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A Pilot Study of the Effects of Mentoring on Disordered Eating Behavior

by

Marya C. McCarroll

Submitted to the Department of Psychology

Eastern Michigan University

In partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

in

Clinical Psychology

Dissertation Committee:

Michelle R. Byrd, PhD., Chair

Karen Saules, PhD.

Thomas Schmitt, PhD.

Judith Brooks, PhD., R.D.

Ypsilanti, Michigan

April 30, 2012

Dedication

This dissertation is dedicated to my husband, Zachary Harding, who is my greatest source of support, encouragement, and laughter, and to my sons, Nicholas and Maxwell, who inspire me to be the best person I can be. I am extremely grateful to my mother, Karen Bunge, who has perpetually provided me with a role model of an incredibly strong woman who always accomplishes her goals, and my father, Francis A. McCarroll, who nurtured a love of learning in me from the moment I was capable of asking questions. I am also eternally indebted to my grandparents: Corinne Beeby, who always saw the good in me and motivated me to live up to her expectations, Julia McCarroll, who was one of the most intelligent and toughest women I have ever known, and Frank J. McCarroll, who always told me to never be friends with anyone who was not smarter than I. Finally, I could not have completed this project without the patience, understanding, and love of all my friends and family who acted as sounding boards and shoulders to cry on during all the trials and tribulations that were presented during this process.

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Abstract

Subclinical levels of disordered eating are problematic for both adolescent girls and young women. Not only could subclinical disordered eating lead to full threshold eating disorders without intervention, it is also associated with higher levels of psychological problems such as depression, anxiety, substance abuse, and suicide. Unfortunately, most current interventions for subclinical eating disorders demonstrate limited effectiveness in creating lasting changes in disordered eating thoughts and behaviors. This study contributes to the literature by investigating a novel intervention for addressing subclinical disordered eating in both adolescent girls and undergraduate women. Specifically, this study attempted to detect changes in measures of psychological distress, disordered eating behavior, objectified body-consciousness, feminist identity, and self-esteem in women and adolescent girls involved in a feminist mentoring program. It was hypothesized that participation in the mentoring program would decrease levels of psychological distress, disordered eating behavior, and objectified body-consciousness, in addition to raising levels of self-esteem and feminist identification for both women and adolescent girls. Further, it was hypothesized that participation in mentoring would decrease substance abuse for college women. Although not all of the hypotheses were confirmed, there were some significant findings that demonstrate beneficial effects of this program for both girls and women. Specifically, girls who participated in the program experienced a significant decline in disordered eating behavior. In addition, both girls and women who participated in the program showed a significant increase in feminist identity. The implications of these results, limitations of the present study, and directions for future research are discussed.

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Introduction

Despite a low prevalence of eating disorders (ED) in the general population, adolescent girls and young women display relatively high rates of these disorders. Moreover, a significantly higher number of adolescent girls and young women are affected by *subclinical* disordered eating behaviors and cognitions. Approximately half of adolescent girls referred to ED clinics are classified as having subclinical levels of the disorders (Mitrany, 1992; Bunnell & Shenker, 1990). Problems in defining subclinical ED have made it difficult to gain an accurate picture of the prevalence and course of this problem, but some studies show that subclinical ED behaviors can persist, worsen, and/or develop to full threshold ED (Graber, Brooks-Gunn, Paikoff, and Warren 1994; Sancho, Arijia, Asorey, & Canals, 2007; Stice, Killen, Hayward, & Barr Taylor, 1998). Regardless of whether or not eating behaviors worsen or develop into full threshold ED, subclinical levels remain problematic as adolescent girls and young women with subclinical ED experience higher rates of suicide and medical problems (Crow, Eisenberg, Story, Neumark-Sztainer, 2008; Kreipe, Strauss, Hodgman, & Ryan, 1989; Pinheiro et al., 2007; Stice et al., 1999; Stice et al., 2005). In addition, subclinical ED is frequently comorbid with anxiety, depression, and substance abuse and use (Killen, Taylor, Telch, Robinson, Maron, & Saylor, 1987; Lewinsohn, Striegel-Moore, & Seeley, 2000; Patton, Coffey, & Sawyer, 2003; Santos, Richards, & Bleckley, 2007; Piran & Robinson, 2006; Wonderlich, 2006).

Most “treatment” programs for subclinical ED work to prevent the development of full threshold ED, and some have data in support of their efficacy (e.g. Matussek, Wendt, & Wiseman, 2004; Stice, Chase, Stormer, & Appel, 2001; Stice et al., 2000; Stice, Trost, & Chase, 2003). However, effect sizes are small and improvements fail to remain at long-term follow-up.

In addition, although several programs have been successful in changing mediating or moderating variables, few interventions have shown changes in *actual* eating behavior. Taken together, these findings suggest a need for the development of additional intervention/prevention programs.

Although they have not been studied in relation to eating disorders, mentoring programs have been shown to help adolescents cope with and reduce problematic behaviors in several domains, some of which are correlated with disordered eating behavior, such as substance use/abuse (Rhodes, Reddy, & Grossman, 2005), self-esteem (Grossman & Rhodes, 2005), depression, and anxiety (Jackson, 2002; Jent & Niec, 2006). There is also some evidence that mentoring is beneficial for mentors as well (Diversi & Mecham, 2005; McLearn, Colasanto, Schoen, & Shapiro, 1999).

The purpose of the present study was to investigate the effects of a mentoring program on subclinical disordered eating behavior, self-esteem, objectified body consciousness, psychological distress, and feminist identity in both adolescent mentees and young adult mentors. In addition, changes in substance use in mentors were measured. This study contributes to the literature by investigating a potential intervention for disordered eating behavior and correlates of this behavior in adolescent girls and young women that has not been previously researched.

Literature Review

Defining Subclinical Eating Disorders

Although many studies have shown high rates of disordered eating problems that do not reach full diagnostic criteria among adolescent girls and young women (Ackard, Fulkerson, &

Neumark-Sztainer, 2007; Cotrufo, Monteleone, Castaldo & Maj, 2004; Croll, Neumark-Sztainer, Story, & Ireland, 2002; Cwikel, Zilber, Feinson, & Lerner, 2008; Mintz & Betz, 1988; Sancho, Arija, Asorey, & Canals, 2007), definitional problems exist in determining what criteria are necessary for identification of a subclinical ED and, at present, no universally accepted definition of subclinical ED exists (Chamay-Weber, Narring, & Michaud, 2005). A recent review of the literature found that the terms “partial eating disorder,” “atypical eating disorder,” and “subthreshold eating disorder” were all used interchangeably with “subclinical ED” to describe similar disordered eating behavior. While some researchers define subclinical ED as presence of all but one or two criteria for full threshold ED (Cotrufo et al., 2004; Zini, Siani, Sandri, Soardo, & Siciliani, 2007), according to the *Diagnostic and Statistical Manual of Mental Disorders-IV-TR* (*DSM-IV-TR*: American Psychiatric Association, 2000), others focus on intensity and frequency of symptoms (Sancho et al., 2007; Bunnell, Shenker, Nussbaum, Jacobson, & Cooper, 1990), and yet others create their own definitions independent of DSM criteria (Button & Whitehouse, 1981; Graber, Tyrka, Brooks-Gunn, 2003).

Difficulty in defining subclinical ED is not surprising considering the problematic nature of the existing diagnostic criteria. Currently, three eating disorders are recognized in the *DSM-IV-TR* (2000): Anorexia Nervosa (AN), Bulimia Nervosa (BN), and Eating Disorder Not Otherwise Specified (EDNOS). The essential features necessary for a diagnosis of AN include a refusal to maintain a minimally normal body weight, an intense fear of gaining weight, a significant disturbance in perception of body shape or size, and amenorrhea in post-menarcheal females. For a diagnosis of BN, the essential features include binge eating and inappropriate compensatory methods used for prevention of weight gain that occur, on average, at least twice a

week for a three-month period. A third category, EDNOS, is also used to describe individuals who do not meet full-threshold criteria of AN or BN but are deemed to have impairment that warrants clinical attention. Binge-eating disorder (BED) has been recognized as a diagnosis relevant for further study by *DSM-IV-TR* (2000), but individuals who currently meet criteria for this disorder are given a diagnosis of EDNOS. The essential features of BED include recurrent binge eating episodes, without the use of compensatory behaviors, but that generate significant distress for the individual engaging in the behavior.

Currently, many criteria for ED diagnoses have limited validity and require refinement based on empirical evidence (Wilfley, Bishop, Wilson, & Agras, 2007). As such, it is anticipated that several changes will be made to these diagnostic categories with the upcoming publication of the *DSM-V* to improve diagnostic validity and clinical utility. For example, Wilfley and colleagues (2007) have recommended several changes, including removing the amenorrhea criterion for AN, making BED an actual diagnosis, and reducing the frequency and duration cut-points to once a week for three months for the BN and BED diagnoses.

It has also been suggested that a dimensional component would be beneficial in diagnosing ED (Wilfley et al., 2007). Some studies have found support for the hypothesis that these disorders exist on a continuum rather than as discrete categories (Drewnowski, Yee, Kurth, & Krahm, 1994; Franko & Omori, 1999; Gleaves, Low, Green, Cororve, & Williams, 2000). In testing their continuity hypothesis, Drewnowski and colleagues (1994) found that 4% of college women originally classified as intensive dieters and 15% initially classified as at-risk became bulimic by a six-month follow-up. Further, Frank and Omori (1999) found support for the continuity hypothesis with their findings that severity of eating pathology is highly correlated

with severity of psychological constructs such as depression, dysfunctional cognitions, and disordered eating attitudes. Last, a taxometric analysis concluded that AN, binge-eating/purging type, occurs on a continuum with both types of BN, which were also found to differ in degree rather than in kind (Gleaves et al., 2000). These studies provide further evidence of the need for additional research on the current diagnostic categories.

Although some clinicians have considered obesity as on the continuum of disordered eating behaviors and have argued that it should be considered a psychological disorder as aspects of obesity resemble alcohol and drug dependence (Volkow & O'Brien, 2007), it is not currently recommended that obesity be categorized a mental disorder (Devlin, 2007). As such, it will not be addressed in this study.

This project uses the term “subclinical ED” to refer to eating disturbances that do not meet full DSM criteria and does not discuss EDNOS as, by definition, EDNOS refers to behavior found to be in need of clinical attention, whereas subclinical indicates a level of disorder below clinical significance. Further, Moor, Vartanian, Touyz, & Beaumont (2004) found that EDNOS patients more closely resemble full-criteria AN and BN patients than non-ED controls, and, therefore, concluded that EDNOS should not be considered a subclinical ED.

Prevalence and Demographic Characteristics

Due to inconsistencies in definition, determining prevalence rates for ED behavior has also been problematic. The DSM-IV-TR does not report prevalence rates of subclinical ED, but does state in reference to AN that “(i)ndividuals who are subthreshold for the disorder...are more commonly encountered” (APA, 2000, p. 587). A study of 682 college women, which investigated the prevalence and correlates of disordered eating behaviors, found that 26.9% could

be classified as having subclinical BN (Mintz & Betz, 1988). Another study of Black and White college women found that 5.37% of the participants could be defined as having subclinical ED (Edwards-Hewitt & Gray, 1993). In a longitudinal study, Sancho and colleagues (2007) found that 1.01% of the adolescent girls in their sample met criteria for subclinical AN at time one, increasing to 3.63% two years later at time two, and with a remarkable 13.6% of girls at risk for developing an eating disorder by ages 13 to 15. Another longitudinal investigation with adolescent girls found that 6.1 % met criteria for subthreshold BN, and 4.6% met criteria for subthreshold BED (Stice, Marti, Shaw, & Jaconis, 2009). This study also found that cases of subthreshold ED often progressed to full threshold ED, and diagnostic crossover was most likely for these cases. An additional study found 7.1% of adolescent girls in the sample had subclinical BN or subclinical AN (Cotrufo et al., 2004). In their Italian sample, Zini and colleagues (2007) found that 11.2% of girls had partial AN, BN, or BED. It should be noted that three of these studies (Cotrufo et al., 2004; Stice et al., 2009; Zini et al., 2007) defined subclinical ED as the presence of all but one or two criteria currently required for a diagnosis of full-threshold ED according to DSM-IV-TR (APA, 2004). This is important to note as these criteria would lead many clinicians to diagnose EDNOS, and, as mentioned above, EDNOS more closely resembles full-threshold ED and should not be considered subclinical (Moor et al., 2004). Further, the criteria for these disorders will be changing with the next edition of the DSM. As such, what was considered for these studies to be subclinical ED might actually meet full-threshold criteria in the near future.

