = .69$ ) than participants who did not complete the study ( $M = 3.09$ ,  $SD = .71$ ),  $t(1, 837) = 2.99$ ,  $p = .003$ ,  $CI = .060, .287$ .

Besides baseline report, I separately examined potential differences between sessions, condition, and location to observe any significant differences for further elaboration of participant attrition. Majority of participants ( $n = 274$ ) dropped out of the study after the baseline survey, however it was not significantly different than participants who dropped out after session one ( $n = 96$ ), session two ( $n = 68$ ), or session three ( $n = 126$ ),  $F(3, 560) = .656$ ,  $p = .58$ ,  $CI = -.001, .008$ . Furthermore, I discovered no significant differences between the conditions and attrition rate,  $F(3,286) = .051$ ,  $p = .985$ ,  $CI = 2.00, 2.20$ , or location of recruitment and attrition rate,  $t(1, 288) = -1.00$ ,  $p = .315$ ,  $CI = -.06, .06$ .

Within the final sample ( $n = 197$ ), I investigated correlations from the baseline survey. I noted several significant correlations, especially between the eating disorder pathology, body

satisfaction, anxiety, affect, and depression. Correlations between the baseline measures can be found in Table 4.

Table 4.

*Correlations Table.*

Measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	M	SD
1. EDEQ-Restraint	--																		7.29	6.18
2. EDEQ-Eating	.574**	--																	4.65	5.43
3. EDEQ-Shape	.540**	.509**	--																9.94	5.21
4. EDEQ-Weight	.546**	.700**	.889**	--															7.07	4.52
5. Pre-BASS	-.289**	.436**	-.534**	-.550**	--														57.86	13.93
6. Pre-BSRQ	-.127	-.299**	-.260**	-.316**	.580**	--													3.10	0.45
7. Pre-BIAS-BD	-.342**	-.227*	-.557**	-.463**	.240**	.123	--												-9.39	31.38
8. Pre-STAI	.224**	.379**	.351**	.395**	-.494**	-.332**	.036	--											43.54	10.62
9. Pre-PANAS(Pos.)	-.195**	-.228**	-.216**	-.248**	.367**	.278**	.068	-.502**	--										3.25	0.69
10. Pre-PANAS(Neg.)	.203**	.338**	.339**	.363**	-.421**	-.304**	-.002	.710**	-.241**	--									2.36	0.71
11. Pre-CESD	.268**	.428**	.398**	.484**	-.556**	-.423**	-.082	.737**	-.446**	.743**	--								19.5	11.21
12. Pre-RSE	-.266**	-.361**	-.465**	-.466**	.641**	.479**	.094	-.569**	.379**	-.546**	-.662**	--							27.66	5.64
13. Pre-Importance	.068	.075	.202**	.171*	-.241**	-.008	-.077	.234**	-.078	.241**	.200**	-.241**	--						2.52	0.80
14. Pre-Maladaptive	.177*	.174*	.253**	.235**	-.392**	-.131	-.060	.301**	-.077	.368**	.387**	-.452**	.577**	--					2.88	1.03
15. Pre-Attitudes	-.087	-.046	-.022	.005	.003	-.011	-.034	-.083	.081	-.046	-.076	.081	-.043	-.031	--				1.63	0.43
16. Pre-Stigma	.145*	.187**	.145*	.161*	-.192**	-.074	-.023	.212**	-.075	.239**	.242**	-.322**	.274**	.233**	-.624**	--			2.67	0.67
17. Pre-Intentions	.033	-.049	.082	0.04	-.044	-.131	-.078	-.005	-.019	.056	.054	-.027	-.030	.003	.666**	-.501**	--		3.85	1.65
18. BMI	.140*	.275*	.306**	.352**	-.275**	-.288**	-.404**	.093	-.044	.141*	.175*	-.140*	-.035	.132	.114	-.117	.080	--	25.31	6.27

Note. N = 197. Results for the entire sample. Pre-BASS= Baseline Body Area Satisfaction Scale, Pre-BSRQ= Baseline Body Satisfaction Relationship Questionnaire, Pre-BIAS-BD= Baseline Body Image Assessment Scale-Body Dimensions, Pre-STAI = Baseline State-Trait Anxiety Inventory, Pre-PANAS(Pos.) = Baseline Positive Affect Negative Affect Scale (Positive Affect), Pre-PANAS(Neg.) = Baseline Positive Affect Negative Affect Scale (Negative Affect), Pre-CESD = Baseline Center of Epidemiological Studies-Depression, Pre-RSE = Baseline Rosenberg Self-Esteem Scale, Pre-Importance = Baseline Social Media Importance Scale, Pre-Maladaptive = Baseline Social Media Maladaptive Scale, Pre-Attitudes = Baseline Attitudes Towards Seeking Mental Services, Pre-Stigma = Baseline Stigma Towards Seeking Help Services, Pre-Intentions = Baseline Intentions to Seek Help Scale, BMI = Body Mass Index.

\* indicates significant effect



## Entire Sample

The MANOVAs examining differences between conditions on eating disorder pathology, eating disorder behaviors, body satisfaction, social media behaviors, and help-seeking intentions were not statistically significant. In addition, the ANOVAs examining differences on self-esteem, negative affect, and anxiety between conditions were also not significant. However, there was a significant difference between conditions on positive affect,  $F(3, 194) = 2.92, p = .035$ . Results indicate that the combination prevention ( $M = .009, SD = .69$ ) resulted in significantly greater positive affect than the control condition ( $M = -.376, SD = .66$ ),  $t(1, 98) = .385, p = .004$ . Results for all analyses for the entire sample are listed in Table 5.

Table 5  
*Entire Sample Results.*

Dependent Variable	Wilks $\Lambda$	$F$	$p$ -value	Effect size
Eating disorder pathology	.94	.909	.538	$\eta^2 = .019$
Eating disorder behaviors	.96	1.22	.295	$\eta^2 = .019$
Body satisfaction	.93	.664	.741	$\eta^2 = .021$
Help-seeking intentions	.93	1.34	.211	$\eta^2 = .023$
Social media	.97	.953	.475	$\eta^2 = .014$
Self-esteem	2.29	2.23	.086	$\eta^2 = .030$
Negative affect	1.89	1.75	.156	$\eta^2 = .026$
Positive affect*	2.72	2.92	.035	$\eta^2 = .043$
Anxiety	1.75	1.78	.152	$\eta^2 = .027$

Note.  $N = 197$ . Results for the entire sample. Eating disorder pathology = EDEQ-restraint, EDEQ-Eating, EDEQ-Shape, EDEQ-Weight, Eating disorder behaviors = EDEQ-Binge episodes, EDEQ-Purge episodes, Body Satisfaction = BASS, BSRQ, BIAS-BD, Help-seeking intentions = Help-Seeking attitudes, Stigma towards Help-Seeking, Intentions to Seek Help, Social media= Social Media Importance, Social Media Maladaptive Scale, Self-esteem = RSE, Negative affect = PANAS-Negative, Positive affect-PANAS-Positive, Anxiety= STAI

\* indicates significant effect

## At-Risk Sample

To examine the conditions within the at-risk portion of the sample, I ran the same statistical analysis that were conducted for the entire sample for those who scored above 50% on the EDEQ. Although the sample was significantly smaller ( $n = 97$ ), it is imperative to examine whether there were significant effects for those individuals already at risk of developing an eating disorder for which secondary preventions were designed. The results for all analyses for the at-risk sample are listed in Table 6.

Table 6

### *At-Risk Sample Results*

Dependent Variable	Wilks $\Lambda$	$F$	$p$ -value	Effect size
Eating disorder pathology	.75	1.43	.088	$\eta^2 = .036$
Eating disorder behaviors*	.86	2.48	.025	$\eta^2 = .075$
Body satisfaction*	.54	2.27	.027	$\eta^2 = .186$
Help-seeking intentions	.92	.760	.654	$\eta^2 = .026$
Social media	.92	1.29	.265	$\eta^2 = .040$
Self-esteem*	3.75	3.35	.017	$\eta^2 = .102$
Negative affect	1.79	1.83	.146	$\eta^2 = .056$
Positive affect	.69	.795	.500	$\eta^2 = .025$
Anxiety	1.47	1.43	.238	$\eta^2 = .044$

Note.  $N = 97$ . Eating disorder pathology = EDEQ-Restraint, EDEQ-Eating, EDEQ-Shape, EDEQ-Weight, Eating disorder behaviors = EDEQ-Binge episodes, EDEQ-Purge episodes, Body Satisfaction = BASS, BSRQ, BIAS-BD, Help-seeking intentions = Help-Seeking attitudes, Stigma towards Help-Seeking, Intentions to Seek Help, Social media= Social Media Importance, Social Media Maladaptive Scale, Self-esteem = RSE, Negative affect = PANAS-Negative, Positive affect-PANAS-Positive, Anxiety= STAI

\* indicates significant effect

The eating disorder pathology, social media behaviors, and help-seeking intentions MANOVAs were not significant. However, when examining eating disorder behaviors not affiliated with any of the EDEQ subscales (i.e., binge and purge episodes), I found a significant effect between conditions for eating disorder behaviors, Wilks  $\Lambda = .856$ ,  $F(3, 94) = 2.478$ ,  $p =$

.025,  $\eta^2 = .075$ . Specifically, results showed a significant difference between conditions for binge episodes,  $F(3, 94) = 2.605, p = .014$ . Those who completed CDI ( $M = .679, SD = .158$ ) reported greater decreases in binge episodes than those who completed the true self intervention ( $M = -.100, SD = 1.87$ ),  $t(1,47) = -.7786, p = .002$ . Furthermore, CDI resulted in a significantly greater decrease in binge episodes than the control condition ( $M = .143, SD = .182$ ),  $t(1,48) = .5357, p = .029$ . However, the combined prevention ( $M = .357, SD = .158$ ) was not significantly greater than true self intervention, CDI, or the control condition in terms of decreasing binge episodes. See Figure 1.

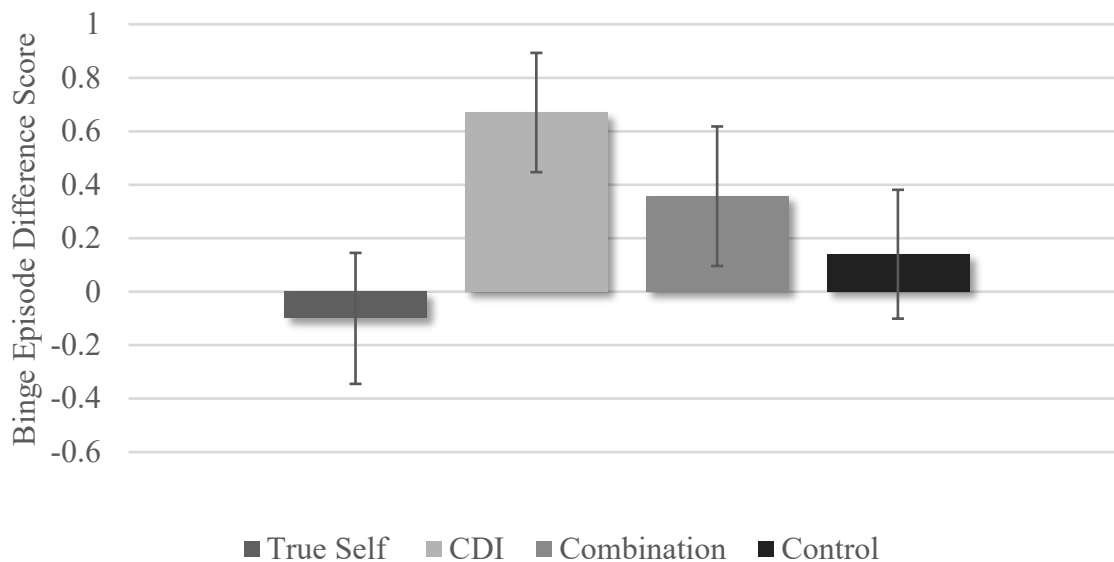


Figure 1. Binge episode difference score.

A MANOVA examining body satisfaction indicated a significant effect between the study conditions, Wilks  $\Lambda = .539, F(3, 94) = 2.272, p = .027, \eta^2 = .186$ . To probe this effect, I conducted post-hoc ANOVAs to determine whether each measure supported the significant MANOVA. Unfortunately, there were no significant results for the individual body satisfaction

measures (BASS ( $F(3, 94) = 2.53, p = .075$ ), BSRQ ( $F(3, 94) = 2.46, p = .081$ ), and BIAS-BD ( $F(3, 94) = 1.178, p = .334$ )).