Although the rates of subclinical ED are alarming, when we examine the broader phenomenon of disordered eating behavior and attitudes, the rates are yet more impressive.

Mintz & Betz (1988) found 38% of college women in their study reported binge eating, and 19% reported monthly use of extreme weight-control behaviors such as use of laxatives, diet pills, or self-induced vomiting. This study also found that only 33% of the participants could be considered normal eaters (defined as no engagement in binge eating, purging, or restricting). A study of 186 college women found that 49% of the sample endorsed experiencing ED symptoms (bingeing, purging, and/or “bulimic attitudes”) at least once per week (Berg, Frazier, & Sherr, 2009). Edwards-Hewitt & Gray (1993) found that 58.81% of college women reported binge eating. In a study conducted at the university where the current study is being carried out (Eastern Michigan University), Saules and colleagues (2009) found that 20.4% of the women in the sample endorsed Binge Eating Syndrome (i.e., binge eating behavior accompanied by a loss of control). A study of almost 5,000 adolescents found that 11.4% of the girls in the study displayed “disordered eating behavior not meeting full threshold ED” (Ackard, Fulerson, & Neumark-Sztainer, 2007, p. 416). Stice and colleagues (1999) found that 9% of late adolescent girls either self-identified or met DSM criteria for binge eating, and 4% reported purging. An investigation of the eating behaviors and attitudes of 9- and 10-year-old girls found that 35% of 9-year-olds and 38% of 10-year-olds selected Ideal Figures that were smaller than the Real Figure on the Body Image Measure (DeLeel, Miller, Hipwell, & Theodore, 2009). Last, and perhaps most disturbing, a large scale study of more than 80,000 adolescents found that 56% of 9th grade females reported disordered eating behavior defined as one or more of the following behaviors: fasting or skipping meals, using diet pills, vomiting, laxative use, smoking cigarettes to lose weight, and/or binge eating (Croll et al., 2002).

While some of the above-mentioned studies investigated subclinical ED only in girls and

women due to the higher prevalence rates of full threshold ED among females (APA, 2004), other studies collected data on both females and males. These studies indicate a significantly higher prevalence rate of subclinical ED for girls than boys and women than men. A large scale study that investigated the ED behaviors of both men and women found that men were more likely to report overeating, but women were more likely to report loss of control while eating (Striegel-Moore et al., 2009). In addition, the study found that women were significantly more likely than men to report body checking and avoidance, binge eating, fasting, and vomiting. Croll and colleagues (2002) found that while 56% of girls in their sample reported disordered eating behavior, only 28% of the boys reported these behaviors. Ackard and colleagues (2007) found that only 4.6% of boys displayed disordered eating, compared with 11.4% of girls. Another examination of the prevalence of subclinical and partial ED diagnoses found a 6:1 female-to-male gender ratio (Zini et al., 2007). A study that compared 750 undergraduate females with 750 undergraduate males found significantly higher scores for women on measures of eating concern, dietary restraint, shape concern, and weight concern (Zehr, Culbert, Sisk, & Klump, 2007). As such, the present study will focus solely on adolescent girls and young women.

Few studies have examined demographic factors other than gender. However, the studies that have examined other variables have found differences in presentation of symptoms depending on age, race, ethnicity, and socioeconomic status (SES). Disordered eating behaviors have been shown in some studies to be more prevalent among late adolescent girls (including 18- and 19-year-old undergraduates) than younger girls (Shore & Porter, 1988; Stice et al., 2009; Whitaker, Davies, Shaffer, Johnson, Adams, Walsh, & Kalikow, 1989; Wood et al., 1990).

Data from the Project EAT (Eating Among Teens) survey found that African American

girls were significantly less likely than White girls to report binge eating and all types of weight control behaviors, but Asian American and Native American girls were more likely to report unhealthy weight control behaviors than White girls (Neumark-Sztainer et al., 2002). DeLeel and colleagues (2009) found that the “minority group” (which included African American, Asian, Hispanic/Latin, mixed or other) in their sample of 9- and 10-year-olds scored significantly higher than the White participants on eating disturbance scores. Although Edwards-Hewitt and Gray (1993) found that Black undergraduate women were significantly less likely to binge eat than White undergraduate women, nearly half (49.28%) of the Black women in the study reported binge eating. Further, in their community sample of 1,628 Black women and 5,741 White women, Stiegel-Moore and colleagues (2000) found that Black American women reported higher rates of recurrent binge eating, fasting, and diuretics/ laxative use than White American women. Further, Black women in the study were just as likely to report purging as White women. The Minnesota Student Survey found that Latina and American Indian females reported the highest overall prevalence rates of disordered eating, while White females reported the third-highest prevalence, and Black females reported the lowest (Croll et al., 2002). More specifically, Latinas were the most likely to report binge eating, and American Indian females were the most likely to report fasting or skipping meals, smoking cigarettes, taking diet pills, and vomiting to control weight. This study also found that a significantly higher proportion of students living in single-parent households (a proxy variable for SES) reported disordered eating; however, a separate study found that higher SES Latinas were significantly more at risk than their lower SES counterparts (Granill, Joes-Rodrigues, & Cravajal, 2005), suggesting a complicated relationship between SES and disordered eating. Further complicating matters, a prevalence study with adult

Latinas found lower rates of disturbed eating behavior (5.8% binge eating and .14% partial AN); however, the authors concluded that the current DSM criteria may not be appropriate for understanding ED in Latinos due to cultural differences in presentation of ED symptoms (Alegria et al., 2007). For example, 102 participants met all criteria for diagnosis of AN except fear of gaining weight. It may be that the preoccupation with slimness that is prevalent in the mainstream culture in the United States is not as pronounced in the Latino culture. Taken together, these findings are important, as subclinical and clinical ED have commonly been thought to occur mostly with middle to upper-class, White adolescent girls and young women, and, in fact, the current data do not appear to support this assumption.

Comorbid Disorders

Subclinical levels of ED are commonly reported concurrent with depressive symptoms. Data from the Oregon Adolescent Depression Project (OADP) revealed that 56% of first-year college students in the study with a partial ED also reported diagnoses of Major Depressive Disorder (MDD) or Dysthymia (Lewinsohn, Striegel-Moore, & Seeley, 2000). Santos, Richards, and Bleckley (2007) reported that 14.9% of adolescent girls sampled experienced comorbid depressive and disordered eating symptomatology. Another study found that adolescents with subclinical ED were significantly more likely than asymptomatic youth to report depression, suicidal ideation, and suicide attempts (Ackard, Fulkerson, & Neumark-Sztainer, 2011). However, there is much disagreement about whether depressive or disordered eating symptoms occur first and/or the possibility of a causal relationship.

An 8-year longitudinal study that measured subclinical eating and depression at three times (mean ages 14, 16, and 22) found that 23.8% of the sample reported experiencing both

problems at time one (Graber & Brooks-Gunn, 2001); however, while depressive problems declined steadily over the course of the study, the rate of eating problems remained constant. A study that used a growth curve analysis found that eating disturbances (including dieting and bulimic symptoms) and body image problems predicted subsequent increases in depressive symptomatology (Stice & Bearman, 2001). A study of undergraduate females found the inverse: that depressive symptoms predicted future increases in binge eating, but binge eating did not predict future depressive symptoms (Spoor, Stice, Bekker, van Strien, Croon, & Van Heck, 2006). However, an 8-year study of nearly 500 adolescent girls found a reciprocal relationship between depressive and bulimic symptoms (Presnell, Stice, Seidel, & Madeley, 2009). That is, while controlling for earlier levels of symptoms for each outcome, depressive symptoms predicted future increases in bulimic symptoms and vice versa. Yet another study found that high levels of eating-related pathology appeared to put girls at risk for later development of depression (Marmorstein, von Ranson, Iacono, & Malone, 2008). Further, a study investigating the relationship between psychological distress and binge eating found that depression was the only psychological variable that contributed independently to disordered eating in White women (Mitchell & Mazzeo, 2004).

Often associated with depression, anxiety also commonly co-occurs with subclinical eating disorders. Patton, Coffey, and Sawyer, (2003) found that among adolescent girls, high levels of depression and anxiety were more common for girls with subclinical BN than subclinical AN. The OADP found that 34.8% of adolescent girls in the sample with a subclinical ED met criteria for an anxiety disorder (Lewinsohn et al., 2000). Further, an investigation of pubertal timing found that undergraduate women who scored high on measures of disordered

eating also scored high on measures of anxiety, both of which were related to early puberty (Zehr et al., 2007). Last, Mitchell and Mazzeo (2004) found that anxiety was the only psychological variable that contributed independently to disordered eating in Black women.

Adolescent girls and young women with subclinical eating disorders also frequently report substance abuse and use. A study that examined the association between substance use/abuse and disordered eating behavior of 526 college women found that 14% of women who dieted and purged, but did not binge, and 10% of women who binged, dieted, and purged, also used cocaine (Piran & Robinson, 2006). This was significantly higher than a control group of women who did not display disordered eating behavior. In addition, 18% of women who dieted and purged reported stimulant/amphetamine use, as compared with 5% of controls ($p < .05$). Last, women who binged and dieted but did not purge were significantly more likely than controls to abuse sleeping pills (3% vs. 11%, $p < .05$). Ackard, Fulkerson, and Neumark-Sztainer (2011) found that adolescents with subthreshold ED reported significantly higher rates of substance use than asymptomatic youth. The OADP found that 13% of adolescent girls with partial ED reported substance use disorder, including both alcohol and drug use (Lewinsohn et al., 2000). Patton and colleagues (2003) found that 19% of participants with partial BN reported frequent drinking, compared with 10% of the non-disordered comparison group. A study on bulimic symptomatology and substance use found that 23.2% of adolescent girls who reported purging behavior but did not meet criteria for BN reported that they “get drunk several times per month or more” (Killen, Taylor, Telch, Robinson, Maron, & Saylor, 1987, p. 12). Further, 12% reported smoking marijuana on at least a weekly basis, as compared to 6.3% of controls. However, it has also been found that bulimic symptoms predict neither substance abuse nor the

reverse (Stice, Burton, & Shaw, 2004). Rather, it was found that together, bulimic symptomatology and substance abuse predicted onset of depression. In total, these studies suggest that there is considerable need for additional investigation and model development to better understand the complex relationship between subclinical ED and other psychological disorders.

Etiology of Subclinical ED

Aside from co-morbid disorders, many other biopsychosocial factors have been identified as predictors and correlates of ED. These factors present a very complex web of interrelated etiologic variables.

Psychological factors. Research on individuals with ED has long established that low self-esteem is commonly present in this population. The first study to prospectively study the role of self-esteem in subclinical disordered eating behavior examined these factors in nearly 600 adolescent girls (Sonuga-Barke, Davies, & Thompson, 1996). The results provided support for the predictive value of low self-esteem for disordered eating, as only 3.4% of the girls with the highest self-esteem at time one had high scores on a measure of disordered eating at time two, while 28.1% of the girls with low self-esteem had high disordered eating scores at time two. In addition, Berg, Frazier, and Sherr (2009) found that an *increase* in self-esteem was one of the most consistent predictors of *decreases* in eating pathology for college women over a two-month period. However, low self-esteem appears to interact with other variables in the development of eating problems. It has been found that factors such as unstable self-perceptions (Kansi, Wichstrøm, & Bergman 2003), overvalued ideas of body shape and weight, perfectionism, and parental conflict (Wade & Lowes, 2002) are closely related to self-esteem and may directly or

indirectly change the probability of the development of disordered eating behaviors.

Body dissatisfaction is another variable that has been found to play a role in disordered eating. A five-year prospective study found that lower body satisfaction in adolescent girls predicted future higher levels of dieting, unhealthy weight control behaviors (defined as fasting, eating very little food, using a food substitute or smoking cigarettes), *very* unhealthy weight control behaviors (defined as taking diet pills, inducing vomiting, using laxatives, and using diuretics), and binge eating (Neumark-Sztainer, Paxon, Hannan, Haines, & Story, 2006).

Johnson and Wardle (2005) further found that body dissatisfaction predicted emotional eating, binge eating, and abnormal attitudes about eating and weight, in addition to low self-esteem, stress, and depression. Wertheim, Koerner, and Paxton's (2001) study with students in grades 7, 8, and 10 found that for grade 7 girls only, body dissatisfaction predicted later increases in restrictive eating, while being teased about weight predicted later increases in bulimic behaviors. Further, one study found that increase in body *satisfaction* was one of the most consistent predictors of a significant decrease in disordered eating behavior in college women (Berg, Frazier, & Sherr, 2009).

Several studies have investigated the role of emotionality in development of disordered eating. Sim and Zeman (2005) found that negative affect, poor awareness of emotion, and nonconstructive coping with negative emotion partially mediated the relationship between bulimic behaviors and body dissatisfaction in early adolescent girls. In another paper, the same authors reported that girls who scored higher on a general measure of disordered eating reported more negative affect, greater difficulty identifying emotions, and less constructive coping with negative emotion (2006). Other studies have contributed to the understanding of the roles of

coping styles and emotion regulation. A path analysis study revealed a model that showed that increased stressors and emotion-focused coping together led to lower self-esteem, which resulted in more disturbed eating attitudes (Fryer, Waller, Kroese, 1997). In addition, Garcia-Grau, Fuste, Miro, Saldana, and Bados (2002) found that avoiding a problem and then coping nonadaptively with emotions experienced as a result of that problem had the highest predictive value for high scores on a disordered eating measure completed by adolescent girls. A more recent study that used discriminant function analysis was able to differentiate healthy eaters from emotional eaters and restrained eaters based on their scores on measures of self-silencing, anger regulation, and self-esteem (Norwood, Bowker, Bucholz, Henderson, Goldfield, & Flament, 2011). That is, the adolescent girls in the study who displayed disordered eating behaviors exhibited significantly higher levels of self-silencing and anger regulation (suppression) and significantly lower levels of self-esteem.

Personality variables have also been implicated in the development of subclinical disordered eating in adolescent girls. Most notably, the trait of perfectionism has been found to be highly correlated with disordered eating behavior (McVey, Pepler, Davis, Flett & Abdoell, 2002) and disordered eating attitudes (Pumariega & LaBarver, 1986) in adolescent girls. Perfectionism has been found to be both a significant risk factor for the development of disordered eating behavior (Wade & Lowes, 2000), as well as a maintenance factor (Santonastaso, Friederici, & Favaro, 1999). A recent study that reformulated and tested the Perfectionism Model of Binge Eating (PMOBE) with undergraduate women found that Concern over Mistakes is an aspect of perfectionism and a vulnerability factor that contributes to a cycle of bingeing via the binge-eating maintenance variables of interpersonal discrepancies, low

interpersonal esteem, dietary restraint, and depressive affect (MacKinnon et al., 2011). This reformulated PMOBE shows a much more complicated picture beyond perfectionistic strivings.

Physical factors. Weight and Body Mass Index (BMI) are two aspects of physical development that have been found to be related to disordered eating behavior. A study of more than 1,000 middle school girls found in general that frequency and prevalence of weight control behaviors increased as BMI increased, except in the case of binge eating (Shisslak, Mays, Crago, Jirsak, Taitano, & Cagno, 2006). Attie and Brooks-Gunn (1989) found that although body fat, in conjunction with other factors, was initially associated with problem-eating scores in normal weight adolescent girls, body fat did not continue to predict problem eating two years later. The authors concluded that this result seems to indicate difficulty in coping with the normal accumulations of body fat due to puberty rather than weight status. However, Yanez, Peix, Atserias, Arnau, and Brug (2007) found obesity to be a significant predictor of high scores on a measure of disordered eating. In addition, an 8-year prospective study of predictors of subclinical eating problems found that adolescent girls who chronically reported eating problems had a higher percentage of body fat than girls without chronic problems (Graber et al., 1994). An examination of the correlates of binge eating in college women found that BMI (along with drive for thinness, cognitive restraint, and mood) contributed significant individual variance to binge eating severity in Caucasian women but not in African American women (Napolitano & Himes, 2011).

Graber and colleagues (1994) found that menstrual status predicted whether girls in their sample displayed chronic disordered eating. That is, girls who matured earlier were more likely to have chronic eating problems, possibly due to their higher levels of body fat resulting from

advanced development. However, another explanation for the association between menarcheal status and disordered eating behavior in adolescent girls was found in a study that investigated the connection between disordered eating behavior and dating (Cauffman & Steinberg, 1996). This study found that although menarcheal status did predict dieting and disordered eating, it acted mainly as a moderator of heterosocial activity. Specifically, dating was found to be most strongly correlated with dieting and disordered eating in girls who had recently begun menstruating.

Behavioral factors. Several studies support the hypothesis that dietary restraint can lead to problems associated with subclinical ED such as distorted cognitions regarding body image and eating attitudes. Cachelin, Striegel-Moore, and Page (1997) found that among adolescent girls and young women, chronic dieters scored significantly higher on body distortion, body dissatisfaction, and drive for thinness, leading the authors to conclude that this variable may indicate a continuum between chronic dieting and ED development. A prospective study of adolescent girls found dietary restraint and radical weight-control behaviors to be predictors of future onset of obesity (Stice, Presnell, & Shaw, 2005). However, as mentioned above, Johnson and Wardle (2005) found restraint predicted abnormal attitudes about eating but not binge eating or emotional eating. Further, Stice, Presnell, Groesz, and Shaw (2005) conducted a randomized study with adolescent girls testing the hypothesis that a weight maintenance diet (with the goal of maintaining current weight rather than weight loss) would produce bulimic symptoms, but found that the diet intervention actually decreased bulimic symptomatology. These findings were investigated further in a prospective study with adolescent girls, and results indicated that *successful* dietary restriction was associated with decreases in bulimic symptoms (Stice,

Martinez, Presnell & Groesz, 2006). A recent four-year study comparing women who employed no weight control strategies, healthy weight control strategies, and both healthy and unhealthy weight control strategies found that the women in the last category gained significantly more weight than the other two groups over the four-year period (Savage & Birch, 2010). The study found that one of the characteristics that differentiated this group from the other groups was endorsement of high levels of dietary restraint. Together, these studies present a complicated picture of the role of dietary restraint in subclinical disordered eating.

Interpersonal relationships. Parental relationships also appear to impact disordered eating behavior in adolescent girls. Yanez and colleagues (2007) found that girls were three times more likely to exhibit abnormal eating attitudes if their mothers scored high on a measure of disordered eating. In addition, mothers' dieting behavior, eating consciousness, and number of conversations about dieting with daughters have been found to significantly positively correlate with daughters' adoption of unhealthy methods used to diet rapidly as opposed to gradual dieting with healthy methods (Hirokane, Tokumura, Nanri, Kimura, & Saito, 2005). A recently published study of 356 adolescent girls found that parental weight talk (e.g. comments about one's own weight and encouragement of daughter to diet) found that this type of behavior, especially by mothers, was associated with many disordered eating behaviors and attitudes, including unhealthy extreme weight control behaviors, binge with loss of control, and body dissatisfaction (Neumark-Sztainer, Bauer, Friend, Hannan, Story, & Berge, 2010). The authors even concluded, "In no instances were family weight talk and dieting variables associated with better outcomes in girls."

While many studies concentrate on mother-daughter relationships, a retrospective study

of father-daughter relationships found that women who experienced paternal rejection and overprotection during childhood and adolescence were more likely to endorse eating pathology (Jones, Leung, & Harris, 2006). However, the causal relationship between eating pathology and problematic parental relationship is unclear. A three-year prospective study found that increases in weight concerns were associated with increases in conflict with parents and decreases in maternal intimacy (May, Kim, McHale, & Crouter, 2006). Low parental support has been found to be significantly correlated with high levels of disordered eating, whereas parental support for girls who experienced high levels of negative events at school was found to have a protective effect (McVey et al., 2002). Last, girls with high body satisfaction are more likely to have parents who emphasize gaining fitness through healthy eating and exercising rather than dieting (Kelly, Wall, Eisenberg, Story, & Neumark-Sztainer, 2005).

Both romantic and non-romantic peer relationships have also been shown to influence disordered eating in adolescent girls. As mentioned above, Cauffman and Steinberg (1996) found that early heterosexual dating experiences were associated with dieting and disordered eating for girls who had recently experienced menarche. Kaltiala-Heino, Rimpela, Rissanen, and Rantanen (2001) sampled nearly 20,000 adolescent girls and found that early sexual experiences and early menarche were associated with bulimic-type eating pathology. In addition, a study on unhealthy weight-control behaviors (UWCBs) among adolescent girls found that friends' dieting behavior significantly influenced use of UWCBs for girls who were of average weight or modestly overweight (Eisenberg, Neumark-Sztainer, Story, & Perry, 2005). A recent study of undergraduate women found an interaction between the role of social support and level of negative life events experienced by the participants (Bodell, Smith, Holm-Denoma, Gordon, &

Joiner, 2011). That is, low social support interacted with a greater number of negative life events to predict future bulimic symptoms but not restrictive eating, depressive, or anxiety symptoms. Social standing has also been found to be related to disordered eating behavior. Girls who were nominated as popular by peers are more likely to have lower body esteem and engage in disordered eating (Lieberman, Gauvin, Bukowski, & White, 2001).

Societal influences. Objectification theory posits that women and girls who live in cultures that sexually objectify the female body (treat female bodies as objects that exist for the pleasure and use of others) may internalize these views and experience a host of negative consequences due to this self-objectification, such as depression and disordered eating (Fredrickson & Roberts, 1997). Tests of this theory with both college women and adolescent girls have found support. A structural equation modeling analysis of data collected from college women found that pressure to be thin predicted body surveillance and body shame; body shame predicted poor awareness of certain internal states and disordered eating; and poor awareness of these states predicted disordered eating (Tylka & Hill, 2004). In addition, a similar study conducted with adolescent girls found that self-objectification led to self-monitoring, body shame, and appearance anxiety, and body shame led to disordered eating (Slater and Tiggemann, 2002). The most recent study to examine the impact of self-objectification integrated the concept with self-esteem and social comparison theory in order to broaden our understanding of body shame and disordered eating within this framework (Tylka & Sabik, 2010). Again, through the use of structural equation modeling, this study found that appearance feedback (perceived sexual objectification related to verbal and non-verbal responses regarding one's physical appearance – e.g. cat calls, ogling, or suggesting a new diet) predicted body surveillance, body

comparison, self-esteem, and disordered eating. In addition, body surveillance, body comparison, and self-esteem also predicted body shame. A hierarchical moderated regression further clarified the picture in that it revealed that undergraduate women who frequently monitored their bodies and compared their bodies to others' reported the highest levels of disordered eating.

In the realm of societal influence, some studies have looked more specifically at the role of exposure to media images of women. A study that compared controls with adolescent girls who viewed fashion magazines for 15 months found that for girls who had significantly less social support than their peers, viewing fashion magazines was associated with increased rates of both dieting and bulimic symptoms (Stice, Spangler, Agras, 2001). An examination of use of several types of media (health and fitness magazines, fashion magazines, sports magazines, and television viewing) among preadolescents found that only television viewing significantly predicted future internalization of thin body ideal and disordered eating one year after initial measurement (Harrison & Hefner, 2006). However, another investigation of magazine exposure in adolescence found strong associations between dieting/weight loss magazine exposure and healthy/unhealthy weight control behaviors and binge eating, which increased with frequency of exposure (Utter, Neumark-Sztainer, Wall, & Story, 2003). Recently, interest in the influence of the internet on disordered eating behavior has begun to surface. Specifically, some attention has been directed towards the impact of pro-eating disorder websites (also referred to as "pro-ana," as in anorexia, and "pro-mia," as in bulimia) in which individuals share techniques for weight loss, reduction of caloric intake, and avoidance of ED detection and treatment. The only empirical study published so far on the impact of these websites on actual eating behavior looked at the effect on college women of a one-time viewing of a pro-ED website compared with

participants who viewed either healthy/exercise websites or tourist websites (Jett, LaPorte, & Wanchisn, 2010). It was found that women in the pro-ED group reported a significant one-week decrease in caloric intake as a result of employing the techniques suggested on the site. These changes endured for 3 weeks after the study was completed.

It could be argued that several factors previously discussed, such as body dissatisfaction, emotional coping, dietary restraint, and peer/parental relationships are all related to gendered socialization in that girls receive very different messages from society than boys regarding maintaining their bodies. As such, all of these factors, in addition to media exposure, could culminate in increased self-objectification and objectified body-consciousness, which, in turn, could lead to disordered eating behavior.

The above review of the epidemiology of subclinical disordered eating behavior in adolescent girls demonstrates the complexity and multifaceted nature of this phenomenon. Although several factors have been identified that play some role in the development of these problematic thoughts and behaviors, few answers exist as to how all of these factors work in conjunction.

Is Prevention/Intervention Warranted?