Additionally, the ANOVAs for positive affect, negative affect, and anxiety were not significant. However, an ANOVA examining self-esteem between the conditions was significant,  $F(3, 93) = 3.3549, p = .017, \eta^2 = .102$ . A post-hoc analysis showed that CDI ( $M = 2.07, SD = 5.06$ ) was significantly better at increasing self-esteem than the true self intervention ( $M = -1.65, SD = 3.25$ ),  $t(1,48) = 3.72, p = .002$ . Additionally, the combined prevention ( $M = .929, SD = 3.72$ ) was also significantly better at increasing self-esteem than the true self intervention,  $t(1,48) = 1.193, p = .033$ . However, none of the experimental conditions were significantly better than the control condition. See Figure 2.

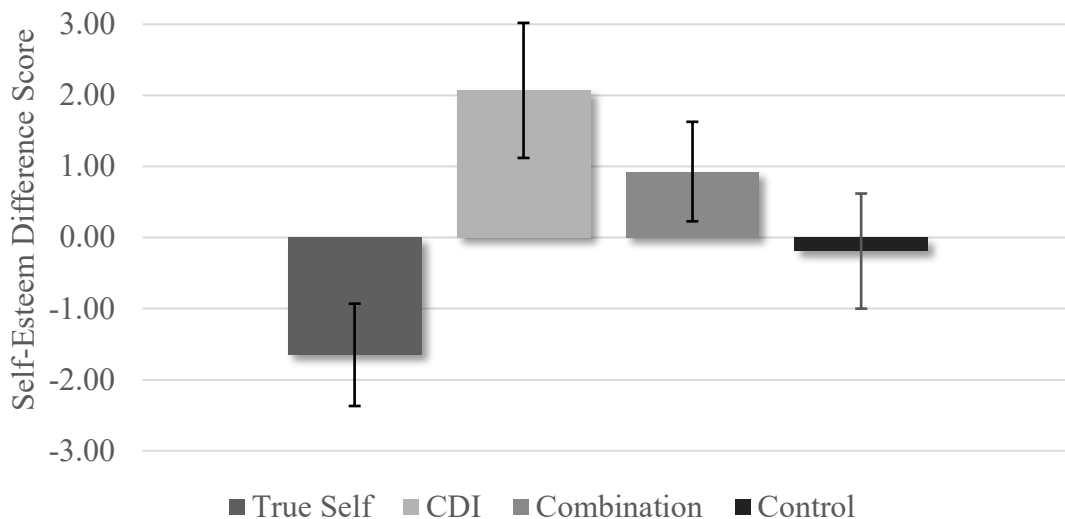


Figure 2. Self-esteem difference score

## CHAPTER 4

### DISCUSSION

The current study makes an essential contribution to understanding the effects of prevention tools and eating disorder risk. Although previous research supports utilizing CDI as a preventative intervention for individuals with a risk of an eating disorder, few studies have examined possible ways to improve CDI. Further, prior research has neglected to examine whether CDI may encourage those at risk of an eating disorder to seek out further help. The current study examined three possible preventions and their outcomes on body satisfaction, eating disorder pathology, affect, anxiety, self-esteem, and help-seeking intentions. The goal of the current research was to determine whether any of the preventions would relieve eating disorder pathology and increase positive outcomes (e.g., self-esteem, body satisfaction, and help-seeking intentions). Mainly, I wanted to know whether a combination of true self and CDI as a prevention would result in better outcomes than CDI or true self alone.

The results from the entire sample suggested no significant difference between the preventions and the control condition for eating disorder pathology, eating disorder behaviors, body satisfaction, self-esteem, negative affect, and help-seeking intentions. However, there was a significant difference for positive affect within the entire sample. Specifically, the combination prevention (i.e., true self plus CDI) resulted in significantly greater positive affect than the control condition; however, the effect size was small. I conducted a post-hoc power analysis, and the effect size, although small ( $d = .21$ ), is supported from previous research (Becker et al., 2010).

A potential explanation for the majority of the null effects within the entire sample could be that true self intervention and CDI have been primarily implemented as either a secondary

prevention or as a clinical treatment (Stice et al., 2007; Pearson, 1998). Only about half of the sample in the current study, however, was labeled as an eating disorder risk. The results of the current study therefore suggest that it may not be best to implement these interventions or a combined intervention as a universal, or primary, prevention.

For the at-risk sample, CDI resulted in a significantly greater decrease in self-reported binge episodes than the true self intervention and the control condition. This finding is consistent with prior research showing CDI to result in a binge episode decrease (Stice et al., 2008). However, results did not find that CDI improved body satisfaction. This lack of findings does not replicate previous research. Previous CDI studies reported increases in body satisfaction (Menzel, 2013; Smith & Petrie, 2008); however, these studies were conducted in in-person settings with a face-to-face facilitation and, in the case of some of these studies, with a group therapy-like aspect. While Sedar (2012) conducted a CDI study online, that study also supplied a facilitator online for online discussions as well as a chatroom feature for the participants in the online condition portion of CDI to converse with one another, similar to online group therapy. Therefore, the main difference between past studies and the current study is the absence of a facilitator. The current study may have lacked findings in body satisfaction and eating disorder pathology because there was not any communication between participants and a facilitator discussing the participant's responses and their progress or any communication between participants engaging in the interventions.

Results also indicated that CDI and the combined prevention (true self plus CDI) resulted in a greater increase in self-esteem than the true self intervention alone. Perhaps completing the CDI tasks, such as helping someone and listing positive attributes about the self, increases self-esteem. For instance, Mongrain and colleagues (2010) reported that participants who engaged in

a compassion activity once a day reported significantly greater increases in self-esteem than participants who did not engage in a compassion activity. Additionally, previous work discusses how self-affirmations increase self-esteem (Wood, Perunovic, & Lee, 2009). Since the CDI tasks involve compassion tasks (e.g., writing a letter to a young girl about dieting and combating statements a friend makes about their weight/shape/diet) and self-affirmations (e.g., listing positive attributes about the self, physical or not), these tasks may have resulted in greater feelings of self-worth. It should be noted, however, that neither CDI nor the combined prevention resulted in greater increases in self-esteem than the control condition.

Unfortunately, participants in the true self intervention condition did not report better outcomes than participants in the other conditions. In fact, true self was potentially detrimental for the at-risk sample. For the binge episodes, results indicate that the true self intervention may result in more bingeing behavior than the other interventions, though this difference was not statistically significant in the current study. Although one publication discussed an implementation of true-self therapy with eating disorder patients, called the “Real Me Paradox” (Pearson, 1998), it may be that this paradox or implementation of the true self should only be implemented within a therapy session and with a facilitator. Pearson (1998) discussed that engaging in the true self facilitation started working the further along patients were in recovery. Furthermore, Pearson (1998) documented that even with professional and prolonged treatment, patients still struggled to discuss and connect to the true self over their eating disorder “identity.” Therefore, engaging in an online true self activity once a week for three weeks may not be appropriate with an eating disorder risk sample.

Although previous research supports the assumption of true self intervention on self-esteem with a general sample (Andersen & Williams, 1985), I did not observe the same trend

with a sample of individuals at risk of an eating disorder. For some participants, true self intervention revealed decreases in self-esteem after the prevention. While this finding was novel and uncommon with previous research, it may relate to Lenton, Slabu, Sedikides, and Power (2013). Lenton and colleagues (2013) examined true self intervention with individuals suffering from depression and healthy controls and noted that the individuals with depression did not have the same compelling increases in self-esteem and positive affect post-true self intervention as the healthy controls (Lenton, et al., 2013). Therefore, the current study may relate to Lenton and colleagues (2013) findings, especially with the at-risk sample. In addition, for individuals with eating disorders, there is a high comorbidity with depression (Gruber & Dilsaver, 1996), which was noted within the current study (table 4). As a result, this comorbidity may possibly suggest why the current study also had a lack of significant findings in positive affect and the potentially detrimental findings of self-esteem within the at-risk sample.

The current study's lack of replication could also relate to the implementation method of the true self intervention used in the present study. First, the study was implemented online, and while there is evidence of revealing true self online (Bargh, et al., 2002), the Bargh et al. study did not examine true self as an intervention, but instead preference for presenting the true self in an online format rather than face-to-face. The previous studies investigating true self intervention were conducted face-to-face and provided a facilitator, while the current study did not. The current study only instructed participants to complete the true self intervention for approximately ten minutes once a week for three weeks, whereas the Pearson (1998) case study instructed the participants (i.e., eating disorder patients) to meet and discuss the true self for an hour a week for approximately three years. Therefore, the design's simplicity and limited duration, plus lack of



guidance by a facilitator, may be why the results from the current study failed to replicate previous studies.

Furthermore, the combination prevention was also not significantly better than CDI, true self, or the control for eating disorder behaviors with decreasing eating disorder symptomology. While the combination prevention was significantly better than the true self intervention for increasing self-esteem, the combination prevention was not significantly better than CDI. Possibly because the true self intervention was potentially detrimental (i.e. increasing bulimic episodes and decreasing self-esteem), the true self intervention could have decreased the effectiveness of the combination prevention, rendering it less effective than CDI alone when concerning self-esteem. Given the lack of effectiveness of the true self intervention and of the combined prevention, it is suggested that further research examining the combination prevention, as implemented in the current study, is not necessary nor appropriate.

Another null finding was the help-seeking behaviors. There are potentially two reasons for the lack of null finding results. First, it could be the measures utilized which did not discuss seeking help for eating disorder pathology. Therefore, participants may not report help-seeking since the items were possibly too vague. Second, the sample being primarily low-risk for eating disorder pathology could explain the lack of help-seeking intentions or attitudes, because they may possibly not need help for an eating disorder.

Finally, preliminary findings indicated significant differences between participants who completed the study and those who did not. Participants who completed the study reported significantly lower depression and anxiety scores and stronger positive affect at baseline than participants who did not complete the study. Furthermore, I reported significant positive correlations between the eating disorder concern subscales, depression and anxiety. While the

eating disorder concern subscales did not predict attrition, the correlations may indicate potential relationships between participants' self-report depression and anxiety to their various eating disorder cognitions and/or behaviors. Therefore, the ineligible participants could have influenced the current study's results had they stayed in the study. If the attrition sample was eligible for analysis, this could have provided possibly more evidence and power towards either confirming or rejecting the study's hypotheses. I could have explored the study conditions on depression and anxiety to a more generalizable sample, as well as an in-depth analysis of the conditions on depression or anxiety. Although there is lack of research examining attrition rates in eating disorder prevention sessions, one study examined attrition for obesity prevention and noted depression as a significant contribution to attrition (Clark, Niaura, King, & Pera, 1996). It could be possible that even though the prevention was online and anonymous, engaging in a multiple-week prevention addressing either self-definition or cognitive dissonance with her eating disorder behaviors may need an in-person facilitator to address any additional concerns (e.g., depression or anxiety).

### **Potential Implications**

Although findings did not support hypotheses or prior research, there may still be potential applications of specific components of the current study's results. First, according to the current study, CDI is a better prevention than true self intervention, a combined prevention, and no prevention. Furthermore, CDI still reduced bingeing episodes and increased self-esteem through online self-assessments only, with no guidance from a facilitator. While CDI resulted in a reduction of binge episodes in the current study, which is consistent with prior research (Stice et al., 2008, 2014), the effect sizes from the current study are smaller than when CDI is implemented in-person (Stice et al., 2008), or with a facilitator (Stice et al., 2014). Although The

Body Project (Stice et al., 2006) program is available online and provides various self-assessments for online implementation, the current results suggest that it may be best to implement CDI in-person or, at the very least, online with a facilitator. Future research should examine these possibilities.

Disappointingly, the true self intervention was not helpful, and was possibly harmful, for individuals at-risk. Not only did the true self intervention not improve CDI; it was no better than the control condition for most of the variables assessed within the current study and even resulted in decreased self-esteem. Therefore, it is suggested that the true self intervention, as implemented in the current study, should not be applied to individuals at risk of an eating disorder. A true self facilitation may be better as an in-person treatment with a professionally trained facilitator (e.g., counselor, psychologist, therapist). As Pearson (1998) noted, engaging in a true self activity was difficult for the eating disorder patients and did not begin working until the patients were further in recovery. As a result, utilizing true self as a prevention without a trained provider and only once a week for three weeks may not be appropriate or beneficial. While it is imperative for individuals at risk of an eating disorder to separate their identity of the disorder from their true self, this process may not be appropriate as a short-term prevention. Along with the true self intervention, the combined prevention is also not ideal for individuals at risk of an eating disorder. Although the combination prevention was significantly better than the true self intervention at increasing self-esteem, the combination was not significantly better than CDI or the control. Therefore, I conclude it is not necessary to continue researching and applying a combined prevention of true self intervention and CDI for individuals at risk of an eating disorder.