Although some studies suggest that subclinical levels of EDs spontaneously remit (Cotrufo et al., 2004) and, therefore, do not need to be addressed, others studies have shown that for many girls, without attention, subclinical disordered eating continues over long periods of time (Sancho et al., 2007) and may lead to other serious problems. Studies have shown that girls with subclinical ED experience higher rates of suicidality independent of presence of depression (Crow, Eisenberg, Story, Neumark-Sztainer, 2008), menstrual problems unassociated with body

weight (Kreipe, Strauss, Hodgman, & Ryan, 1989; Pinheiro et al., 2007), and chronic obesity (which can lead to further medical complications) related to unhealthy weight control methods (Stice et al., 1999; Stice et al., 2005). Moreover, some adolescent girls who originally present as subclinical do develop full threshold ED.

Unfortunately, sufficient research has not been done to gain a clear understanding of how many individuals with subclinical ED develop full threshold ED. As mentioned previously, one study on the continuum of ED behaviors did show that 4% of intensive dieters and 15% of women classified as at-risk for ED were later classified as having BN (Drewnowski et al., 1994). However, due to the difficulty in gaining accurate assessments of disordered eating behavior as a result of the secrecy associated with these behaviors, these numbers are likely underestimates. In addition, we do know that once disordered eating behavior reaches the level of full threshold ED diagnosis, it is not only extremely difficult to treat, but also potentially fatal (APA, 2000). As such, for many experts in the field, the question becomes not *whether* prevention or treatment is warranted, but *what types* of intervention are warranted (Levine & Piran, 2001; Striegel-Moore & Steiner-Adair).

Prevention Programs

“Treatment,” in the classical sense, of subclinical ED has received little investigation. That is, as the prefix *sub* implies a level of disorder below clinical consideration, rather than treat a below-clinical level of problematic behavior, intervention for this problem has primarily focused on group programs aimed at prevention of full threshold ED.

Meta-analytic reviews. To date, only two meta-analytic reviews of the research investigating ED prevention programs have been conducted (Fingeret, Warren, Cepeda-Benito,

& Gleaves, 2006; Stice & Shaw, 2004). Stice and Shaw (2004) conducted the first meta-analysis of ED prevention studies in an effort to identify sample, intervention, and design features of programs that produce the greatest effects. Their review identified 51 studies that evaluated 38 ED prevention programs. Results of the meta-analysis indicated that 53% of the interventions (representing 26 distinct programs) significantly reduced at least one risk factor for eating pathology (i.e. body dissatisfaction), whereas 25% of the interventions produced significant reductions in eating pathology itself. Although the average effect sizes of the studies examined were small to medium (.11 to .38 at post-intervention and .05 to .29 at follow-up), Stice and Shaw (2004) point out that these results are promising, as the first generation of ED prevention programs showed no effects at all. Programs that produced the greatest effects were more often aimed at high-risk or subclinical individuals, included only women or adolescent girls over age 15, were interactive rather than didactic, had longer or multiple sessions, did not include psychoeducational content, and used validated measures to examine the effects of the study.

Fingeret and colleagues (2006) sought to complement and expand on Stice and Shaw's (2004) findings. Specifically, they aimed to determine whether psychoeducational content led to iatrogenic effects and whether population targeted and type of intervention strategies used had an impact on the effectiveness of the intervention. Their review identified 57 separate studies. Like Stice and Shaw, they found that secondary prevention programs, which are aimed at an at-risk sample (e.g., girls who already display eating disorder behaviors) were more effective than universal programs. They also found larger effect sizes for increased knowledge related to ED but small net effects for general eating pathology and dieting (effect sizes close to $d = .20$ for most studies). Further, contrary to the prior meta-analysis, the authors found no evidence to

support concerns regarding possible iatrogenic effects of psychoeducation. Although the effect sizes were small and only 25% of the programs were able to demonstrate a change in eating pathology, these studies demonstrate that ED prevention programs do have the promise to prompt behavior change in this arena. However, they also demonstrate that there is much room for improvement in the effectiveness of these attempts at decreasing disordered eating behavior and preventing the pathological trajectory.

Traditional ED Prevention Programs. Most ED prevention programs would only be considered “probably efficacious” according to the Division 12 (Clinical Psychology) of the American Psychological Association (APA) Task Force on Promotion and Dissemination of Psychological Procedures (Chambless & Ollendick, 2001). A designation of “probably efficacious” indicates that there is some empirical support for an intervention but not enough to reach the highest category of empirical validation, the “well established” designation. Several programs with some empirical support are reviewed below.

Every BODY is a Somebody. The Every BODY is a Somebody (McVey & Davis, 2002) program is an ED prevention program that employs a life-skills promotion approach to improve body image and reduce negative eating behaviors/attitudes and has received the most empirical attention of any prevention program. This manualized treatment involves an interactive educational curriculum that focuses on addressing images of unrealistic body shapes portrayed in the media and how these images impact girls, promotion of positive self-esteem and body image, the effect of individual differences in genetics and dieting on body shape, healthy eating and active living without dieting, and stress management, including communication skills and problem-solving strategies.

An initial investigation of this program showed significant decreases in disordered eating at post-test and one-year follow-up in both the experimental and control groups (McVey & Davis, 2002). This finding may be due to the school's health and physical education curriculum where the study was conducted, which routinely contained components to address healthy eating, active living, and body image. Further investigation of this program (McVey, Davis, Tweed, & Shaw, 2004) that included outcome measures designed to tap resiliency factors found that the program was successful in increasing global self-esteem and body image satisfaction at post-test but not at 6- or 12-month follow-up. Dieting decreased significantly at post-test for the intervention group and remained significantly lower at 6- and 12-month follow-up. However, the 12-month follow-up scores on dieting for the intervention group did not differ significantly from the control group's scores.

Two additional studies were conducted using the manual from the Every BODY is a Somebody program plus some additional components. The *Girl Talk* program added a peer support format (McVey, Lieberman, Voorberg, Wardrope, & Blackmore, 2003a). Although an initial investigation found that participants in this program showed a significant decrease in dieting and significant increases in weight-related esteem that were maintained at three-month follow-up, a replication study found no significant decreases in body esteem or disordered eating behavior after participation in the *Girl Talk* group (McVey, Lieberman, Voorberg, Wardrope, & Blackmore, 2003b). Despite this finding, the authors speculated that the result may have been related to the higher proportion of girls in this study who reported disordered eating at baseline when compared with the first study.

Another study applied a comprehensive school-based approach that used the Every BODY is a Somebody manual in addition to school staff training, parent education, in-class intervention, poster and video presentations, a play presentation, and PSA announcements with 6th and 7th graders (McVey, Tweed, & Blackmore, 2007). When compared with a control group, the adolescent girls in this study showed a significant decrease in disordered eating post-intervention. Further, disordered eating scores for students in the control condition significantly *increased* from baseline to post-intervention. Moreover, it was found that students who were at high risk of developing an ED benefited most from the program and demonstrated greater body satisfaction and significant reductions in not only disordered eating but also internalization of media ideals. These studies further indicate that although this program, which has received the most empirical attention, displays some promising results, it is far from a consistently successful solution to minimizing subclinical eating problems in this population.

Additional ED prevention programs. Another program used a developmental approach to modification of eating attitudes and behaviors of 13- and 14-year-old girls and not only addressed factors associated with the development of ED, such as sociocultural pressures to be thin, but also discussed adjusting to changes of puberty and developing peer relationships (Stewart et al., 2001). Although analysis of responses from all participants initially showed a significant decrease in dietary restraint at post-intervention, these gains were not maintained at 6-month follow-up. However, analysis of high dietary restraint participants (those who scored in the top 30% on the Eating Disorder Examination Questionnaire; EDE-Q) revealed that significant reductions in dietary restraint were seen both at post-intervention and follow-up in

comparison to controls.

The “Weigh to Eat” program was designed from a social-cognitive theoretical orientation (Neumark-Sztainer et al., 1995). The 10-session program, conducted with a nonclinical population of adolescent girls in Israel, aimed to reduce disturbed eating through changing knowledge, attitudes, and behaviors related to weight control, body image, and self-efficacy in dealing with social pressures to be thin. Comparisons between the control and intervention groups revealed that the program appeared to be effective in preventing the onset of unhealthy dieting and bingeing among girls who had not previously employed these behaviors, but did not affect unhealthy dieting and bingeing among girls who could be considered to have a subclinical ED. However, when conducting separate analyses on the effects of the program on overweight girls, it was found that at 6-month and 2-year follow-up, initially overweight participants in the intervention program were less likely than controls to report use of unhealthy weight loss techniques and bingeing.

Use of an integrated approach of mind and body strategies with 5th grade students has also found some support (Scime & Cook-Cottone, 2008). *The Girls' Group* was composed of 10 weekly 90-minute sessions that combined interactive discussion about topics related to risk and protective factors associated with disordered eating (the “mind” component), yoga (the “body” component), and relaxation and visualization exercises (the integrated component). Although no significant differences were found post-intervention on the Current Methods and Future Intentions scales of the EDI-2, there was a significant decrease on the Bulimia subscale. In addition, a significant decrease in body dissatisfaction was also found at post-test.

The studies reviewed above represent the “typical” approach to ED prevention. In spite of

some significant findings demonstrating the potential for programs such as these to improve eating attitudes and behaviors, there continue to be challenges in creating programs that demonstrate long-term, replicable effects. In fact, the programs that have received the most empirical support involve creating dissonance.

Innovative and Promising Prevention Programs

Dissonance based ED prevention programs. Only one ED prevention program is considered to be well-established based on the Chambless and Ollendick (2001) criteria. The Body Acceptance Group (Stice, Mazotti, Weibel, & Agras, 2000) was designed to address internalization of the thin ideal promoted by western cultures. The researchers who developed this program hypothesized that engagement in counter-attitudinal activities would induce cognitive dissonance by creating such psychological discomfort that individuals would alter their cognitions, thus rejecting the thin ideal in order to restore consistency (Festinger, 1957).

Stice and his colleagues conducted four studies investigating the effects a dissonance-based eating disorder prevention program that involved completing written, oral, and behavioral exercises in which the participants critiqued the thin ideal (Stice, Chase, Stormer, & Appel, 2001; Stice et al., 2000; Stice, Shaw, Burton, & Wade, 2006; Stice, Trost, & Chase, 2003). In addition, four independent laboratories conducted investigations of the same dissonance-based intervention (Becker, Smith, & Ciao, 2005; Green Scott, Diyanakova, Gasser, & Pederson, 2005; Mausek, Wendt, & Wiseman, 2004; Roehrig, Thompson, Brannick, and van den Berg, 2006). All of these studies found significant decreases in eating disordered cognitions and behaviors. In addition, the 2006 study conducted by Stice and colleagues also showed significant decreases in onset of obesity and mental health service utilization. It should be noted that the participants in

all but one of these studies were adolescent girls or college-age women who were considered either at-risk for or had subclinical ED.

The hypothesis that dissonance induction was the mechanism of change was further supported by three additional studies. Green, Scott, Diyanakova, Gasser, and Pederson (2005) studied a high level dissonance-induction version of The Body Acceptance Group in which participants were made to feel that participation was highly voluntary, though quite effortful, and required public self-disclosure. These procedures were designed to increase the probability of subsequent attitudinal and behavior change by invoking the conditions identified by Festinger and Carlsmith (1959) as most likely to produce a high level of dissonance. This high dissonance version of the intervention produced significantly more decreases in disordered eating behavior than a low level dissonance-induction version of the intervention (in which there was a lowered perception of voluntary participation, low effort, and a private environment). Another recent study has lent support for the use of a high level of dissonance. McMillan, Stice, and Rohde (2011) found that high-dissonance participants in their study displayed significantly greater reductions in disordered eating behavior among female college students at post-test. However, this effect was found to be non-significant by 3-month follow-up. In addition, Roehrig, Thompson, Brannick, and van den Berg (2006) compared the original Body Acceptance Group treatment program, which contained not only the dissonance component but also psychoeducational exercises and behavioral exposure strategies, with a dismantled version that contained only the dissonance component (i.e. counter-attitudinal advocacy exercises) and found both versions equally effective in reducing eating pathology for at-risk college women. The

results of these studies indicate that, to date, dissonance-based approaches to ED prevention have the most empirical support for creating significant change in disordered eating behavior.

Covert or Indirect ED Prevention. Although it appears as if secondary prevention programs are most effective, a unique challenge is presented by the fact that many, if not most, individuals who are at risk or have subclinical ED either do not respond or respond untruthfully to ED screens (Beglin & Fairburn, 1992; Yates, Edman, Crago, & Crowell, 2001). Further, once identified as being at risk, many adolescents are unwilling or unlikely to seek treatment (Varnado-Sullivan, Zucker, Williamson, Reas, Thaw, & Netemeyer, 2001). Therefore, some research recommends development of programs that covertly or indirectly address issues of disordered eating.

Although the meta-analytic reviews discussed above indicated that psychoeducational programs are among the least effective in changing disordered eating thoughts and behaviors, a program that provided college women with information about eating disorders, the consequences of these behaviors, nutrition, and healthy weight management techniques found significant decreases in experimental participants' levels of thin-ideal internalization, eating disorder symptoms, body dissatisfaction, dieting, and weight post-intervention as compared with controls (Stice & Ragan, 2002). In discussing the successful results of this intensive psychoeducation program, the researchers suggested that this intervention may have been able to produce significant results when other programs using this approach have failed, precisely because participants were not informed that they were participating in an ED prevention program. They speculated that participants may have been less defensive about their own disordered eating and

body image problems and more open to alternative views in this situation.

It is also noteworthy that participants in the well-established dissonance-based prevention program were not told that reduction in eating pathology was an expected outcome of participation when they signed up for the “Body Acceptance Group” (Stice, Mazotti, et al., 2000). O'Dea (2004) further discusses support for an indirect approach to prevention of disordered eating in her review of programs targeting self-esteem to address eating pathology. She points out that these programs do not run the risk of the iatrogenic effects of normalizing or glamorizing ED behavior due to their focus on improving self-esteem, a protective factor against the adoption of disordered eating, rather than providing information on eating pathology. Another benefit of this approach to prevention programs is that insight into disordered eating behavior is not required to entice participants into enrolling in the programs (Stice & Ragan, 2002).

A universal prevention program aimed to encourage the healthy psychosocial development of adolescent girls in contemporary society (rather than a specific problem or disorder), the “Go Grrrls” program, has shown some positive effects in improving several correlates of disordered eating behavior (LeCroy, 2004). In the vein of covert or indirect prevention, this program was designed with the philosophy that a focus on promoting competence and positive development is more useful than directing efforts toward remediation of a single problem. As such, this program was not designed to be an ED prevention program and does not directly target disordered eating behavior. However, research on the 12-session program, which contains units on topics such as establishing a positive self-image and being a girl in today's society, showed significant improvements for girls in the experimental group on

scales of acceptance of body image and attitude toward attractiveness post intervention (LeCroy, 2004) as compared to participants in the no-treatment control condition. Although disordered eating behavior was not measured in this study, improvements in variables correlated with subclinical ED indicate that this program may also be effective in improving eating attitudes and behaviors.

Mentoring Programs

To date, no mentoring programs have been investigated with regard to the effects of mentoring on subclinical ED in adolescent girls. However, a recent study examining the effects of an obesity intervention with 124 overweight children between the ages of 8 and 14 found a variety of positive effects subsequent to participation in a 10-week mentoring program. When compared with children in a control group, participants in the mentoring program showed significant improvements in level of physical activity, healthy eating (increase in vegetable, fruit, and dairy intake), and self-efficacy in decision-making and goal-setting (Perry, De Ayala, Lebow, & Hayden, 2008).

Although the study conducted by Perry and colleagues (2008) is the only published investigation of eating behavior and mentoring, other studies have shown a variety of positive effects of mentoring programs with adolescents. In a qualitative analysis of the effects of women mentoring adolescent girls, the participants reported that they experienced engaged and authentic emotional support, development of new skills and confidence through collaborations, and companionship that provided relief from daily stress (Spencer and Liang, 2009). In their study of 928 adolescents who participated in the Big Brothers Big Sisters (BBBS) programs, Rhodes, Reddy, and Grossman (2005) found that youth who were in mentoring relationships lasting

longer than twelve months had significantly reduced substance use and improved parental relationships. In another analysis of the same data set, Grossman and Rhodes (2002) found that participants also showed significant increases in self-worth, perceived social acceptance, perceived scholastic competence, and school value. It has also been found that participants in BBBS are less likely to start using illegal drugs or alcohol, engage in violence, or skip school (Grossman & Tierney, 1998). Other studies on mentoring have found that mentoring improved self-efficacy and self-confidence for adolescents with disabilities (Powers, Sowers, & Stevens, 1995), school attendance and English report card grades for middle school students (McPartland & Nettles, 1991), and conventional connectedness to parents, school, and the future for at-risk elementary students (Karcher, Davis, & Powell 2002).

Understandably, most of the studies on mentoring have focused on improvements in such areas as school performance and self-esteem, and few studies have investigated changes in more severe problems experienced by children. Jackson (2002) examined the outcomes of a mentoring program for delinquent youth who had a history of rule breaking and acting-out behavior. The results of this study indicated that the children who participated showed decreases in both externalizing (aggression, hyperactivity, conduct problems) $F(1,6) = 10.57, p < .05$, and internalizing behavior (anxiety, depression, somatization) $F(1,6) = 6.22, p < .05$, as reported by parents. It is important to note that the youth in Jackson's study received 15 hours of mentoring a week; however, very few mentoring programs are this intensive. In addition, the participants were not compared with a control group. Another study, which did employ a control group, examined the effect of mentoring on 34 adolescents who were identified as at-risk for juvenile delinquency or mental illness (Keating, Tomishima, Foster, & Alessandri, 2002). After being in a

mentoring relationship for six months (with weekly meetings lasting three hours each), mothers and teachers of participants in the intervention group (mentoring program) reported that the participants had significantly decreased on both internalizing and externalizing behaviors compared with wait list controls ($p < .01$).

Only one study to date has investigated the effect of mentoring on youth with diagnosed psychiatric disorders (Jent & Niec, 2006). Thirty children aged 8-12 years old with Axis I disorders who received mentoring services for at least eight weeks showed significantly fewer externalizing and internalizing behavior problems than the wait-listed control group. While externalizing behavior problems were mediated by significant decreases in parenting stress, this factor did not influence internalizing problems. The authors concluded that mentoring may decrease both internalizing and externalizing behavior problems for children with emotional and behavioral disorders beyond the contribution of other mental health services.

Although several studies have been conducted examining the effects of mentoring on youth, little investigation has been done into the impact of mentoring on *mentors*. In addition, most of the research in this area has been conducted on mentoring relationships in the business world, rather than youth mentoring and are, therefore, outside the scope of this project. However, it is encouraging to note that the studies that have been conducted with business mentors indicate a positive impact on the mentors, including increased self-worth (Kram, 1986), learning/knowledge, and personal gratification (Allen, Poteet, & Burroughs, 1997; Eby & Lockwood, 2005).

Research on the effect of youth mentoring on mentors is sparse and mostly qualitative; however, the results of existing research are promising. A nationwide survey of more than 1,500

adults who mentored at least one child found that 73% indicated that mentoring was a very satisfying experience, and 83% reported learning or gaining something personally from the experience. These benefits included learning a new skill and increasing feelings of being a better, more patient, and effective person (McLearn, Colasanto, Schoen, & Shapiro, 1999). Another survey study of mentors who worked with “disadvantaged youth” identified several ways in which the mentors expressed gaining a positive impact of their experiences. These included improvements in everyday interaction with people, increased confidence to try new things, good feelings about selves, benefits to career, and improved attitudes towards young people (Evans, 2005). These findings are supported by a qualitative study of the impact of an after-school mentoring program with rural Latino youth in which the Caucasian mentors indicated that they derived satisfaction from forming trusting relationships with the youth, being able to cross cultural boundaries, and assisting the youth in making improvements in school (Diversi & Mecham, 2005).

Taken together, these studies suggest that mentoring programs have been shown to improve school attendance, grades, self-esteem, self-efficacy, parental relations, physical activity, and healthy eating. In addition, though the research is limited, published findings indicate that significant decreases in skipping school, violent behavior, likelihood of starting to use illegal drugs or alcohol, substance use, and externalizing and internalizing behavior problems are associated with mentoring. Many of these behaviors are associated with subclinical ED. As such, it seems reasonable to conclude that mentoring may also be an effective intervention for reducing subclinical eating disorders in adolescent girls and women. Furthermore, mentors may benefit by deriving satisfaction from assisting youth, learning or gaining something personally

from the experience, and feeling like a better person.

Conclusion

The above review of the literature on subclinical ED demonstrates that although this behavior does not meet the threshold for a clinical diagnosis, it is worthy of attention due to the myriad of health and psychological consequences experienced by the adolescent girls and young women who are engaging in these behaviors at high rates. Unfortunately, current interventions that attempt to address this problem are often ineffective in creating substantial and enduring change. As such, there appears to be a need for continued efforts to discover innovative ways to intervene in the development of subclinical ED. Dissonance-based and “covert” interventions for subclinical ED have demonstrated some success in promoting lasting behavior change in disordered eating. Further, mentoring programs with adolescents have proved to effect behavior change in other domains such as substance use, internalizing and externalizing behaviors. In addition, some research suggests that the act of mentoring promotes psychological benefits to the mentor. As such, the present study aims to combine the components of interventions shown to work, namely being covert and dissonance-based, with a novel delivery technology, mentoring, to decrease subclinical ED behavior and correlates in both mentors and mentees.

Methods

Purpose and Hypotheses

Both young women and adolescent girls experience high levels of disordered eating and subclinical ED (Bunnell & Shenker, 1990; Mintz & Betz, 1988; Mitrany, 1992). However, most ED prevention programs have demonstrated little success in prompting significant, long-term

changes in disordered eating behavior. The purpose of this study is to investigate the effects of a universal prevention program in which college women serve as mentors for adolescent girls. *It's Great to be a Girl!* (described in more detail below) is a group mentoring program that employs a feminist empowerment model to assist adolescent girls in coping with the developmental challenges they face during an often tumultuous period in their lives. The present study evaluated whether the *It's Great to be a Girl!* mentoring program was associated with changes for both mentors and mentees in disordered eating behavior and thoughts, general psychological distress, feminist identity, and self-esteem. In addition, changes in substance abuse were measured in adult mentors. This study contributes to the literature by attempting to identify an effective intervention for subclinical disordered eating and by examining the potential benefits of a mentoring model.

The study was designed to evaluate the effects of involvement in a mentoring program on both female adolescent mentees and undergraduate women mentors. Based on the empirical literature, the following hypotheses were tested:

Comparison of pre- and post-intervention assessment of adolescent participants' scores will demonstrate statistically significant improvement on measures of

Hypothesis 1) disordered eating,

Hypothesis 2) psychological distress,

Hypothesis 3) objectified body consciousness,

Hypothesis 4) self-esteem, and

Hypothesis 5) feminist identity.

In addition, comparison of pre- and post-intervention assessment of adult participants' scores will demonstrate statistically significant improvement on measures of

Hypothesis 6) disordered eating,

Hypothesis 7) psychological distress,

Hypothesis 8) objectified body consciousness,

Hypothesis 9) self-esteem,

Hypothesis 10) alcohol use and abuse, and

Hypothesis 11) feminist identity.

Participants

Adolescent girls. Initially, 34 girls registered to be in the *It's Great to be a Girl!* mentoring program (discussed in depth in the Procedures section) were recruited as participants. However, due to attrition in both the program and the study, only 31 participants completed the study. All of the adolescent girls who participated were in the 7th and 8th grades and were between the ages of 12 and 14. Adolescent girls who scored in the moderate or severe range (cut-off= 8: see below for discussion of criteria) of psychological distress on the Children's Depression Inventory-Short form (Kovacs, 1999) were referred for psychological services and their parents were notified of these endorsements, but they were still allowed to participate in the study. Three adolescent participants (8%) of the initial 34 who completed pre-intervention measures reported either high levels of anxiety or depression that were at or above the cut-off criteria. According to the normative data provided by Kovacs, 8% of girls ages 7 to 12 report scores in this range, and 6% of girls 13 to 17 years old report scores in this range. As such, the

percentage of adolescent girls in the present study reporting moderate or severe levels of psychological distress is equivalent to what is seen in the general population.

University women. Thirty-six undergraduate women enrolled in the *Conversations with Girls* course (WGST 230) at Eastern Michigan University completed the study. The curriculum of this course involves instructing students on how to mentor adolescent girls. All participants were English-speaking. Five women (12%) of the initial 38 participants who completed the pre-intervention measures scored in the moderate or severe range (cut-off = 20) of psychological distress and/or endorsed suicidality on the Beck Depression Inventory-II (Beck, Steer, & Brown, 1996); they were notified of their scores and referred for psychological services but were still allowed to participate in the study. A large-scale prevalence study (N=2500) found that 27% of the college women who participated in the study reported experiencing depression in the previous year (Lindsey, Fabiano, & Stark, 2009). As such, the rate of depression among women in the current study appears lower than what is seen in the general population.