Based on the preliminary findings showing that participants who did not complete the study reported higher anxiety and depression scores at baseline, it may be wise to assess anxiety and depression prior to the implementation of prevention interventions for those at risk of an eating disorder. Individuals with higher depression and anxiety may possibly need more assistance with the preventions or may require a face-to-face prevention. This may not only help encourage individuals with higher anxiety and depression scores to continue with the intervention but may also provide the rapport between participant and facilitator that may be warranted. One noted early prevention for decreasing depression is acceptance and commitment therapy (ACT). Although previous research has shown ACT to be effective in reducing symptoms of depression, the intervention took place over an eight-week period (Bohlmeijer, Fledderus, Rokx, & Pieterse, 2011). As a result, if applying an early intervention for depression prior to the eating disorder prevention, it could take an approximate total of at least eleven weeks. However, if it keeps participants in the prevention and assists them with decreasing depression and increasing the positive outcomes from the eating disorder prevention, then research should determine the feasibility, efficacy, and effectiveness of such an approach.

Finally, with the lack of significant findings for increasing body satisfaction, help-seeking intentions, and decreasing eating disorder pathology, it may be that preventative measures should not be implemented online. While online implementation broadened recruitment as well as allowed participants to complete the preventions in a personal and comfortable location, it lacked the relationship between the facilitator and the participant. Perhaps an online implementation of eating disorder preventions is not appropriate unless a facilitator or counselors are available online for the participant to discuss their current state or their answers. Future research should examine this further.

## Limitations

This study is not without limitations. The study utilized a convenience sample of female college students aged 18-30 years on a college campus. Therefore, the findings may only apply to female college students 18-30 years of age. In addition, while data were collected from students at two universities in different states, both states are within the southern region of the United States. Findings may therefore not apply to individuals living within other countries or even within other regions of the United States. In addition, the sample was a female-only sample. Because 10 million males meet criteria for an eating disorder diagnosis each year, (NIH, 2011), future studies should examine other preventions or avenues to increase help-seeking in a male population. As a result, it is imperative to examine potential preventions in a male-only population and adapt body satisfaction measures for males (e.g., wide chest, broad shoulders).

Although the current study examined the effects of a secondary intervention, aimed at those potentially at-risk of developing an eating disorder, only about half of the sample was comprised of individuals at risk of an eating disorder. Although I provided results for the at-risk sub-sample, there were not enough participants in this subsample to have adequate statistical power. As a result, it is difficult to know whether the lack of replication of CDI findings may be due to implementation of CDI (e.g., online), low statistical power, or other factors. Readers should therefore exert caution with the results from the current study.

Furthermore, besides the small at-risk subsample, the criteria for those at-risk is another potential limitation. Although I cited rationale for utilizing the 50<sup>th</sup> percentile cutoff (Quick & Byrd-Brenner, 2013), this may have not been an adequate approach with the current study sample. Participants' EDEQ scores above the 50<sup>th</sup> percentile (6.96) were lower than the sample mean EDEQ score ( $M = 7.24$ ). Therefore, the majority of the entire sample, as well as a portion

of the at-risk sample scored lower than the average EDEQ score. This finding means overall participants in this sample may not have warranted a prevention, thus not taking it seriously or experiencing changes in EDEQ or body satisfaction because they were already at a satisfactory level. Future studies should examine and determine qualifications for eating disorder risk after data collection, so to decide the best method based on their sample.

While the current study aimed to measure help-seeking intentions, the measures utilized in the study may not have been the best options towards examining intentions to seek additional help for disordered eating behaviors or cognition. I utilized the Williams and Polaha (2014) measurement for help-seeking intentions, and although I adapted the measure into two separate items, this scale may not have been the best option. First, this measure did not specify a timeline on visiting a mental health provider. Therefore, answers for the baseline and post-prevention survey may have reported the same visit from the participant. Second, the intentions measure did not report intentions for seeking help for their potential eating disorder behaviors or pathology. The broad aspect of this item could have assessed for any intentions for any potential issue or diagnosis.

Finally, over half of the initial sample was not eligible for data analysis. According to post-hoc power analysis, if the entire recruited sample had eligible data for analysis, the study would have had enough power to detect the current study's small effects. While preliminary analysis examined potential differences between those who completed the study and those who dropped out, the high rate of attrition is a limitation. Future research should examine and implement an effective technique of keeping participants from dropping out of the study. One way may be to directly address the anxiety and/or depression that many individuals at risk of an eating disorder might be experiencing at the beginning of the study.

## **Future Directions**

Although the study had some limitations as well as unanticipated results, there is still potential for future research based on the outcome of this study. First, future studies should examine intentions to seek help with specific items pertaining to seeking help for their eating disorder risk. Previous prevention studies have yet to explore this, possibly because participants report increases in positive outcomes (e.g., positive affect, self-esteem, body satisfaction) and decreases in negative outcomes (e.g., eating disorder symptomology, drive for thinness, negative affect). While participants may not feel the need to seek help, the effects of secondary preventions fade (Yager & O’Dea, 2008); therefore, research should examine help-seeking so to either enhance or maintain the positive outcomes from the prevention. Furthermore, items measuring intentions should specifically assess various methods of seeking help, such as campus counseling, a licensed therapist, a family member or friend, or through a national hotline. Additionally, these items should be assessed immediately following the prevention. For example, Rickwood (1995) examined help-seeking intentions for individuals in late adolescence (i.e., 16-19-year-olds) five times within the span of twelve months. While controlling for previously-reported help-seeking intentions at baseline, Rickwood reported a trend of participants significantly decreasing help-seeking intentions after three months (Rickwood, 1995). Although the timeline for the current study’s last prevention session and the post-prevention survey was only one week, it may still explain the lack of help-seeking findings. Therefore, future research should assess help-seeking intentions immediately following a prevention.

Second, to explore a better avenue for increasing help-seeking intentions, future studies should provide a better avenue for seeking help. The current study provided contact information for the campus counseling center and the National Eating Disorder Association toll-free hotline.

A potentially better way to increase intentions to seek treatment is by providing a better avenue for participants to seek help at that time rather than merely providing them with information on counseling services. Levin and colleagues (2018) examined college students' intentions and options for mental health resources. Participants who reported higher intentions for help-seeking conveyed interest in self-disclosing their issue with a close friend or family member. Participants who disclosed lower help-seeking intentions reported interest in finding treatment options through an online website or mobile app. Furthermore, all participants reported preference for online self-help than in-person counseling (Levin, Stocke, Pierce, & Levin, 2018). Future research should therefore provide other avenues of help-seeking, such as literacy on how to disclose to a family member or friend and various online and mobile apps. Providing research-supported alternatives to help-seeking may increase help-seeking intentions more effectively than simply providing contact information for a national hotline and campus services.

Third, future studies should examine other prevention avenues. With the current research, true self was not significantly better from the other conditions and could have even been possibly detrimental. Therefore, further examining the true self intervention, either on its own or in combination with another prevention intervention, does not seem a fruitful avenue for future research with individuals at-risk of an eating disorder. It is worthwhile, however, to examine how other combination prevention interventions compare to CDI alone. Although a previous study compared CDI to other preventions (Becker et al., 2006), there is a lack of work exploring a combination of these preventions together. One potential combination could be CDI with media literacy, which is a prevention addressing and critiquing society and mass media's portrayal of the ideal body (Wilksch, Tiggemann, & Wade, 2006). CDI and media literacy have been compared in previous research, with the researchers reporting no significant difference



between the interventions; however, both preventions significantly decreased restrictive eating (Becker et al., 2005). Furthermore, media literacy has been noted to decrease thin idealization and weight concern (Posavac, Posavac, & Weigel, 2001; Rabak-Wagener, Eickhoff-Shemek, & Kelly-Vance, 1998). Providing the media literacy intervention before CDI could engage participants' introspection on their behaviors and cognitions. In addition, it is possible that providing media literacy would help participants separate the ideas of wellness and obsession while offering definitions and examples of unhealthy behaviors (e.g., obsessive exercising, calorie counting). This would not only enhance participants' knowledge of eating disorders, but may possibly bolster the effects of CDI.

Finally, future research should better target those who are more likely to be at risk of developing eating disorders. For example, researchers may wish to recruit members of college and intramural athletics, members of sororities, and various majors or groups that have previously been reported as a potential risk (e.g., those involved in dance, theater, or fashion; Becker et al., 2008; Johnson, et al., 1999). Recruiting from previously identified at-risk groups would make any secondary preventions more appropriate for analysis, as well as increase the importance of examining help-seeking within the at-risk population.

### **Concluding Remarks**

Since college is considered a transitional period for an eating disorder risk to become a diagnosis (Vohs, Heatherton, & Herrin, 2001), it is imperative for research to implement and examine preventions for those individuals on campus. The current study examined three preventions (CDI, true self intervention, and a combination of CDI and true self intervention) to examine differences between the preventions and a control (no prevention). I concluded CDI may still be the better prevention compared to true self intervention as well as the combination

prevention; however, the study's at-risk sample did not meet statistical power. Therefore, while the current study's findings were contrary to expectations, the study provided future directions for research as well as applications towards examining preventions for females at-risk of an eating disorder.

## REFERENCES

- Adkins, E. C., & Keel, P. K. (2005). Does “excessive” or “compulsive” best describe exercise as a symptom of bulimia nervosa?. *International Journal of Eating Disorders*, *38*(1), 24-29.
- Allison, K. C., & Park, C. L. (2004). A prospective study of disordered eating among sorority and nonsorority women. *International Journal of Eating Disorders*, *35*(3), 354–358.  
<https://doi.org/10.1002/eat.10255>
- American Psychological Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Andersen, S. M., & Williams, M. (1985). Cognitive/affective reactions in the improvement of self-esteem: When thoughts and feelings make a difference. *Journal of Personality and Social Psychology*, *49*(4), 1086.
- Arcelus, J., Mitchell, A. J., Wales, J., & Nielsen, S. (2011). Mortality rates in patients with anorexia nervosa and other eating disorders: a meta-analysis of 36 studies. *Archives of General Psychiatry*, *68*(7), 724–731.
- Arndt, J., Schimel, J., Greenberg, J., & Pyszczynski, T. (2002). The intrinsic self and defensiveness: Evidence that activating the intrinsic self reduces self-handicapping and conformity. *Personality and Social Psychology Bulletin*, *28*, 671–683.
- Arthur-Cameselle, J., Sossin, K., & Quatromoni, P. (2017). A qualitative analysis of factors related to eating disorder onset in female collegiate athletes and non-athletes. *Eating Disorders*, *25*(3), 199–215. <https://doi.org/10.1080/10640266.2016.1258940>
- Balantekin, K. N., Savage, J. S., Marini, M. E., & Birch, L. L. (2014). Parental encouragement of dieting promotes daughters’ early dieting. *Appetite*, *80*, 190–196.  
<https://doi.org/10.1016/j.appet.2014.05.016>

- Bardone-Cone, A. M., & Cass, K. M. (2007). What does viewing a pro-anorexia website do? An experimental examination of website exposure and moderating effects. *International Journal of Eating Disorders*, 40(6), 537-548.
- Bargh, J. A., McKenna, K. Y., & Fitzsimons, G. M. (2002). Can you see the real me? Activation and expression of the “true self” on the Internet. *Journal of social issues*, 58(1), 33-48.
- Becker, C. B., Bull, S., Schaumberg, K., Cauble, A., & Franco, A. (2008). Effectiveness of peer-led eating disorders prevention: a replication trial. *Journal of Consulting and Clinical Psychology*, 76(2), 347.
- Becker, A. E., Franko, D. L., Speck, A., & Herzog, D. B. (2003). Ethnicity and differential access to care for eating disorder symptoms. *International Journal of Eating Disorders*, 33(2), 205–212. <https://doi.org/10.1002/eat.10129>
- Becker, C. B., & Stice, E. (2017). From efficacy to effectiveness to broad implementation: Evolution of the Body Project. *Journal of Consulting and Clinical Psychology*, 85(8), 767–782. <https://doi.org/10.1037/ccp0000204>
- Blinder, B. J., Cumella, E. J., & Sanathara, V. A. (2006). Psychiatric comorbidities of female inpatients with eating disorders. *Psychosomatic Medicine*, 68(3), 454–462.
- Boone, L., Braet, C., Vandereycken, W., & Claes, L. (2013). Are maladaptive schema domains and perfectionism related to body image concerns in eating disorder patients?: Perfectionism, schemas, and eating disorders. *European Eating Disorders Review*, 21(1), 45–51. <https://doi.org/10.1002/erv.2175>
- Borkovec, T. D., Ray, W. J., & Stober, J. (1998). Worry: A cognitive phenomenon intimately linked to affective, physiological, and interpersonal behavioral processes. *Cognitive Therapy and Research*, 22(6), 561-576.