Although college-aged women may be thought of as a convenience sample, there are sound rationales for studying this population. Some studies have demonstrated a high level of subclinical eating disorders and disordered eating behavior among college women. Mintz and Betz (1988) found that 26.9% of college women could be classified as meeting criterion for subclinical BN. In addition, Berg, Frazier, and Sher (2009) found that in their sample of college women, 49% endorsed engaging in ED behaviors at least once a week. Further, one investigation (Edwards-Hewitt & Gray, 1993) established that an astonishing 58.81% of college women reported binge eating. Disordered eating behaviors have also been shown to be most prevalent

among late adolescent girls (including 18- and 19-year-old undergraduates; Shore & Porter, 1988; Stice et al., 2009; Whitaker, Davies, Shaffer, Johnson, Adams, Walsh, & Kalikow, 1989; Wood et al., 1990).

Procedure

Recruitment procedures for this study were conducted separately for adolescent girls and adult participants.

Adolescent girls. The PI attended lunch-hour and after-school informational meetings in a local middle school at which the *It's Great to be a Girl!* program was described to recruit potential participants. During these meetings, the PI gave oral presentations that contained a description of the study (see attached scripts in Appendix B) and provided the contact name, phone number, and email address for the investigator. For all of the girls who indicated possible interest in participating in both *It's Great to be a Girl!* and the current study, the PI collected home addresses and sent letters outlining the study to girls' parent(s). See Appendix C for the letter to parents.

Potential adolescent participants and their parents were told that the purpose of the study was to investigate the benefits of the mentoring relationship for both adult mentors and adolescent mentees. Potential participants and their parents were also informed that all data would be kept confidential, that they could withdraw from the study at any time, and that their decisions regarding participation would be confidential and would not impact their ability to participate in the mentoring program. Adolescent participants (and their parents) were advised that if they endorsed a high level of psychological distress, they would still be allowed to participate; however, their parents would be notified and they would be referred for counseling.

Participants and their parents were advised that confidentiality would be broken in the event that the adolescent participant reported child abuse or was judged to be a threat to herself or others. It should be noted that participants were not asked questions about abuse during any part of the study. However, in accordance with the law, if child abuse was suspected, Child Protective Services would have been contacted.

It should further be noted that this did not occur during the study, nor did any participants report any information indicating that they could have been a harm to self or others. Three participants did report clinical levels of psychological distress, and their parents were notified of this response. The two parents who were reached by phone stated they were thankful for the call and requested referral information for low-cost psychological services in the area. After several unsuccessful attempts to reach the third parent by telephone, a letter was sent to the home notifying the parent of the child's response, and a referral list was included in this mailing. The adolescents' responses to their parents being told this information is unknown to the Principal Investigator, but it should be noted that all three participants returned for post-intervention data collection, and one reported she was seeing a therapist at that time.

Potential participants and their parents were informed that the data they provided would be assigned a code number and would not contain any identifying information in order to ensure confidentiality. So that participants and their parents could present any questions or concerns, the informed consent and assent forms included the investigators' and the Eastern Michigan University Human Subjects Review Committee's (HSRC) contact information (e.g. name, phone number, and email address).

As mentioned above, the letter to the parents from the PI contained information

explaining the purpose for the research, the amount of time required from the participant, the participant's rights as a research participant, limits to confidentiality, and contact information for the PI and the Human Subjects Review Board. In addition, self-addressed, stamped post cards were included that could be used to indicate that the parent *did not* give consent for her or his daughter to participate in the study (See Appendix D). This procedure, known as passive consent, was used instead of active consent in order to increase the rate of participation.

Previous research has found that when active consent is required, only 30% - 60% of eligible students receive parental consent (Baker, Yardley, & McCaul, 2001; Kearney, Hopkins, Mauss, & Weisheit, 1983; Severson & Ary, 1983; Thompson, 1984) compared with 93% - 100% of eligible students who received parental permission when passive consent is used (Ellickson & Hawes, 1989; Esbensen, Miller, Taylor, He, & Freng, 1999; Murray, O'Connell, Schmis, & Perry, 1987; Pokorny, Jason, Schoeny, Townsend, & Curie, 2001; Tigges, Wills, & Link, 1998). Moreover, an investigation by Ellickson and Hawes (1989) into the concerns about passive parental consent voiced by opponents found that 96% of parents in a study which employed passive consent subsequently indicated that they had not returned passive consent forms because they *had* decided to allow their children to participate in the study. Further, when examining a school study that required active consent, they found that, initially, only 40% of parents responded (with 34% giving their children permission to participate), but extensive and costly follow-up procedures garnered a 100% response rate, with 86% giving permission for their children to participate. As 87% of the parents who initially did not respond eventually gave their permission, the authors concluded that the parents were not against their children participating in the study, but apparently lacked the motivation to return the consent forms. As such, the research

on passive parental consent appears to indicate that this procedure is both effective in increasing participation rates of youth and is reflective of parents' true intentions regarding their children's participation in research. It should be noted that although the postcards were sent to the parents of 89 girls, only two parents returned postcards indicating that they did not give their child consent to participate in the study. As such, 36% of the girls whose parents were contacted participated in the study. Although this number seems low, it is a reflection of the participation rate in the program, not the study. That is, many of the girls whose parents were contacted because they expressed interest in the study did not end up participating in *the It's Great to be a Girl!* program.

When the parent of a potential adolescent participant gave consent, and the adolescent expressed a desire to participate in the study, the adolescent participant and the experimenter signed and dated two informed assent forms at the first meeting of the mentors and mentees, prior to pre-intervention data collection (See Appendix E). The experimenter retained one copy, and the other copy was given to the participant.

Procedures were conducted at a local middle school in Ypsilanti, Michigan. Procedures were administered in a group setting, though care was taken to ensure the confidentiality of all participants. All research materials (contact information, informed consent forms, informed assent forms, and completed questionnaires) are stored in locked file cabinets located in the EMU Psychology Department. Coded questionnaires are stored separately from all materials with identifying information. Upon completion of the study, information linking informed consent and questionnaires will be destroyed.

Following the assent procedure, adolescent participants received a packet containing the

Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965), the Children's Depression Inventory Short Form (CDI – S; Kovacs, 1992, 2003), the Revised Children's Manifest Anxiety Scale, Second Edition (RCMAS – 2; Reynolds & Richmond, 2008), the Objectified Body Consciousness Scale for Youth (OBC-Youth; Lindberg, Hyde, & McKinley, 2006), the Liberal Feminist Attitudes and Ideology Scale – Short Form (Morgan, 1996), and the McKnight Risk Factors Survey IV (MRFS-IV; McKnight Investigators, 2003). The time required to administer questionnaires for adolescent participants was approximately 45 minutes. These measures were administered to the adolescent participants immediately preceding the first session of the mentoring program. A copy of all adolescent measures can be found in Appendices F & G.

After completing the initial set of measures, all participants participated in the *It's Great to be a Girl!* mentoring program for 8 weeks. Although the course is designed to have one session a week for 10 weeks, it is often the case that difficulties with scheduling due to the school calendar necessitate shortening the course by one or two weeks. In both the fall and winter sessions in which data were collected, this was the case, and each program ran for only 8 weeks.

It's great to be a girl! The *It's Great to Be a Girl!* program began in 1998 and was designed by Carole Lapidos and Sally Wisotzkey as an expansion of their *Raising Strong and Confident Daughters* workshop for parents (Lapidos & Wisotzkey, 2011). The creators of this program used the *Go Grrrls!* program (LeCroy, 2004) mentioned above as a model for designing the activities used in *It's Great to Be a Girl!* In an effort to provide adolescent girls with positive women role models to help them navigate the often difficult middle school years, the co-founders joined with area middle schools, the University of Michigan Women's Studies

Program, the Center for Community Service Learning, and the Office of Academic and Multicultural Initiatives to launch *It's Great to Be a Girl!* In 2000, the Huron Valley Girl Scout Council joined the team of collaborators, followed by Eastern Michigan University in 2003. At the time this study was designed, the Huron Valley Girl Scout Council was still working in conjunction with *It's Great to be a Girl!* on this program, but that partnership has since dissolved.

Adolescent girls who participate in *It's Great to be a Girl!* receive mentoring in a group discussion format, once a week for eight to ten weeks. The four major areas addressed in the program are friendship, teasing and harassment, body image, and dream building. Each session lasts for two hours and involves both large group discussions and small break-out group activities involving two mentors and three to seven adolescent girls. Sessions involve group discussion and activities related to themes such as healthy relationships, future goals, self-love and respect, and advocacy. Through these activities, the program aims to raise awareness of cultural stereotypes, help girls know and value themselves, define their own ideal body image, nurture girls' unique interests and abilities, develop strategies to resist limiting stereotypes, provide positive female role models, and assist girls to stay connected with their parents during adolescence. As a goal of the program is to respond to the needs of the particular adolescent girls enrolled, the content of the topics can vary each time the program is offered. See Table 1 for themes and examples of activities.

Table 1.

It's Great to be a Girl! Themes and Activity Examples

Theme	Purpose	Large Group Activity Example	Home Group Activity Example
1. Getting to know you	Introduce girls and femtors (see page 52 for definition of term), begin developing trust within groups	<i>Who's who?</i> - Femtors provide fun facts to site director who reads off facts for girls to guess which femtor fact belongs to. Once a femtor's fact is guessed, she sits with the girls until all femtor's facts have been identified.	<i>Martian Collage</i> – Girls create collages that answer the question “Suppose a Martian came down from outer space and asked with it means to be a girl here on Earth?”
2. Self-love and respect	Encourage a positive self-image and provide strategies for sustaining self-love and self-respect	<i>I love my neighbor</i> – Girls and femtors stand in circle and mark their spot. Person in middle of circle declares “I love my neighbor who...” (is wearing jeans, has brown hair) then everyone the statement applies to runs to empty spot	<i>Mirror – Image</i> – Girls use paint pens to decorate mirrors. On one side they write all the qualities they like about their character & personality, on the other side about their appearance
3. Friendship	Celebrate the power of healthy friendships and strategize around issues of conflict in friendships	<i>Freeze!</i> – Femtors role-play a problem in a friendship. Facilitator yells “freeze” the girls are asked to identify what is going on and offer ways to cope, deal, and/or resist, then re-do the role-play using solution offered by girls	<i>Group share</i> – Each person writes down what makes them and their best friend good friends, then present to group and discuss qualities of good friends and challenges involved
4. Healthy relationships	Discuss what makes relationships healthy and strategize ways to deal with conflict in healthy ways	<i>Testimonials</i> – Femtors share experiences of when they had to keep boundaries safe between parents, sibs, friends, and/or significant others	<i>Recipe for healthy relationships</i> – Each group cuts out shapes (e.g. cups, bowls) representing ingredients of healthy relationships
5. Mental and emotional health	Strategize ways to handle mental states such as stress, sadness, anger, and frustration	<i>Testimonials</i> – Femtors share stories about dealing and coping with emotional/mental health issues	<i>Stress buster</i> – Girls break up into pairs and talk about what they do to relieve mental stress then report back to group
6. Knowing you, knowing me, knowing our world	Prompt thinking about ways the girls would like to change themselves, their communities, and the world	<i>Testimonials</i> – Femtors share stories about situations in which they have actively changed something about their school, family, community and/or world	<i>Photo project</i> – Femtors bring in pictures of family, school, neighborhood, and world to begin conversation about how communities are defined
7. Teasing and harassment	Promote thinking about ways people tease, reactions to teasing, and strategies to cope with teasing	<i>Freeze!</i> – Femtors role-play teasing scenario. Facilitator yells “freeze” girls are asked to identify what is going on in and offer ways to cope, deal, and/or resist, then re-do the role-play using solution offered by girls	<i>Sun/Storm Cloud</i> – Girls given sun and storm clouds and asked to write things said to them that make them happy on sun cloud and make them feel bad on storm cloud
8. Advocacy	Introduce concept of advocacy and empower to advocate for selves and friends	<i>Types of advocacy discussion</i> – Femtors bring in various posters, poems, songs, newspaper articles, speeches, etc. on different advocacy events to share with group	<i>Raise awareness</i> – Each girl (or home group) creates an advocacy poster for an issue of her (their) choosing
9. Media literacy	Stimulate thinking about ways in which media influences how they view and feel about selves & others	<i>Media images</i> – Watch and deconstruct popular music videos, commercial, magazine ads then answer probing questions about portrayal of gender in media images	<i>Design girl-friendly ad</i> – Girls choose ads that are unfriendly to women and then create a new ad for same product that is girl/women friendly
10. Body image	Promote thinking about ways in which girls view their bodies	<i>I love me!</i> – As a group, girls write on a big paper “I love me because...” then list what they love about themselves	<i>Body outlines</i> – Draw body outlines of bodies in fun, active positions then fill body with words and images describing all things her body can do
11. Dream building	Encourage thinking about dreams of the future and strategize ways to achieve dreams	<i>Panel of amazing women</i> – Prearranged panel of women share victories and struggles of making their dreams reality, then girls allowed to ask women questions	<i>Physical reminders</i> – Girls make necklaces or key chains to keep with them as reminders of achieving their dreams/goals
12. Boy panel	Attempt to create dialogue between boys and girls concerning gender roles and expectations	<i>Boy Panel</i> – Girls write questions on paper for “cool” guys on panel invited by femtors to acquire better understanding of boys' perspective	<i>R-E-S-P-E-C-T</i> – Girls list boys/men in their lives that they respect and discuss what they do to earn respect and break stereotypes of boys/men

Upon completion of the mentoring program, adolescent mentees repeated all measures except for the demographic questionnaire. These post-intervention measures were distributed and completed at the local middle school where the adolescent participants attended the program. The data were collected in a group format on the last day of the program for most participants and within a few weeks of completing the program for a few participants who did not attend the last day of the program. Participants who completed the study received two \$10 gift cards as a “thank you” gifts for their participation and were provided with snacks and craft projects to engage in after they completed the measures. See Figure 1 for a flow chart of adolescent procedures.

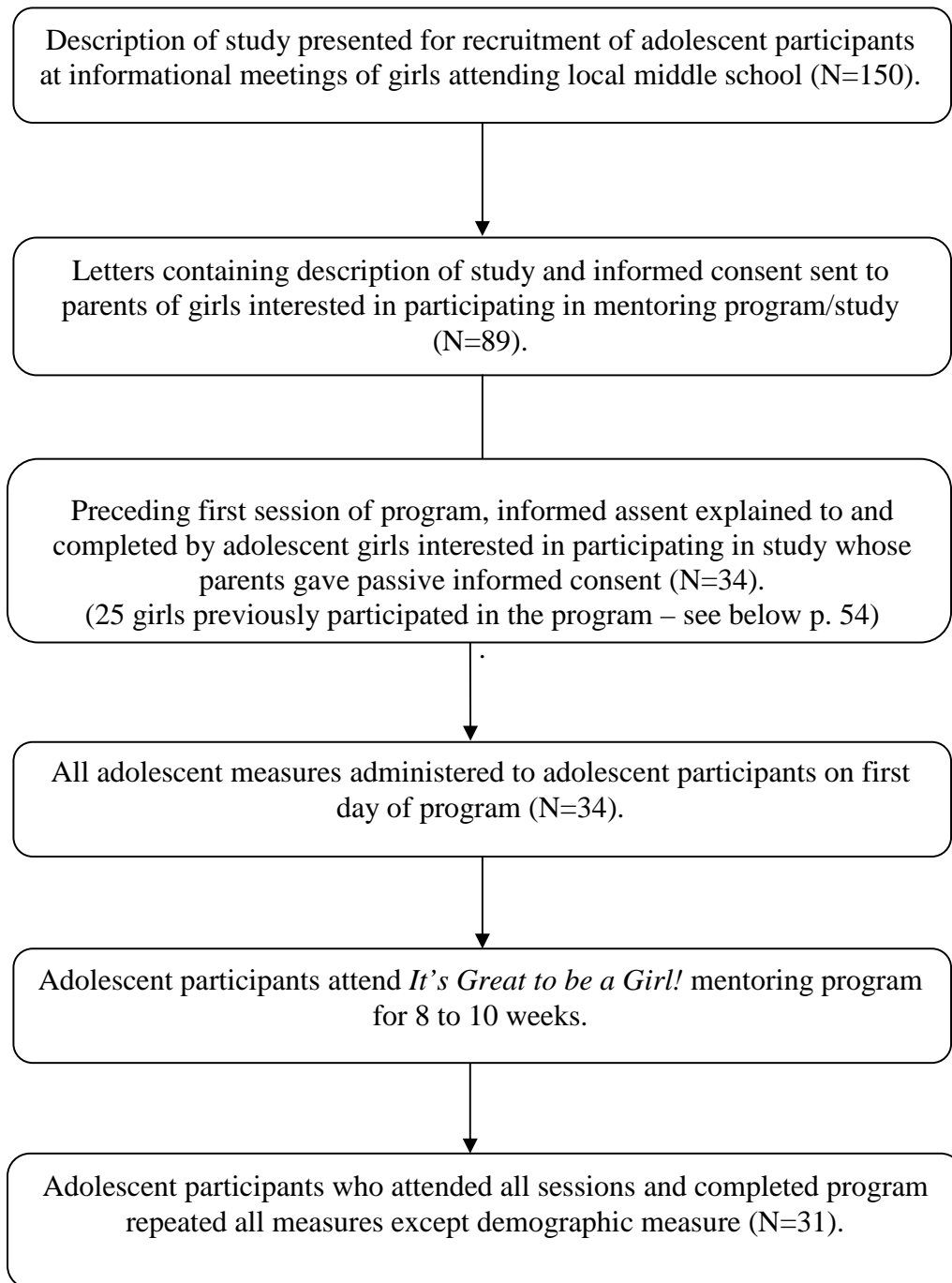


Figure 1. Procedures for Adolescent Participants

University women. The PI gave oral presentations describing the study to the students in the *Conversations with Girls* classes to recruit potential participants. (See Appendix H for recruitment script for college women participants).

Potential participants were told that the purpose of the study was to investigate the benefits of the mentoring relationship for both adult mentors and adolescent mentees. Potential participants were also informed that all data would be confidential, that they could withdraw from the study at any time, and that their decisions regarding participation would be confidential and would not impact their ability to participate in the mentoring program. Adult participants were advised that if they indicated a high level of psychological distress or endorsed having suicidal thoughts or behaviors, they would be referred for counseling but still be allowed to participate in the study. It should be noted that five of the 39 participants who completed the pre-intervention measures indicated a high level of psychological distress and were notified of their results. However, none of these participants requested referral for counseling. Participants were advised that confidentiality would be broken in the event that they report child abuse or are judged to be a threat to themselves or others. It should be noted that participants were not asked questions about abuse during any part of the study, and no participants indicated any knowledge of abuse. However, in accordance with the law, if child abuse was suspected, Child Protective Services would have been contacted. Potential participants were informed that the data they provided would be assigned a code number and would not contain any identifying information, in order to ensure confidentiality. So that participants could present any questions or concerns, the informed consent forms included the investigators' and the Eastern Michigan University Human Subjects Review Committee's (HSRC) contact information (e.g. name, phone number,

and email address). The adult participant and the experimenter signed and dated two informed consent forms that included the above information. See Appendix I for Informed Consent Form.

Upon completion of the informed consent procedure, undergraduate participants received a packet containing a demographic questionnaire, an alcohol consumption questionnaire, the Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965), the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), the Beck Anxiety Inventory (BAI; Beck, Brown, Epstein, & Steer, 1988), The Objectified Body Consciousness Scale (OBC; McKinley & Hyde, 1996), the Liberal Feminist Attitudes and Ideology Scale – Short Form (LFAIS; Morgan, 1996), the Brief Young Adult Alcohol Consequences Questionnaire (B-YAACQ; Kahler, Strong, & Read, 2005), and the Eating Disorder Diagnostic Survey (EDDS; Stice, E., Telch, C. F., & Rizvi, S. L., 2000). The time required to administer questionnaires for undergraduate participants was approximately 30 minutes. All study data were collected in a classroom at Eastern Michigan University. These measures were completed one week before the first session with the adolescent girls. After completing the initial set of measures, participants took part in the *It's Great to be a Girl!* mentoring program for 8 - 10 weeks.

Upon completion of the mentoring program, adult participants repeated all measures except for the demographic questionnaire. These post-intervention measures were distributed and completed at Eastern Michigan University. The data were collected in a group format on the final day of the course, approximately one week after completing the last session of *It's Great to be a Girl!* Participants received extra credit in the course for their participation in the study. Informed consent was obtained prior to participation, and participants were advised that refusal to participate or withdrawal from the study would not cause them to be penalized in any way. See

Figure 2 for a flow chart of undergraduate procedures. The measures are described below in more detail. A copy of all adult measures can be found in Appendix J.

Mentors' course. Undergraduate women participating in this study were enrolled in the *Conversation with Girls* course at Eastern Michigan University. Initially, it was proposed that women taking a similar course at the University of Michigan would also be recruited as participants in the study. However, due to ease of recruiting a sufficient number of participants at Eastern Michigan University and difficulty securing approval from University of Michigan instructors, data were not collected from students at the University of Michigan. Undergraduate participants received three weeks of in-class training prior to beginning mentoring adolescent girls. The course requires the University women to attend lectures, do readings, and complete assignments related to further understanding the developmental and societal challenges adolescent girls face in our culture and the most effective approaches to mentoring adolescent girls.

Women involved in this program are referred to as “Femtors” in order to highlight their role as feminist mentors. After completing the in-class training, Femtors began working with a graduate student to facilitate the group mentoring activities and exercises for the *It's Great to be a Girl!* program. During the mentoring program, the Femtors continued to meet in a class setting to discuss readings and experiences working with the adolescent girls in order to assist in meeting the challenges of the mentoring relationships and provide the best possible mentoring experience for the girls in the program. See Appendix K for the syllabus for this course.

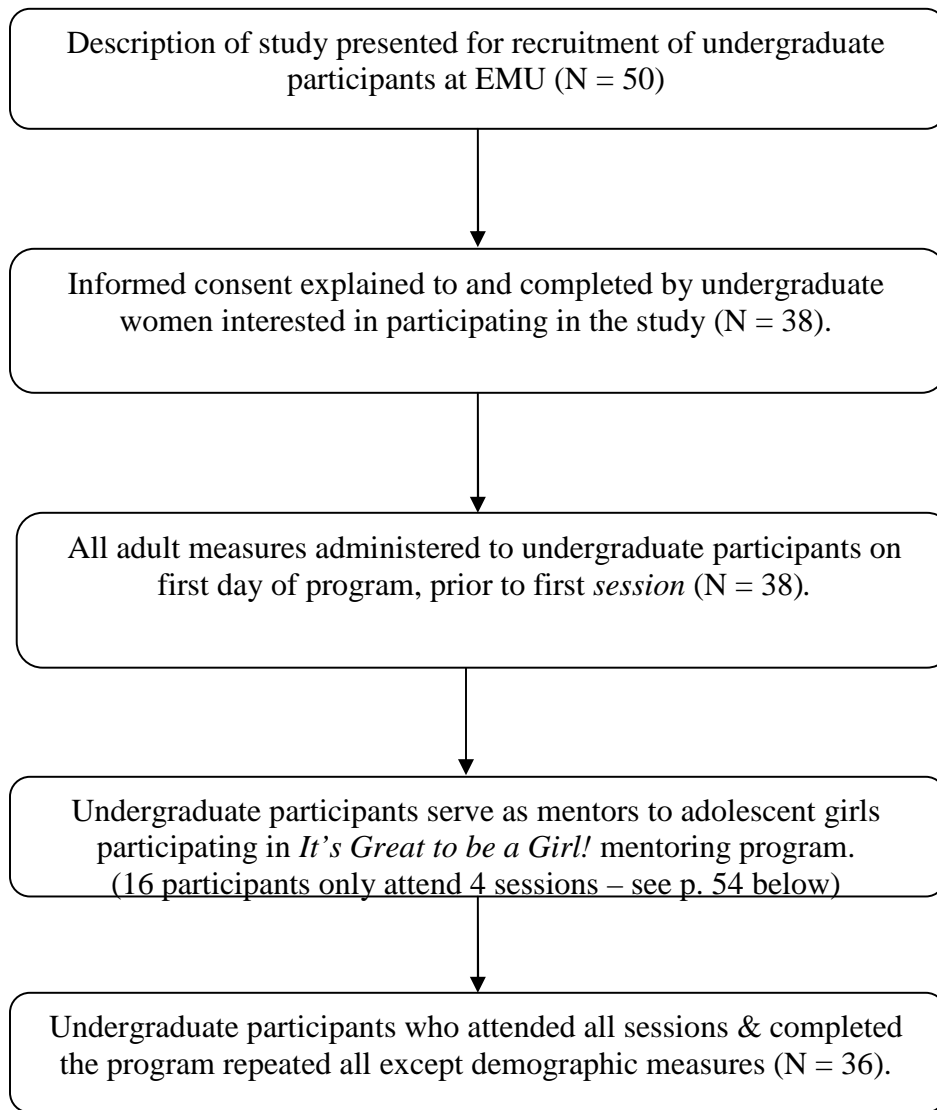


Figure 2. Procedures for Adult Participants

Programmatic Anomalies

For both the adolescent and adult participants, anomalies and problems with the program occurred that may have affected the experience of the participants and/or the ability of the study to capture changes on the constructs under investigation. In all cases, these were random issues that were not under the control of the examiner.