- Brechan, I., & Kvalem, I. L. (2015). Relationship between body dissatisfaction and disordered eating: Mediating role of self-esteem and depression. *Eating Behaviors, 17*, 49–58.  
<https://doi.org/10.1016/j.eatbeh.2014.12.008>
- Breithaupt, L., Rallis, B., Mehlenbeck, R., & Kleiman, E. (2016). Rumination and self-control interact to predict bulimic symptomatology in college students. *Eating Behaviors, 22*, 1–4. <https://doi.org/10.1016/j.eatbeh.2016.03.011>
- Britton, L. E., Martz, D. M., Bazzini, D. G., Curtin, L. A., & LeaShomb, A. (2006). Fat talk and self-presentation of body image: Is there a social norm for women to self-degrade? *Body Image, 3*(3), 247–254. <https://doi.org/10.1016/j.bodyim.2006.05.006>
- Brown, K. M. O., Bujac, S. R., Mann, E. T., Campbell, D. A., Stubbins, M. J., & Blundell, J. E. (2007). Further Evidence of Association of OPRD1 & HTR1D Polymorphisms with Susceptibility to Anorexia Nervosa. *Biological Psychiatry, 61*(3), 367–373.  
<https://doi.org/10.1016/j.biopsych.2006.04.007>
- Brown, T. A., Cash, T. F., & Mikulka, P. J. (1990). Attitudinal body-image assessment: Factor analysis of the Body-Self Relations Questionnaire. *Journal of Personality Assessment, 55*(2), 135-144.
- Brown, T. A., & Keel, P. K. (2015). A randomized controlled trial of a peer co-led dissonance-based eating disorder prevention program for gay men. *Behavior Research and Therapy, 74*, 1–10. <https://doi.org/10.1016/j.brat.2015.08.008>
- Brown, L. H., Silvia, P. J., Myin-Germeys, I., & Kwapil, T. R. (2007). When the Need to Belong Goes Wrong: The Expression of Social Anhedonia and Social Anxiety in Daily Life. *Psychological Science, 18*(9), 778–782. <https://doi.org/10.1111/j.1467-9280.2007.01978.x>

- Cachelin, F. M., & Striegel-Moore, R. H. (2006). Help-seeking and barriers to treatment in a community sample of Mexican American and European American women with eating disorders. *International Journal of Eating Disorders*, *39*(2), 154–161.  
<https://doi.org/10.1002/eat.20213>
- Carter, J. C., Blackmore, E., Sutandar-Pinnock, K., & Woodside, D. B. (2004). Relapse in anorexia nervosa: A survival analysis. *Psychological Medicine*, *34*(4), 671-679.
- Carter, F. A., Bulik, C. M., Lawson, R. H., Sullivan, P. F., & Wilson, J. S. (1996). Effect of mood and food cues on body image in women with bulimia and controls. *International Journal of Eating Disorders*, *20*(1), 65-76.
- Carter, J. C., Stewart, D. A., Dunn, V. J., & Fairburn, C. G. (1997). Primary prevention of eating disorders: might it do more harm than good? *International Journal of Eating Disorders*, *22*(2), 167–172.
- Cash, T. F. (2004). Body image: Past, present, and future. *Body Image*, *1*(1), 1-5.
- Centers for Disease Control and Prevention. (2016). National suicide statistics. *Violence Prevention*. <https://www.cdc.gov/violenceprevention/suicide/statistics/index.html>
- Centers for Disease Control and Prevention. (2015). Assessing your weight: BMI: About adult BMI. *Healthy Weight*.  
[https://www.cdc.gov/healthyweight/assessing/bmi/adult\\_bmi/index.html](https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html)
- Chase, A. K. (2001, September). Eating disorder prevention: An intervention for 'at-risk' college women. *Dissertation Abstracts International*, *62*, 1568.
- Ciao, A. C., & Latner, J. D. (2011). Reducing Obesity Stigma: The Effectiveness of Cognitive Dissonance and Social Consensus Interventions. *Obesity*, *19*(9), 1768–1774.  
<https://doi.org/10.1038/oby.2011.106>

- Ciarra, J. L., & Mathew, J. M. (2017). Social anxiety and disordered eating: The influence of stress reactivity and self-esteem. *Eating Behaviors, 26*, 177–181.  
<https://doi.org/10.1016/j.eatbeh.2017.03.011>
- Cohn, M. A., Fredrickson, B. L., Brown, S. L., Mikels, J. A., & Conway, A. M. (2009). Happiness unpacked: positive emotions increase life satisfaction by building resilience. *Emotion, 9*(3), 361.
- Cooley, E., & Toray, T. (2010). Disordered eating in college freshman women: A prospective study. *Journal of American College Health, 49*(5), 229-235. doi:  
10.1080/07448480109596308
- Crisp, A. H., Palmer, R. L., & Kalucy, R. S. (1976). How common is anorexia nervosa? A prevalence study. *The British Journal of Psychiatry, 128*(6), 549–554.  
<https://doi.org/10.1192/bjp.128.6.549>
- Crocker, J., Major, B., Steele, C., Gilbert, D. T., Fiske, S. T., & Lindzey, G. (1998). *The Handbook of Social Psychology*, 504-53.
- Crowley, O. V., McKinley, P. S., Burg, M. M., Schwartz, J. E., Ryff, C. D., Weinstein, M., ... Sloan, R. P. (2011). The interactive effect of change in perceived stress and trait anxiety on vagal recovery from cognitive challenge. *International Journal of Psychophysiology, 82*(3), 225–232. <https://doi.org/10.1016/j.ijpsycho.2011.09.002>
- Dally, P., & Sargant, W. (1966). Treatment and outcome of anorexia nervosa. *British Medical Journal, 2*(5517), 793.
- Davis, C., Kennedy, S. H., Ravelski, E., & Dionne, M. (1994). The role of physical activity in the development and maintenance of eating disorders. *Psychological Medicine, 24*(04), 957.  
<https://doi.org/10.1017/S0033291700029044>

- Drewnowski, A., Yee, D.K., & Krahn, D.D. (1988). Bulimia in college women: Incidence and recovery. *The American Journal of Psychiatry*, *145*(6), 753-755.
- “East Tennessee State University.” Forbes, Forbes Magazine, 2017, [www.forbes.com/colleges/EastTennesseeStateUniversity/](http://www.forbes.com/colleges/EastTennesseeStateUniversity/).
- Emond, M., Ten Eycke, K., Kosmerly, S., Robinson, A. L., Stillar, A., & Van Blyderveen, S. (2016). The effect of academic stress and attachment stress on stress-eaters and stress-undereaters. *Appetite*, *100*, 210–215. <https://doi.org/10.1016/j.appet.2016.01.035>
- Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2009). Stigma and help-seeking for mental health among college students. *Medical Care Research and Review*, *66*(5), 522–541. <https://doi.org/10.1177/1077558709335173>
- Fairburn, C. G., & Beglin, S. J. (1994). Assessment of eating disorders: Interview or self-report questionnaire?. *International Journal of Eating Disorders*, *16*(4), 363-370.
- Fenton, O., & Ecker, U. K. (2015). Memory updating in sub-clinical eating disorder: Differential effects with food and body shape words. *Eating Behaviors*, *17*, 103-106.
- Fernandez, S., & Pritchard, M. (2012). Relationships between self-esteem, media influence and drive for thinness. *Eating Behaviors*, *13*(4), 321–325.  
<https://doi.org/10.1016/j.eatbeh.2012.05.004>
- Festinger, L. (1957). *A theory of cognitive dissonance*, Evanston, IL: Row & Peterson.
- Fischer, E. H., & Farina, A. (1995). Attitudes toward seeking professional psychological help: A shortened form and considerations for research. *Journal of College Student Development*.
- Fitzsimmons-Craft, E. E., Harney, M. B., Koehler, L. G., Danzi, L. E., Riddell, M. K., & Bardone-Cone, A. M. (2012). Explaining the relation between thin ideal internalization and



- body dissatisfaction among college women: The roles of social comparison and body surveillance. *Body Image*, 9(1), 43-49.
- Fosha, D. (2005). Emotion, true self, true other, core state: Toward a clinical theory of affective change process. *The Psychoanalytic Review*, 92(4), 513-551.
- Franko, D. L. (1998). Secondary prevention of eating disorders in college women at risk. *Eating Disorders*, 6(1), 29–40. <https://doi.org/10.1080/10640269808249245>
- Francisco, R., Alarcão, M., & Narciso, I. (2012). Aesthetic sports as high-risk contexts for eating disorders — Young elite dancers and gymnasts perspectives. *The Spanish Journal of Psychology*, 15(01), 265–274. [https://doi.org/10.5209/rev\\_SJOP.2012.v15.n1.37333](https://doi.org/10.5209/rev_SJOP.2012.v15.n1.37333)
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56(3), 218.
- Gardner, R. M., Jappe, L. M., & Gardner, L. (2009). Development and validation of a new figural drawing scale for body-image assessment: the BIAS-BD. *Journal of Clinical Psychology*, 65(1), 113-122.
- Gavin, M. L. (2013, October). Compulsive Exercise. Retrieved January 5, 2018, from <https://kidshealth.org/en/teens/compulsive-exercise.htm>
- Gilbert, N., Arcelus, J., Cashmore, R., Thompson, B., Langham, C., & Meyer, C. (2012). Should I Ask About Eating? Patients' Disclosure of Eating Disorder Symptoms and Help-seeking Behaviour: Disclosure of Eating Disorders. *European Eating Disorders Review*, 20(1), 80–85. <https://doi.org/10.1002/erv.1143>
- Gillen, M. M., & Lefkowitz, E. S. (2012). Gender and racial/ethnic differences in body image development among college students. *Body Image*, 9(1), 126-130.
- Goffman, E. (1963). *Stigma*. Penguin Books.

- Goodwin, J., Behan, L., Kelly, P., McCarthy, K., & Horgan, A. (2016). Help-seeking behaviors and mental well-being of first year undergraduate university students. *Psychiatry Research, 246*, 129–135. <https://doi.org/10.1016/j.psychres.2016.09.015>
- Gratwick-Sarll, K., Mond, J., & Hay, P. (2013). Self-recognition of eating-disordered behavior in college women: Further evidence of poor eating disorders “mental health literacy”?. *Eating disorders, 21*(4), 310-327.
- Griffiths, S., Mond, J. M., Murray, S. B., & Touyz, S. (2015). The prevalence and adverse associations of stigmatization in people with eating disorders: Eating Disorder Stigma. *International Journal of Eating Disorders, 48*(6), 767–774.  
<https://doi.org/10.1002/eat.22353>
- Gruber, N. P., & Dilsaver, S. C. (1996). Bulimia and anorexia nervosa in winter depression: lifetime rates in a clinical sample. *Journal of Psychiatry and Neuroscience, 21*(1), 9.
- Guidi, J., Pender, M., Hollon, S. D., Zisook, S., Schwartz, F. H., Pedrelli, P., ... Petersen, T. J. (2009). The prevalence of compulsive eating and exercise among college students: An exploratory study. *Psychiatry Research, 165*(1–2), 154–162.  
<https://doi.org/10.1016/j.psychres.2007.10.005>
- Halliwell, E., & Diedrichs, P. C. (2014). Testing a dissonance body image intervention among young girls. *Health Psychology, 33*(2), 201–204. <https://doi.org/10.1037/a0032585>
- Hatzenbuehler, M. L., Nolen-Hoeksema, S., & Dovidio, J. (2009). How does stigma “get under the skin”?: The mediating role of emotion regulation. *Psychological Science, 20*(10), 1282-1289.
- Heppner, W. L., Kernis, M. H., Nezlek, J. B., Foster, J., Lakey, C. E., & Goldman, B. M. (2008). Within-Person Relationships Among Daily Self-Esteem, Need Satisfaction, and

- Authenticity. *Psychological Science*, 19(11), 1140–1145. <https://doi.org/10.1111/j.1467-9280.2008.02215.x>
- Hoerr, S. L., Bokram, R., Lugo, B., Bivins, T., & Keast, D. R. (2002). Risk for disordered eating relates to both gender and ethnicity for college students. *Journal of the American College of Nutrition*, 21(4), 307–314. <https://doi.org/10.1080/07315724.2002.10719228>
- Holland, G., & Tiggemann, M. (2017). “Strong beats skinny every time”: Disordered eating and compulsive exercise in women who post fitspiration on Instagram. *International Journal of Eating Disorders*, 50(1), 76–79. <https://doi.org/10.1002/eat.22559>
- Jiang, M. Y. W., & Vartanian, L. R. (2012). Attention and memory biases toward body-related images among restrained eaters. *Body Image*, 9(4), 503–509. <https://doi.org/10.1016/j.bodyim.2012.06.007>
- Johnson, C., Powers, P. S., & Dick, R. (1999). Athletes and eating disorders: the National Collegiate Athletic Association study. *International Journal of Eating Disorders*, 26(2), 179–188.
- Kantola, S. J., Syme, G. J., & Campbell, N. A. (1984). Cognitive dissonance and energy conservation. *Journal of Applied Psychology*, 69(3), 416–421. <https://doi.org/10.1037/0021-9010.69.3.416>
- Karr, T. M., Davidson, D., Bryant, F. B., Balague, G., & Bohnert, A. M. (2013). Sport type and interpersonal and intrapersonal predictors of body dissatisfaction in high school female sport participants. *Body Image*, 10(2), 210–219. <https://doi.org/10.1016/j.bodyim.2012.11.001>
- Klemchuk, H. P., Hutchinson, C. B., & Frank, R. I. (1990). Body dissatisfaction and eating-related problems on the college campus: Usefulness of the Eating Disorder Inventory with a nonclinical population. *Journal of Counseling Psychology*, 37(3), 297-305.

- Klos, L. A., Esser, V. E., & Kessler, M. M. (2012). To weigh or not to weigh: The relationship between self-weighing behavior and body image among adults. *Body Image, 9*(4), 551–554. <https://doi.org/10.1016/j.bodyim.2012.07.004>
- Lee, H. E., Taniguchi, E., Modica, A., & Park, H. (2013). Effects of witnessing fat talk on body satisfaction and psychological well-being: A cross-cultural comparison of Korea and the United States. *Social Behavior and Personality, 41*(8), 1279-1295.
- Lenton, A. P., Slabu, L., Sedikides, C., & Power, K. (2013). I feel good, therefore I am real: Testing the causal influence of mood on state authenticity. *Cognition & Emotion, 27*(7), 1202–1224. <https://doi.org/10.1080/02699931.2013.778818>
- Leon, G. R., Keel, P. K., Klump, K. L., & Fulkerson, J. A. (1997). The future of risk factor research in understanding the etiology of eating disorders. *Psychopharmacology Bulletin, 33*(3), 405.
- Levin, M. E., Stocke, K., Pierce, B., & Levin, C. (2018). Do college students use online self-help? A survey of intentions and use of mental health resources. *Journal of College Student Psychotherapy, 32*(3), 181-198.
- Levinson, C. A., & Rodebaugh, T. L. (2012). Social anxiety and eating disorder comorbidity: The role of negative social evaluation fears. *Eating Behaviors, 13*(1), 27–35. <https://doi.org/10.1016/j.eatbeh.2011.11.006>
- Linardon, J., & Mitchell, S. (2017). Rigid dietary control, flexible dietary control, and intuitive eating: Evidence for their differential relationship to disordered eating and body image concerns. *Eating Behaviors, 26*, 16–22. <https://doi.org/10.1016/j.eatbeh.2017.01.008>
- Mabe, A. G., Forney, K. J., & Keel, P. K. (2014). Do you “like” my photo? Facebook use maintains eating disorder risk. *International Journal of Eating Disorders, 47*(5), 516-523.

- Marques, L., Alegria, M., Becker, A. E., Chen, C., Fang, A., Chosak, A., & Diniz, J. B. (2011). Comparative prevalence, correlates of impairment, and service utilization for eating disorders across US ethnic groups: Implications for reducing ethnic disparities in health care access for eating disorders. *International Journal of Eating Disorders, 44*(5), 412–420. <https://doi.org/10.1002/eat.20787>
- Melioli, T., Rodgers, R. F., Rodrigues, M., & Chabrol, H. (2015). The role of body image in the relationship between Internet use and bulimic symptoms: three theoretical frameworks. *Cyberpsychology, Behavior, and Social Networking, 18*(11), 682-686.
- Mitchell, K. S., Mazzeo, S. E., Rausch, S. M., & Cooke, K. L. (2007). Innovative interventions for disordered eating: Evaluating dissonance-based and yoga interventions. *International Journal of Eating Disorders, 40*(2), 120–128. <https://doi.org/10.1002/eat.20282>
- Mond, J. M., & Calogero, R. M. (2009). Excessive exercise in eating disorder patients and in healthy women. *Australian & New Zealand Journal of Psychiatry, 43*(3), 227-234.
- Mond, J., Mitchison, D., Latner, J., Hay, P., Owen, C., & Rodgers, B. (2013). Quality of life impairment associated with body dissatisfaction in a general population sample of women. *BMC Public Health, 13*(1), 920.
- Mongrain, M., Chin, J. M., & Shapira, L. B. (2011). Practicing compassion increases happiness and self-esteem. *Journal of Happiness Studies, 12*(6), 963-981.
- National Institutes of Health. (2016). What people with anorexia nervosa need to know about osteoporosis. *National Institutes of Health-Osteoporosis and Bone Related Diseases, 1-3*.
- National Institutes of Health. (2011). Estimates of Funding for Various Research, Condition, and Disease Categories (RCDC) [Data set]. Retrieved from [report.nih.gov/rcdc/categories/](http://report.nih.gov/rcdc/categories/)

- Naylor, H., Mountford, V., & Brown, G. (2011). Beliefs about excessive exercise in eating disorders: The role of obsessions and compulsions. *European Eating Disorders Review*, *19*(3), 226–236. <https://doi.org/10.1002/erv.1110>
- Neumark-Sztainer, D., Bauer, K. W., Friend, S., Hannan, P. J., Story, M., & Berge, J. M. (2010). Family weight talk and dieting: How much do they matter for body dissatisfaction and disordered eating behaviors in adolescent girls?. *Journal of Adolescent Health*, *47*(3), 270-276.
- Neumark-Sztainer, D., van den Berg, P., Hannan, P. J., & Story, M. (2006). Self-Weighing in Adolescents: Helpful or Harmful? Longitudinal Associations with Body Weight Changes and Disordered Eating. *Journal of Adolescent Health*, *39*(6), 811–818. <https://doi.org/10.1016/j.jadohealth.2006.07.002>
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, *3*(5), 400-424.
- Ousley, L., Cordero, E. D., & White, S. (2007). Fat talk among college students: How undergraduates communicate regarding food and body weight, shape & appearance. *Eating Disorders*, *16*(1), 73–84. <https://doi.org/10.1080/10640260701773546>
- Patton, G. C., Selzer, R., Coffey, C. C. J. B., Carlin, J. B., & Wolfe, R. (1999). Onset of adolescent eating disorders: Population-based cohort study over 3 years. *Bmj*, *318*(7186), 765-768.
- Paxton, S. J., Schutz, H. K., Wertheim, E. H., & Muir, S. L. (1999). Friendship clique and peer influences on body image concerns, dietary restraint, extreme weight-loss behaviors, and binge eating in adolescent girls. *Journal of Abnormal Psychology*, *108*(2), 255.

- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385-401.
- Rickwood, D. J. (1995). The effectiveness of seeking help for coping with personal problems in late adolescence. *Journal of Youth and Adolescence, 24*(6), 685-703.
- Rodin, J., Silberstein, L. R., & Striegel-Moore, R. H. (1985). Women and weight: A normative discontent. In T. B. Sonderegger (Ed.), *Psychology and gender: Nebraska Symposium on Motivation*, (pp. 267-307). Lincoln: University of Nebraska Press.
- Rodriguez, R., Marchand, E., Ng, J., & Stice, E. (2008). Effects of a cognitive dissonance-based eating disorder prevention program are similar for Asian American, Hispanic, and White participants. *International Journal of Eating Disorders, 41*(7), 618–625.  
<https://doi.org/10.1002/eat.20532>
- Rogers, C. R. (1961). *On Becoming a Person: A Therapist's View of Psychotherapy*.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rudiger, J. A., & Winstead, B. A. (2013). Body talk and body-related co-rumination: Associations with body image, eating attitudes, and psychological adjustment. *Body Image, 10*(4), 462-471.
- Sala, M., & Levinson, C. A. (2016). The longitudinal relationship between worry and disordered eating: Is worry a precursor or consequence of disordered eating? *Eating Behaviors, 23*, 28–32. <https://doi.org/10.1016/j.eatbeh.2016.07.012>
- Sassaroli, S., Bertelli, S., Decoppi, M., Crosina, M., Milos, G., & Ruggiero, G. M. (2005). Worry and eating disorders: A psychopathological association. *Eating Behaviors, 6*(4), 301-307.

- Savoy, S., Hance, M.A., Pelfrey, S., Khaleghi, N., Solomon, R. (2018). Normative feedback and intentions to help friends with eating disorder symptoms. Manuscript submitted for publication.
- Schaumberg, K., & Anderson, D. (2016). Dietary restraint and weight loss as risk factors for eating pathology. *Eating Behaviors, 23*, 97–103.  
<https://doi.org/10.1016/j.eatbeh.2016.08.009>
- Schlegel, R. J., Hicks, J. A., Arndt, J., & King, L. A. (2009). Thine own self: True self-concept accessibility and meaning in life. *Journal of Personality and Social Psychology, 96*(2), 473–490. <https://doi.org/10.1037/a0014060>
- Schlegel, R. J., & Hicks, J. A. (2011). The True Self and Psychological Health: Emerging Evidence and Future Directions: The True Self. *Social and Personality Psychology Compass, 5*(12), 989–1003. <https://doi.org/10.1111/j.1751-9004.2011.00401.x>
- Schimmel, J., Arndt, J., Pyszczynski, T., & Greenberg, J. (2001). Being accepted for who we are: evidence that social validation of the intrinsic self reduces general defensiveness. *Journal of personality and social psychology, 80*(1), 35-52.
- Schutz, H. K., & Paxton, S. J. (2007). Friendship quality, body dissatisfaction, dieting and disordered eating in adolescent girls. *British Journal of Clinical Psychology, 46*(1), 67–83.
- Sedar, K.L. (2012). Comparing the efficacy of two cognitive dissonance interventions for eating pathology: Are online and face-to-face interventions equally effective? (unpublished doctoral dissertation). Virginia Commonwealth University, Richmond, Virginia.
- Sheldon, K. M., Ryan, R. M., Rawsthorne, L. J., & Ilardi, B. (1997). Trait self and true self: Cross-role variation in the Big-Five personality traits and its relations with psychological



- authenticity and subjective well-being. *Journal of Personality and Social Psychology*, 73(6), 1380–1393. <https://doi.org/10.1037/0022-3514.73.6.1380>
- Shisslak, C. M., Crago, M., Neal, M. E., & Swain, B. (1987). Primary prevention of eating disorders. *Journal of Consulting and Clinical Psychology*, 55(5), 660.
- Shroff, H., Reba, L., Thornton, L. M., Tozzi, F., Klump, K. L., Berrettini, W. H., ... & Goldman, D. (2006). Features associated with excessive exercise in women with eating disorders. *international Journal of Eating disorders*, 39(6), 454-461.
- Silverstone, P. H., & Salsali, M. (2003). Low self-esteem and psychiatric patients: Part I—The relationship between low self-esteem and psychiatric diagnosis. *Annals of General Hospital Psychiatry*, 2(1), 2.
- Simpson, C. C., & Mazzeo, S. E. (2017). Calorie counting and fitness tracking technology: Associations with eating disorder symptomatology. *Eating Behaviors*, 26, 89–92. <https://doi.org/10.1016/j.eatbeh.2017.02.002>
- Smith, A. R., Hames, J. L., & Joiner, T. E. (2013). Status Update: Maladaptive Facebook usage predicts increases in body dissatisfaction and bulimic symptoms. *Journal of Affective Disorders*, 149(1–3), 235–240. <https://doi.org/10.1016/j.jad.2013.01.032>
- Smith, E. R., & Mackie, D. M. (2007). *Social Psychology*. New York: Psychology Press.
- Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin*, 139(1), 213–240. <https://doi.org/10.1037/a0028931>
- Spielberger, C. D., Gorsuch, R., Lushene, P. R., Vagg, P. R., & Jacobs, A. G. (1977). *Spielberger state-trait anxiety inventory*. California: Mind Garden, 1977.

- Stein, K. F. (1996). The self-schema model: A theoretical approach to the self-concept in eating disorders. *Archives of Psychiatric Nursing, 10*(2), 96-109.
- Stice, E., Becker, C. B., & Yokum, S. (2013). Eating disorder prevention: Current evidence-base and future directions. *International Journal of Eating Disorders, 46*(5), 478–485.  
<https://doi.org/10.1002/eat.22105>
- Stice, E., Chase, A., Stormer, S., & Appel, A. (2001). A randomized trial of a dissonance-based eating disorder prevention program. *International Journal of Eating Disorders, 29*(3), 247–262.
- Stice, E., Akutagawa, D., Gaggar, A., & Agras, W. S. (2000). Negative affect moderates the relation between dieting and binge eating. *International Journal of Eating Disorders, 27*(2), 218-229.
- Stice, E., Killen, J. D., Hayward, C., & Taylor, C. B. (1998). Age of onset for binge eating and purging during late adolescence: a 4-year survival analysis. *Journal of abnormal psychology, 107*(4), 671.
- Stice, E., Marti, C. N., Spoor, S., Presnell, K., & Shaw, H. (2008). Dissonance and healthy weight eating disorder prevention programs: Long-term effects from a randomized efficacy trial. *Journal of Consulting and Clinical Psychology, 76*(2), 329–340.  
<https://doi.org/10.1037/0022-006X.76.2.329>
- Stice, E., Maxfield, J., & Wells, T. (2003). Adverse effects of social pressure to be thin on young women: An experimental investigation of the effects of fat talk? *International Journal of Eating Disorders, 34*(1), 108–117. <https://doi.org/10.1002/eat.10171>

- Stice, E., Rohde, P., Gau, J., & Shaw, H. (2009). An effectiveness trial of a dissonance-based eating disorder prevention program for high-risk adolescent girls. *Journal of Consulting and Clinical Psychology, 77*(5), 825–834. <https://doi.org/10.1037/a0016132>
- Stice, E., & Shaw, H. (2004). Eating disorder prevention programs: A meta-analytic review. *Psychological Bulletin, 130*(2), 206–227. <https://doi.org/10.1037/0033-2909.130.2.206>
- Stice, E., Shaw, H., Becker, C. B., & Rohde, P. (2008). Dissonance-based Interventions for the Prevention of Eating Disorders: Using Persuasion Principles to Promote Health. *Prevention Science, 9*(2), 114–128. <https://doi.org/10.1007/s11121-008-0093-x>
- Stice, E., Shaw, H., Burton, E., & Wade, E. (2006). Dissonance and healthy weight eating disorder prevention programs: a randomized efficacy trial. *Journal of Consulting and Clinical Psychology, 74*(2), 263.
- Stice, E., Shaw, H., & Marti, C. N. (2007). A Meta-Analytic Review of Eating Disorder Prevention Programs: Encouraging Findings. *Annual Review of Clinical Psychology, 3*(1), 207–231. <https://doi.org/10.1146/annurev.clinpsy.3.022806.091447>
- Striegel-Moore, R. H., Silberstein, L. R., Frensch, P., & Rodin, J. (1989). A prospective study of disordered eating among college students. *International Journal of Eating Disorders, 8*(5), 499-509.
- Strimas, R., & Dionne, M. M. (2010). Differential effects of self-weighing in restrained and unrestrained eaters. *Personality and Individual Differences, 49*(8), 1011–1014. <https://doi.org/10.1016/j.paid.2010.07.035>
- Stronge, S., Greaves, L., Milojev, P., West-Newman, T., Barlow, F., & Sibley, C. (2015). Facebook is linked to body dissatisfaction: Comparing users and non-users. *Sex Roles, 73*(1), 200-213. doi: 10.1007/s11199-015-0517-6.

- Tillman, K. S., Arbaugh, T., & Balaban, M. S. (2012). Campus programming for National Eating Disorders Awareness Week: An investigation of stigma, help-seeking, and resource knowledge. *Eating Behaviors, 13*(3), 281–284. <https://doi.org/10.1016/j.eatbeh.2012.03.010>
- Vogel, D. L., Armstrong, P. I., Tsai, P.-C., Wade, N. G., Hammer, J. H., Efstathiou, G., ... Topkaya, N. (2013). Cross-cultural validity of the Self-Stigma of Seeking Help (SSOSH) scale: Examination across six nations. *Journal of Counseling Psychology, 60*(2), 303–310. <https://doi.org/10.1037/a0032055>
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063.
- Watson, H. J., Steele, A. L., Bergin, J. L., Fursland, A., & Wade, T. D. (2011). Bulimic symptomatology: The role of adaptive perfectionism, shape and weight concern, and self-esteem. *Behaviour Research and Therapy, 49*(9), 565–572. <https://doi.org/10.1016/j.brat.2011.04.002>
- Welsh, E. M., Sherwood, N. E., VanWormer, J. J., Hotop, A. M., & Jeffery, R. W. (2009). Is frequent self-weighing associated with poorer body satisfaction? Findings from a phone-based weight loss trial. *Journal of Nutrition Education and Behavior, 41*(6), 425–428. <https://doi.org/10.1016/j.jneb.2009.04.006>
- Wilksch, S. M., Tiggemann, M., & Wade, T. D. (2006). Impact of interactive school-based media literacy lessons for reducing internalization of media ideals in young adolescent girls and boys. *International Journal of Eating Disorders, 39*(5), 385-393.

Williams, S. L., & Polaha, J. (2014). Rural parents' perceived stigma of seeking mental health services for their children: Development and evaluation of a new instrument. *Psychological Assessment, 26*(3), 763.

Wood, J. V., Elaine Perunovic, W. Q., & Lee, J. W. (2009). Positive self-statements: Power for some, peril for others. *Psychological Science, 20*(7), 860-866.

Yager, Z., & O'Dea, J. A. (2008). Prevention programs for body image and eating disorders on University campuses: a review of large, controlled interventions. *Health Promotion International, 23*(2), 173–189. <https://doi.org/10.1093/heapro/dan004>

APPENDICES  
APPENDIX A  
Questionnaire

**Demographics**

1. What is your gender identity?

- a. Man\*
- b. Woman
- c. Prefer not to Answer\*

\*If participant selects, participant will be taken to the end of the study and debriefed how they did not meet inclusion criteria

2. What is your race/ethnicity? (Check all that apply)

- a. Alaskan/Native American
- b. African American/Black
- c. Asian
- d. Caucasian/White
- e. Hispanic/Latino/Latina/Latinx
- f. Middle Eastern/North African
- g. Other

3. What is your current age?

- a. 18-19
- b. 20-21
- c. 22-23
- d. 24-26
- e. 27-30
- f. 31+\*

\*If participant selects, participant will be taken to the end of the study and debriefed how they did not meet inclusion criteria

4. Classification

- a. Freshman
- b. Sophomore
- c. Junior
- d. Senior
- e. Graduate

5. Which best represents you?

- a. Losing Weight
- b. Maintaining Weight
- c. Gaining Weight

6. How often do you go to the Health Clinic on campus?
  - a. Never Been
  - b. Rarely (once a semester)
  - c. Sometimes (2-3 times semester)
  - d. Often (once a month)
  - e. Frequent (once a week)
  
7. How often do you go to the Counseling Center on campus?
  - a. Never Been
  - b. Rarely (once a semester)
  - c. Sometimes (2-3 times semester)
  - d. Often (once a month)
  - e. Frequent (once a week)
  
8. How often do you feel stressed with extracurricular activities?
  - a. Never
  - b. Rarely
  - c. Sometimes
  - d. Often
  - e. Frequently
  
9. How often do you feel stressed with academics?
  - a. Never
  - b. Rarely
  - c. Sometimes
  - d. Often
  - e. Frequently

**Positive Affect Negative Affect Scale (PANAS; Watson et al., 1988)**

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word.

**Indicate the extent you have felt this way over the past week.**

1. Interested

1	2	3	4	5
Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely

2. Distressed

1	2	3	4	5
Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely

3. Excited
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
4. Upset
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
5. Strong
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
6. Guilty
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
7. Scared
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
8. Hostile
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
9. Enthusiastic
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
10. Proud
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
11. Irritable
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |



12. Alert
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
13. Ashamed
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
14. Inspired
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
15. Nervous
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
16. Determined
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
17. Attentive
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
18. Jittery
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
19. Active
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |
20. Afraid
- |                                |          |            |             |           |
|--------------------------------|----------|------------|-------------|-----------|
| 1                              | 2        | 3          | 4           | 5         |
| Very Slightly<br>or Not at All | A Little | Moderately | Quite a Bit | Extremely |

**State-Trait Anxiety Inventory (STAI, Form Y-1; Spielberger, Gorsuch, Lushene, Vagg, & Jaccobs, 1977)**

A number of statements which people have used to describe themselves are given below. Read each statement and then select the appropriate number below the statement to indicate how you feel right now, or at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1. I feel calm

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

2. I feel secure

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

3. I am tense

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

4. I feel strained

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

5. I feel at ease

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

6. I feel upset

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

7. I am presently worrying over possible misfortunes

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

8. I feel satisfied

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

9. I feel frightened

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

10. I feel comfortable

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

11. I feel self-confident

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

12. I feel nervous

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

13. I am jittery

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

14. I feel indecisive

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

15. I am relaxed

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

16. I feel content

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

17. I am worried

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

18. Select the number three.

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

19. I feel confused

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

20. I feel steady

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

21. I feel pleasant

1	2	3	4
Not at all	Somewhat	Moderately So	Very Much So

### Eating Disorder Examination Questionnaire (EDEQ; Fairburn and Beglin, 1994)

**Questions 1 to 12:** Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days) only.

**On how many of the past 28 days...**

1. Have you been deliberately trying to limit the amount of food you eat to influence your shape or weight (whether or not you have succeeded)?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

2. Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

3. Have you tried to exclude from your diet any foods that you like in order to influence your shape or weight (whether or not you have succeeded)?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

4. Have you tried to follow definite rules regarding your eating (for example, a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

5. Have you had a definite desire to have any empty stomach with the aim of influencing your shape or weight?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

6. Have you had a definite desire to have a totally flat stomach?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

7. Has thinking about food, eating, or calories made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

8. Has thinking about shape or weight made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

9. Have you had a definite fear of losing control over eating?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

10. Have you had a definite fear that you might gain weight?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

11. Have you felt fat?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

12. Have you had a strong desire to lose weight?

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

**Questions 13-18:** Please fill in the appropriate number in the boxes on the right.

Remember that the questions only refer to the past four weeks (28 days).

**Over the past four weeks (28 days) ...**

13. Over the past 28 days, how many times have you eaten what other people would regard as an unusually large amount of food (given the circumstances)?

\_\_\_\_\_ times

14. ...On how many of these times did you have a sense of having lost control over your eating (at the time that you were eating)? \_\_\_\_\_ times

15. Over the past 28 days, how many **DAYS** have such episodes of overeating occurred (i.e., you have eaten an unusually large amount of food and have had a sense of loss of control at the time)?

\_\_\_\_\_ days

16. Over the past 28 days, how many times have you made yourself sick (vomit) as a means of controlling your shape or weight?

\_\_\_\_\_ days

17. Over the past 28 days, how many times have you taken laxatives as a means of controlling your shape or weight?

\_\_\_\_\_ days

18. Over the past 28 days, how many times have you exercised in a “driven” or “compulsive” way as a means of controlling your weight, shape, or amount of fat, or to burn off calories?

\_\_\_\_\_ days

**Questions 19 to 21:** please circle the appropriate number. *Please note that the questions the term “binge eating” means eating what others would regard as an unusually large amount of food for the circumstances, accompanied by a sense of having lost control over eating.*

19. Over the past 28 days, on how many days have you eaten in secret (i.e., furtively)? .....Do not count episodes of binge eating

0	1	2	3	4	5	6
No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Everyday

20. On what proportion of the times that you have eaten have you felt guilty (felt that you've done wrong) because of its effect on your shape or weight? Do not count episodes of binge eating

0	1	2	3	4	5	6
None of the Times	Few of the Times	Less than Half of the Times	Half of the Times	More than Half of the Times	Most of the Time	Every Time

21. Over the past 28 days, how concerned have you been about other people seeing you eat?

...Do not count episodes of binge eating

0	1	2	3	4	5	6
Not at All		Slightly		Moderately		Markedly

**Questions 22 to 28:** Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days).

**Over the past 28 days.....**

22. Has your weight influenced how you think about (judge) yourself as a person?

0	1	2	3	4	5	6
Not at All		Slightly		Moderately		Markedly

23. Has your shape influenced how you think about (judge) yourself as a person?

0	1	2	3	4	5	6
Not at All		Slightly		Moderately		Markedly

24. How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less, often) for the next four weeks?

0	1	2	3	4	5	6
Not at All		Slightly		Moderately		Markedly

25. Select the number three.

0	1	2	3	4	5	6
Not at All		Slightly		Moderately		Markedly

26. How dissatisfied have you been with your weight?

0	1	2	3	4	5	6
Not at All		Slightly		Moderately		Markedly

27. How dissatisfied have you been with your shape?

0	1	2	3	4	5	6
Not at All		Slightly		Moderately		Markedly

28. How uncomfortable have you felt seeing your body (for example, seeing your shape in the mirror, in a shop window reflection, while undressing or taking a bath or shower)?

0	1	2	3	4	5	6
Not at All		Slightly		Moderately		Markedly

29. How uncomfortable have you felt about others seeing your shape or figure (for example, in communal changing rooms, when swimming, or wearing tight clothes)?

0	1	2	3	4	5	6
Not at All		Slightly		Moderately		Markedly

What is your weight at present? (please give your best estimate) \_\_\_\_\_

What is your height? (Please give your best estimate) \_\_\_\_\_

If female: Over the past three-to-four months have you missed any menstrual periods? \_\_\_\_\_

If so, how many? \_\_\_\_\_

Are you/Have you been taking birth control? \_\_\_\_\_

**Facebook Questions (adapted to general social media usage; Mabe, Forney, & Keel, 2014)**

1. How many hours do you spend browsing Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) per week?  
 \_\_\_\_\_ **hours**
2. How many Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) friends/followers do you have? An average is fine.  
 \_\_\_\_\_ **friends**
3. Do you believe Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) friends form opinions of you based on your profile?
  - a. No
  - b. Somewhat
  - c. Yes
4. What do you look for when selecting your profile picture?
  - a. \_\_\_\_\_



5. How often do you change your profile picture?
- a. Never
  - b. Once every 3 months or less frequent
  - c. Once a month
  - d. Twice a month
  - e. Once a week
  - f. More than once per week
  - g. Daily

6. How often do you un-tag yourself from a photo?

1	2	3	4	5
Never	Rarely	Sometimes	Usually	Always

- a. When you do un-tag yourself from photos, how likely is it because of

i. Unflattering of you

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

ii. Inappropriate for family/co-workers

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

iii. Not representative of who I am/what I am really like

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

iv. No longer dating the person in the photo

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

v. No longer friends with the person in the photo

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

vi. Other: \_\_\_\_\_

7. Do you use the Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) app on your phone, tablet, or smart device?

a. Yes

i. What device? \_\_\_\_\_

b. No

8. How often do you compare your photos to photos of your female friends?

1	2	3	4	5
Never	Rarely	Sometimes	Usually	Always

9. How important is it to you to have more likes or comments on your photos than your other female friends?

1	2	3	4	5
Not at all	Somewhat	Moderately	Very	Extremely

10. How important is it to you that people “like” your photos?

1	2	3	4	5
Not at all	Somewhat	Moderately	Very	Extremely

11. How important is it to you that people “like” your status updates?

1	2	3	4	5
Not at all	Somewhat	Moderately	Very	Extremely

12. How important is it to you that people comment on your photos?

1	2	3	4	5
Not at all	Somewhat	Moderately	Very	Extremely

13. How important is it to you that people comment on your status updates?

1	2	3	4	5
Not at all	Somewhat	Moderately	Very	Extremely

14. How often do you take photos in public for the main purpose of posting them on Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.)?

1	2	3	4	5
Never	Rarely	Sometimes	Usually	Always

## Maladaptive Facebook Usage Scale

(adapted to all social media; Smith, Hames, & Joiner, 2013)

**15.** When I update my Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) status, I expect others to comment on it.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Agree	Strongly Agree

**16.** When I update my Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) status and no one comments on it, I tend to be disappointed.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Agree	Strongly Agree

**17.** I tend to read the Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) status updates of others to see if others are feeling the way I am.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Agree	Strongly Agree

**18.** When I update my Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) status, it does not affect me if no one comments on it. (reverse scored)

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Agree	Strongly Agree

**19.** I update my Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) status multiple times per day.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Agree	Strongly Agree

**20.** Reading the Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) status updates of others tends to make me feel down on myself.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Agree	Strongly Agree

**21.** I sometimes write negative things about myself in my Social media (i.e. Facebook, Instagram, Twitter, Snapchat, Pinterest, Tumblr, etc.) status updates to see if others will respond with negative comments about me.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Agree	Strongly Agree

### **Rosenberg Self-Esteem Scale (Rosenberg, 1965)**

**Instructions:** Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On a whole, I am satisfied with myself
 

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree
  
2. At times I think I am no good at all
 

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree
  
3. I feel that I have a number of good qualities
 

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree
  
4. I am able to do things as well as most other people
 

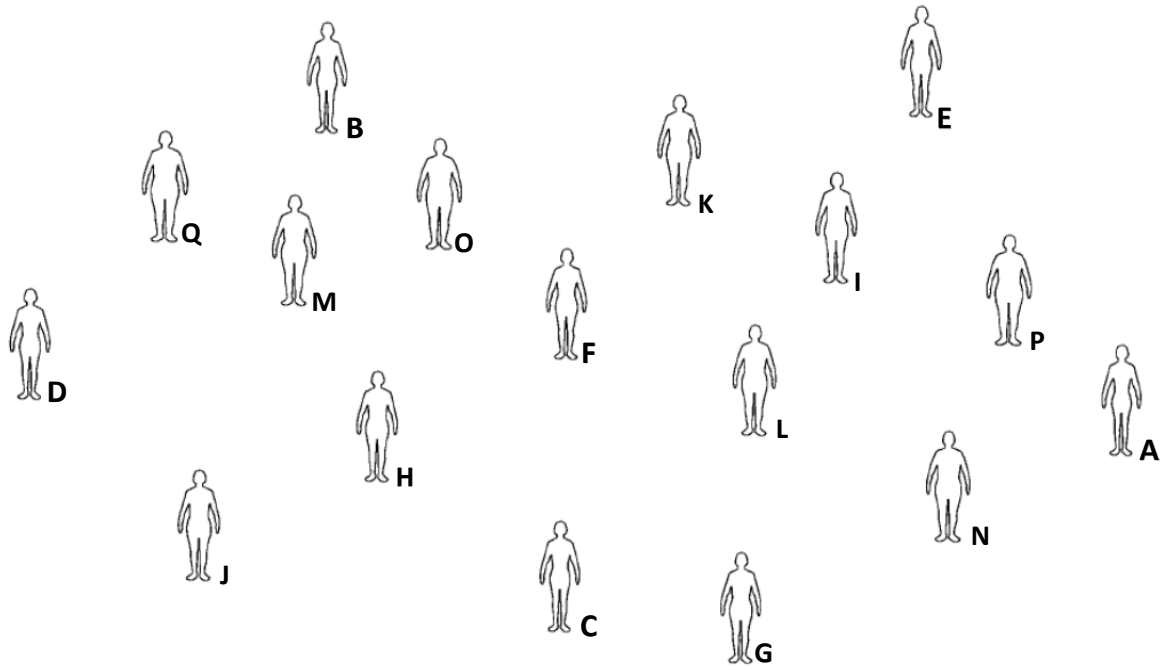
1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree
  
5. I feel I do not have much to be proud of.
 

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree
  
6. I certainly feel useless at times
 

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

7. I feel that I'm a person of worth, at least on an equal plane with others
- |                   |          |       |                |
|-------------------|----------|-------|----------------|
| 1                 | 2        | 3     | 4              |
| Strongly Disagree | Disagree | Agree | Strongly Agree |
8. I wish I could have more respect for myself
- |                   |          |       |                |
|-------------------|----------|-------|----------------|
| 1                 | 2        | 3     | 4              |
| Strongly Disagree | Disagree | Agree | Strongly Agree |
9. All in all, I am inclined to feel that I am a failure
- |                   |          |       |                |
|-------------------|----------|-------|----------------|
| 1                 | 2        | 3     | 4              |
| Strongly Disagree | Disagree | Agree | Strongly Agree |
10. Select the number three.
- |                   |          |       |                |
|-------------------|----------|-------|----------------|
| 1                 | 2        | 3     | 4              |
| Strongly Disagree | Disagree | Agree | Strongly Agree |
11. I take a positive attitude toward myself.
- |                   |          |       |                |
|-------------------|----------|-------|----------------|
| 1                 | 2        | 3     | 4              |
| Strongly Disagree | Disagree | Agree | Strongly Agree |

**Body Image Assessment Scale-Body Dimensions (BIAS-BD; Gardner, Jappe, & Gardner, 2009)**



1. Please select the letter that represents your body type \_\_\_\_\_
2. Please select the letter that represents your ideal body type. \_\_\_\_\_

**Body Area Satisfaction Subscale (BASS; Falconer & Neville, 2000)**

**INSTRUCTIONS:** Please select the number that best represents your answer.

1 = Very Dissatisfied: I am not confident with my body image

2 = Mostly Dissatisfied: I feel uncomfortable with my body image

3 = Neither Satisfied nor Dissatisfied with my body image

4 = Mostly Satisfied: I feel comfortable with my body image

5 = Very Satisfied: I feel confident with my body image

	Very Dissatisfied	Mostly Dissatisfied	Neither	Mostly Satisfied	Very Satisfied
1. Face Complexion	1	2	3	4	5
2. Eyes	1	2	3	4	5
3. Nose	1	2	3	4	5
4. Mouth	1	2	3	4	5
5. Forehead	1	2	3	4	5
6. Ears	1	2	3	4	5
7. Chin	1	2	3	4	5
8. Hips.	1	2	3	4	5
9. Thighs	1	2	3	4	5
10. Legs	1	2	3	4	5
11. Buttocks	1	2	3	4	5
12. Chest/Breast	1	2	3	4	5
13. Shoulders	1	2	3	4	5
14. Arms	1	2	3	4	5

15. Waist	1	2	3	4	5
16. Stomach	1	2	3	4	5
17. Muscle Tone	1	2	3	4	5
18. Weight	1	2	3	4	5
19. Overall Appearance	1	2	3	4	5

20. Please provide your IDEAL height (in feet and inches) and weight (in pounds).

Height: \_\_\_\_\_ ft. \_\_\_\_\_ in.

Weight: \_\_\_\_\_ lbs.

21. Please provide your CURRENT height (in feet and inches) and weight (in pounds).

Height: \_\_\_\_\_ ft. \_\_\_\_\_ in.

Weight: \_\_\_\_\_ lbs.

22. Currently, how do you describe yourself.

1	2	3	4	5
---	---	---	---	---

Very  
unhealthy

Very healthy

23. Currently, how do you describe yourself

1	2	3	4	5
---	---	---	---	---

Not fit at all

Very fit



24. Currently, how do you describe your weight?

- a. Very underweight
- b. Underweight
- c. Average
- d. Overweight
- e. Very overweight

**Body-Self Relations Questionnaire (BSRQ; Brown, Cash, & Mikulka, 1990)**

**Instructions:** Please indicate the extent to which each statement pertains to you personally.

- |    |   |          |               |       |                |
|----|---|----------|---------------|-------|----------------|
| 1. | My body is sexually appealing               |          |               |       |                |
|    | 1   | 2        | 3             | 4     | 5              |
|    | Strongly                                    | Disagree | Neither Agree | Agree | Strongly Agree |
|    | Disagree                                    |          | nor Disagree  |       |                |
| 2. | I like my looks just the way they are       |          |               |       |                |
|    | 1   | 2        | 3             | 4     | 5              |
|    | Strongly                                    | Disagree | Neither Agree | Agree | Strongly Agree |
|    | Disagree                                    |          | nor Disagree  |       |                |
| 3. | Most people would consider me good-looking  |          |               |       |                |
|    | 1   | 2        | 3             | 4     | 5              |
|    | Strongly                                    | Disagree | Neither Agree | Agree | Strongly Agree |
|    | Disagree                                    |          | nor Disagree  |       |                |
| 4. | I like the way I look without my clothes on |          |               |       |                |
|    | 1   | 2        | 3             | 4     | 5              |
|    | Strongly                                    | Disagree | Neither Agree | Agree | Strongly Agree |
|    | Disagree                                    |          | nor Disagree  |       |                |
| 5. | I like the way my clothes fit m             |          |               |       |                |
|    | 1   | 2        | 3             | 4     | 5              |
|    | Strongly                                    | Disagree | Neither Agree | Agree | Strongly Agree |
|    | Disagree                                    |          | nor Disagree  |       |                |
| 6. | I dislike my physique                       |          |               |       |                |
|    | 1   | 2        | 3             | 4     | 5              |
|    | Strongly                                    | Disagree | Neither Agree | Agree | Strongly Agree |
|    | Disagree                                    |          | nor Disagree  |       |                |

7. I am physically unattractive
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
8. Before going out in public, I always notice how I look
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
9. I am careful to buy clothes that will make me look my best
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
10. I check my appearance in the mirror whenever I can
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
11. Before going out, I usually spend a lot of time getting ready
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
12. It is important that I always look good
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
13. I use very few grooming products
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
14. I am self-conscious if my grooming isn't right
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
15. I usually wear whatever is handy without caring how it looks
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |

16. I don't care what people think about my appearance
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
17. I take special care with my hair grooming
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
18. I never think about my appearance
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
19. I am always trying to improve my physical appearance
- |                   |          |                            |       |                |
|-------------------|----------|----------------------------|-------|----------------|
| 1                 | 2        | 3                          | 4     | 5              |
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |

**Center for Epidemiologic Studies Depression Scale (CES-D, NIMH)**

**Instructions:** Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

**During the past week...**

20. I was bothered by things that usually don't bother me.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
21. I did not feel like eating; my appetite was poor.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
22. I felt that I could not shake off the blues even with help from my family and/or friends.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |

23. I felt I was just as good as other people.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
24. I had trouble keeping my mind on what I was doing.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
25. I felt depressed.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
26. I felt that everything I did was an effort.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
27. I felt hopeful about the future.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
28. I thought my life had been a failure.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
29. I felt fearful.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |

30. My sleep was restless.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
31. I was happy.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
32. I talked less than usual.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
33. I felt lonely.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
34. People were unfriendly.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
35. I enjoyed life.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
36. I had crying spells.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |

37. I felt sad.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
38. I felt that people dislike me.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |
39. I could not get “going”.
- |                                  |                           |  |                                 |
|----------------------------------|---------------------------|--|---------------------------------|
| 1                                | 2                         | 3  | 4                               |
| Rarely or none (less than 1 day) | Some or little (1-2 days) | Occasionally or a moderate amount (3-4 days) | Most of all the time (5-7 days) |

**Self-Stigma of Seeking Help Scale (Vogel, et al., 2013)**

**Instructions:** People at times find that they face problems that they consider seeking help for. This can bring up reactions about what seeking help would mean. Please use the 5-point scale to rate the degree to which each item describes how you might react in this situation.

1. I would feel inadequate if I went to a therapist for psychological help.
- |                   |          |                           |       |                |
|-------------------|----------|---------------------------|-------|----------------|
| 1                 | 2        | 3                         | 4     | 5              |
| Strongly Disagree | Disagree | Neither Disagree or Agree | Agree | Strongly Agree |
2. My self-confidence would NOT be threatened if I sought professional help.
- |                   |          |                           |       |                |
|-------------------|----------|---------------------------|-------|----------------|
| 1                 | 2        | 3                         | 4     | 5              |
| Strongly Disagree | Disagree | Neither Disagree or Agree | Agree | Strongly Agree |
3. Seeking psychological help would make me feel less intelligent.
- |                   |          |                           |       |                |
|-------------------|----------|---------------------------|-------|----------------|
| 1                 | 2        | 3                         | 4     | 5              |
| Strongly Disagree | Disagree | Neither Disagree or Agree | Agree | Strongly Agree |
4. My self-esteem would increase if I talked to a therapist.
- |                   |          |                           |       |                |
|-------------------|----------|---------------------------|-------|----------------|
| 1                 | 2        | 3                         | 4     | 5              |
| Strongly Disagree | Disagree | Neither Disagree or Agree | Agree | Strongly Agree |

5. My view of myself would not change just because I made the choice to see a therapist.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

6. It would make me feel inferior to ask a therapist for help.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

7. I would feel okay about myself if I made the choice to seek professional help.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

8. If I went to a therapist I would be less satisfied with myself.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

9. My self-confidence would remain the same if I sought help for a problem I could not solve.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

10. I would feel worse about myself if I could not solve my own problems.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree

### **Attitudes Toward Seeking Professional Help (Fischer & Farina,1995)**

**Instructions:** Read each statement carefully and indicate your degree of agreement using the scale below. In responding, please be completely candid.

1. 1. If I believed I was having a mental breakdown, my first inclination would be professional attention.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

5. I would want to get psychological help if I were worried or upset for a long period of time.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

6. I might want to have psychological counseling in the future.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

7. A person with an emotional problem is not likely to solve it alone; he or she is likely to solve it with professional help.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

9. A person should work out his or her own problems; getting psychological counseling would be a last resort.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

10. Personal and emotional troubles, like many things, tend to work out by themselves.

0	1	2	3
Disagree	Partially Disagree	Partially Agree	Agree

### Willingness to Seek Services Scale (Williams & Polaha, 2014)

1. I have gone to see a counselor, therapist, or psychologist in a center that is designated to provide mental/behavioral health services

Yes

No

2. I would go see a counselor, therapist, or psychologist in a center that is designated to provide mental/behavioral health services

Not at all

Somewhat

Neutral

Possibly

Definitely



APPENDIX B  
**True Self Prevention Material**

Please, take time to create words you believe describe your true self. We would like for you to create at least 10 words within your 5-minute timeframe and then reflect on the words you chose.

You will not be able to proceed until your time is complete. Do not feel like you must utilize these words, but feel free to use them. These are to help guide you throughout this process.

Sense of Humor	Innovative	Resilient
Dependable	Logical	Ethical
Sincere	Generous	Flexible
Good Natured	Candid	Educated
Trustworthy	Industrious	Charismatic
Smart	Understanding	Charming
Compassionate	Interesting	Genuine
Gentle	Caring	Hospitable
Strong	Appreciative	Independent
Creative	Loyal	Integrity
Survivor	Courteous	Teammate
Wise	Cooperative	Adaptable
Funny	Patient	Altruistic
Warm	Tolerant	Approachable
Honest	Respectful	Devoted
Passionate	Spiritual	Helpful
Calm	Open-Minded	Humble
Sensible	Adventurous	Imaginative
Energetic	Efficient	Influential
Unique	Perseverance	Insightful
Responsible	Patriotic	Reasonable
Stewardship	Environmentalism	Reliable
Introspective	Pragmatic	Strength
Uplifting	Warm	Virtuous

APPENDIX C  
**Cognitive Dissonance Session**

**Session 1**

**Instructions:** Write a letter to a younger girl who is struggling with her body image about the costs associated with trying to look like the appearance ideal. Think of as many costs as possible. If you want, you can discuss costs you've possibly experienced while trying to obtain the ideal body image. Please spend at least 5 minutes on this letter. The page will not allow you to move on until the 5 minutes are complete.

**Session 2**

**Instructions:** Spend some time writing about positive aspects of yourself. Please, make sure some of the positive statements are about your physique. We would like for you to write at least 10 positive qualities about yourself, but you may go over. Please spend at least 5 minutes on this activity. The page will not allow you to move on until the 5 minutes are complete.

**Session 3**

**Instructions:** Come up with a rebuttal for the following statements. Pretend a close friend or family member is saying these things to you. We would like for you to write a convincing statement(s) to persuade your loved one from these statements. Please spend at least 5 minutes on this activity. The page will not allow you to move on until the 5 minutes are complete.

Statements:

1. "Swimsuit season is just around the corner, so I think I will start skipping breakfasts to take off some extra weight."
2. A girl suffering from Anorexia says, "I am sure that people will accept me and love me if I only lose a little more weight."
3. "I just saw an ad for this new weight loss pill, I'm going to order it right away. I can finally be as thin as I want."
4. An anorexic says to her friend, "I can't meet you for dinner tonight because I have to go spend a few hours at the gym. I only went for two hours yesterday."
5. "I feel a little dizzy lately, which may be from these diet pills I'm on, but I don't care because I have already lost 10 pounds."
6. "Most people have weak will power and give in to hunger – I will show people how much self-control I have by not eating anything but grapefruit."
7. "To be the best runner, I have to be down to my lightest weight. I am only doing this for my health – this will help me avoid injuries."
8. "I've been running 3 miles after breakfast, lunch, and dinner because my boyfriend says he doesn't like girls with fat legs."

9. "I will never have any fun on the beach this spring break unless I have a completely flat stomach and toned thighs."
10. "Anyone could have the body of a supermodel if they really wanted it."
11. "No guy is ever going to ask me on a date unless I drop some of this weight."
12. "I am never going to be selected by a sorority unless I lose 10 pounds."
13. "I want to make sure I don't gain weight this year, so I am going to only eat a banana for breakfast and an apple for lunch every day."
14. "I can wear shorts this summer until I get a thigh gap"
15. "I want to be the best in my sport, so I'm going to exercise 5 hours a day, and only consume protein shakes."

## APPENDIX D

### Study Information Sheet

#### ETSU End of Study Information

Thank you for participating in this research today. We would like to remind you about what we are studying. We are interested in different prevention tools examining individuals at risk of an eating disorder and other daily experiences (i.e. affect, anxiety, social media, intentions to seek help). Should you have any questions or concerns regarding this research, please e-mail Margaret Hance at [hancem1@etsu.edu](mailto:hancem1@etsu.edu) or Dr. Ginni Blackhart at [blackhar@etsu.edu](mailto:blackhar@etsu.edu). In addition, if you wish to speak with someone other than the researchers, you may contact The Office for the Protection of Human Research Subjects at East Tennessee State University at (423) 439-6053.

If you would like to speak to a professional, information for counseling services and national confidential hotlines will be provided for you on the next screen.

Again, thank you for completing our study. Have a great day.

#### SFA End of Study Information

Thank you for participating in this research today. We would like to remind you about what we are studying. We are interested in different prevention tools examining individuals at risk of an eating disorder and other daily experiences (i.e. affect, anxiety, social media, intentions to seek help). Should you have any questions or concerns regarding this research, please e-mail Margaret Hance at [hancem1@etsu.edu](mailto:hancem1@etsu.edu) or Dr. Sarah Savoy at [savoysc@sfasu.edu](mailto:savoysc@sfasu.edu). You may also contact the chairperson of the Institutional Review Board or The Office of Research and Sponsored Programs at Stephen F. Austin State University at (936) 468-6606.

If you would like to speak to a professional, information for counseling services and national confidential hotlines will be provided for you on the next screen.

Again, thank you for completing our study. Have a great day.

## APPENDIX E

### **Counseling Services Information**

If you feel distressed because of this study and would like counseling or support, please see the contact information below for campus counseling services, or national hotlines (toll free).

#### **Counseling Services – East Tennessee State University**

Counseling Center Phone: (423) 439 – 3333

Mental Health Help Line: (423) 439-4841

Email: [counselingcenter@etsu.edu](mailto:counselingcenter@etsu.edu)

Location: D.P. Culp Center 3rd floor

Walk-In Hours:

Monday-Thursday

10am-11:30am

2pm-3:30pm

#### **Counseling Services – Stephen F Austin State University**

Hours: 8:00 a.m. – 5:00 p.m. - Monday- Friday

(936)468-2401

The Counseling Services office is located in the Rusk Building on the third floor. Appointments may be made in person or by telephone. If you are in need of assistance after hours or over the weekend or holiday break, please call: University Police (936) 468-2608 or MHMR Crisis Line: (800) 392-8343.

**National Eating Disorder Services**-trained operators will assist you, toll free, and confidential

**Phone Support:** 1-800-931-2237

**Online Chat:** <https://www.nationaleatingdisorders.org/help-support/contact-helpline>

**Text Support:** "NEDA" to 741741

**NEDA Hours:** Monday- Thursday, 9:00 am – 9:00 pm and Friday, 9:00 am- Friday 5:00 pm (closed on holidays)

VITA

MARGARET A. HANCE

- Education: Batesville Senior High School, Batesville, Arkansas, May 2009  
B.A. Psychology, Lyon College, Batesville, Arkansas, May 2013  
M.A. Psychology, Stephen F. Austin State University,  
Nacogdoches, Texas, May 2016  
Ph.D. Psychology, Experimental Psychology Concentration, East  
Tennessee State University, Johnson City, Tennessee, May  
2019
- Professional Experience: Graduate Instructor, Department of Psychology, Stephen F. Austin  
State University, August 2014 - May 2016  
Research Mentor, Department of Psychology, East Tennessee State  
University, August 2016 – May 2019  
Graduate Instructor, Department of Psychology, East Tennessee  
State University, January 2017 – May 2019
- Publications: Ripley, K. R., Hance, M. A., Kerr, S. A., Brewer, L. E., & Conlon,  
K. E. (2018). Uninformed consent? The effect of  
participant characteristics and delivery format on informed  
consent. *Ethics & Behavior*, 28(1), 517-543.  
Hance, M.A., Blackhart, G., & Dew, M. (2018). Free to be me:  
The relationship between the true self, rejection sensitivity,  
and use of online dating sites. *The Journal of Social  
Psychology*, 158(4), 421-429.

Honors and Awards: Psychology Department Teaching Award: Assistant Level, East Tennessee State University, 2017

Psychology Department Research Award, East Tennessee State University, 2018

School of Graduate Studies Excellence in Teaching Award: Associate Level, East Tennessee State University, 2019

Psychology Department Teaching Award: Associate Level, East State University, 2019

Psychology Department Service Award: Associate Level, East Tennessee State University, 2019