The study was originally designed to be conducted with 6th grade girls who had no prior participation in the program. Unfortunately, between the time the study was designed and permission to conduct the study was obtained, there was a significant change in the program due to changes in the school district. That is, when the study was designed, the 6th grade students in the school district where the program takes place were located in two different middle schools. However, due to budget constraints, just prior to the beginning of the study, the two middle schools were combined into one middle school, and the 6th grade students were returned to the local elementary schools in order to make room for the students from the middle school that was closed. As the mentoring program was always located in the middle schools, the director of the program made a decision to remain in the middle school and instead conduct the program with 7th and 8th grade girls. Although the adolescent girls who completed the study were only slightly older than initially intended, this is important to note because as the program was originally offered to 6th grade girls, the majority of the participants in the study had already completed the program once before participating in the study.

Furthermore, in the winter semester of 2010, heavy snowfalls and building problems in one of the middle schools where *It's Great to be a Girl!* was taking place caused the program to be prematurely cancelled after only 4 sessions. As the students were unable to complete the program with the adolescent girls, arrangements were made for them to conduct some of their

mentoring activities in high schools and different middle schools in an effort to meet their course requirements. These replacement activities often involved one-time interventions or activities that prevented the students from building relationships with the girls over time. It should be noted that the semester in which this issue occurred, only the adults were being measured, and the adolescent girls with whom they were working that semester were not participants in this study.

Measures

Measures given to both adults and adolescent girls. Three measures were given to both adult and adolescent participants. These measures can be seen in Appendix F.

Demographics. All participants (adolescent girls and university women) in the study will complete a demographics questionnaire developed for the purpose of this study. Demographics that were included in this questionnaire are age, race, ethnicity, family financial situation, and level of education. The adolescent girls were additionally asked about intentions to attend college and information about height and weight. Although data on height and weight were also collected from the university women, this information was gained from the disordered eating measure (EDDS) that they received. In addition, the women in the study were also asked about relationship status and living situation.

The Rosenberg Self-Esteem Scale (SES). The SES (Rosenberg, 1965) is a widely used self-report instrument designed to directly measure global feelings of self-worth or self-acceptance in adolescents and adults. The SES was used to assess all participants (adolescent girls and university women) in this study. The measure contains 10 items and takes less than five minutes to complete. It was originally designed to be used with a Guttman-type scale, but a four-point response format is typically used (Blaskovich & Tomaka, 1991). In addition, other

researchers have used a Likert scale format, employing 5- or 7-point scales in order to broaden the range of scores. For the purpose of this study, a 7-point Likert scale format was used. For the original sample, a group of 5,024 high school juniors and seniors from randomly selected high schools in the state of New York were tested. Both convergent and discriminant validity have been established for this measure (Fleming & Courtney, 1984; Reynolds, 1988). In addition, Fleming and Courtney (1984) found good internal consistency (Cronbach α of .88) and test-retest reliability (test-retest correlation of .82 with 259 participants with a one-week measurement interval.) This measure was included in this study because it is a brief, straightforward assessment of self-esteem, which has been shown to be a common correlate of eating problems in adolescent girls (Kansi, Wichstrøm, & Bergman 2003; Sonuga-Barke, Davies, & Thompson, 1996) and undergraduate women (Mintz & Betz, 1988) and which is a dependent variable in this study.

Participants were also asked to complete the Liberal Feminist Attitude and Ideology Scale – Short Form (LFAIS-SF; Morgan, 1996). This scale was developed to assess not only women's adherence to traditional gender roles and beliefs about women's rights (as most feminist scales do) but, in addition, prescription to sociopolitical aspects of feminist ideology. The original 70-item measure has several subscales to assess gender roles, goals of feminism (specific political agendas and global goals), and feminist ideology and underpinnings (discrimination and subordination, importance of collective action, and consciousness raising). Analyses reveal that the scale has excellent reliability (Cronbach's alpha for the entire scale was .94 in the original study) as well as good concurrent validity (correlation coefficients with other feminism measures were high in the validation sample; personal identification = $.61^b$, support for current women's movement = $.68^b$, and appraisal of current movement = $.67^b$) and weak

divergent validity (social desirability = .11ns, personal efficacy = .10 ns). The 11-item short form has high internal consistency. In addition, it correlates significantly with behaviors such as writing letters in favor of women's rights, responses to sexist insults, and the recognition of sexism in a commercial. Per the suggestion of the authors, the item that assesses participants' attitudes regarding the Equal Rights Amendment was removed from the scale as many young women and girls are unfamiliar with the movement to amend the United States Constitution in order to guarantee gender equality.

Measures Specific to Adolescent Girls

Children's Depression Inventory Short Form (CDI - S). The CDI – S (Kovacs, 1992, 2003) is a 10-item self-report instrument designed to measure symptoms of depression in school-aged children and adolescents and which can be completed in five to ten minutes. The standardization sample consisted of 1,266 students in grades two through eight who were attending Florida public schools (592 of which were boys aged 7 to 15, and 674 were girls aged 7 to 16). Scores obtained from the CDI – S indicate how much below or above average a child's score is, compared with the normative data. Although cut-points have not been determined for the CDI-S by independent researchers, Kovacs suggests that *T*-scores at or above 65 are generally indicative of a level of depression warranting clinical attention. For this population (girls between the ages of 11 and 13), a score of 8 or above would produce a *T*-score of 65 or above. Parents of girls who received an 8 or higher were contacted by telephone and advised of their child's score on this measure and responses to specific items that indicate problematic thoughts or behaviors. These phone calls were followed up with letters to the parents that provided information on locally available, low-cost mental health resources to help ensure that adolescent participants acquire access to proper psychological care. Psychometric analyses

indicate that the CDI-S has good internal consistency reliability (coefficient $\alpha = .7962$) and the CDI – S approximates overall content of the full CDI at an acceptable level ($r = .89$ between CDI-S and full CDI). The CDI also appears to have acceptable test-retest reliability. In addition, several studies assessing different types of validity have demonstrated adequate validity for use with children and adolescents between the ages of 7 and 17. The CDI scores were combined with scores on a measure of anxiety (RCMAS) to obtain an overall measure of general psychological distress, which is a dependent variable in the present study. The general psychological distress score was accomplished by transforming the raw scores on each scale to Z scores and then adding them together. This procedure was undertaken to improve the ability to detect a change in this construct as the participants were not drawn from a clinical sample; thus, it was not expected that they would report significantly high scores on either measures.

Revised Children’s Manifest Anxiety Scale, Second Edition (RCMAS-2). The RCMAS - 2 (Reynolds & Richmond, 2008) is a self-report measure designed to assess the severity and nature of anxiety in 6- to 19-year-old children. The RCMAS – 2 is a full revision of the Revised Children’s Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985). The short form contains 10 items, is appropriate for research purposes, and can be completed in less than 5 minutes. The standardization sample included 2,368 children between the ages of 6 and 19 who were representative of the U.S. population in terms of gender, ethnicity, and socioeconomic status. The Short Form Total Anxiety Score (SF-TOT) is composed of three subscales measuring Physiological Anxiety, Worry, and Social Anxiety. Internal consistency for the SF-TOT is good (Cronbach’s $\alpha = .82$) and test-retest reliability is adequate ($r^b = .54$; Reynolds, Livingston, & Willson, 2006). The SF-TOT was used to measure anxiety in the present study and was combined with a standardized measure of depression as an estimate of general psychological

distress. As with the depression measure, parents of children who indicated a high level of anxiety on this measure (as demonstrated by a score of 7 or higher) were notified and provided with information on low-cost psychological services in the area.

Objectified Body Consciousness Scale for Youth (OBC-Youth). The OBC-Youth (Lindberg, Hyde, & McKinley, 2006) is a 14-item self-report instrument developed to be an age-appropriate measure of objectified body consciousness (OBC: the tendency to view oneself as an object to be looked at and evaluated by others). The sample used for instrument development consisted of 319 children (164 girls, 155 boys) who had just completed the fifth grade. In addition, a separate sample of 31 children (17 girls, 14 boys) was tested to evaluate test-retest reliability and construct validity of the measure. The measure takes approximately 10 minutes to complete. The measure contains three subscales that assess body surveillance, body shame, and appearance control beliefs. However, psychometric analyses indicate that the OBC-Youth has good internal consistency for the body surveillance and body shame subscales, but is low on the control beliefs scale with the main sample and test-retest sample of children. As such, the authors recommend using caution when interpreting this scale with pre-adolescents. Further, test-retest reliability was adequate for all three subscales, and construct validity was established through correlations between the OCB-Youth and measures of body esteem, attitudes toward appearance, and public self-consciousness. As body shame and body surveillance are associated with disordered eating behavior in women and adolescent girls (Slater and Tiggemann, 2002; Tylka & Hill, 2004), and the psychometrics of the appearance control beliefs scale are questionable, only the body shame and body surveillance subscales were used in this study and combined as a measure of the dependent variable, OBC.

McKnight Risk Factor Survey –IV (MRFS-IV). The MRFS-IV (McKnight Investigators, 2003) is a revised version of the MRFS-III (Shisslak et al., 1999). This self-report instrument was used in this study to assess disordered eating behavior and thoughts in adolescent girls. The measure was designed to assess both risk and protective factors contributing to the development of disordered eating in adolescent and preadolescent girls. The MRFS-IV differs from the previous version only in that a few items were rewritten, added, or dropped based on the test-retest data garnered from version III (McKnight Investigators, 2003). The standardization sample for the MRFS-IV included 1,002 middle school girls (6th to 8th grade) from California and Arizona. The test-retest reliability for the MRFS-III was very high for the middle school girls. In addition, internal consistency, test-retest reliability, and convergent validity were also high for this age group (Shisslak et al., 1999). Further, the McKnight investigators (2003) subsequently conducted a longitudinal study that demonstrated the predictive validity of the instrument as higher scores on factors measuring concerns about weight, shape, and eating significantly predicted onset of full scale ED in young women in middle school and high school. Further, two studies have demonstrated the usefulness of this measure with a population of African American girls (Dalton et al., 2007; Sherwood et al., 2004). This is important as the sample of adolescent girls in the present study was predominantly African American.

The questionnaire contains 103 items that assess seven separate factors: 1) thin body preoccupation and social pressure (questions related to media modeling, concern with weight/shape, peer concern with thinness, dieting behaviors, and weight teasing by peers); 2) substance use; 3) parental influence (questions related to parent concern with thinness and weight teasing by parents); 4) general psychological influences (appearance appraisal,

confidence, depressed mood, and social evaluation); 5) social support (supportive people and support and sharing); 6) number of negative life events; and 7) school performance. For this study, only the subscales that assess the factors of thin body preoccupation and social pressure, substance use, parental influence, social support, and school performance were used. As such, only 60 of the original 103 items were included in this version of the measure. Further, for the purposes of analyzing the hypotheses in this study, a composite score was created using only the items that directly assessed eating and dieting behavior and attitudes. It took approximately 15 minutes for the participants in this study to complete the measure. See Appendix G for all adolescent measures.

Measures Specific to University Women

Beck Depression Inventory-II (BDI-II). The BDI-II (Beck et al., 1996) is a self-report instrument that was developed to measure severity of depression and takes approximately five minutes to complete. It consists of 21 items and can be administered to individuals 13 years and older. The standardization sample consisted of 500 outpatient clients, including 317 women and 183 men, and 120 non-referred college students. Cut-off scores have been established for minimal, mild, moderate, and severe depression. Women who scored 20 or above on this measure were notified and referred for counseling. The BDI-II has been found to have adequate reliability and validity. Scores on this measure were combined with scores on the BAI in order to determine level of psychological distress that the women in this study were experiencing.

Beck Anxiety Inventory (BAI). The BAI (Beck, Brown, Epstein, & Steer, 1988) is a 21-item self-report inventory for measuring severity of anxiety symptoms. The measure takes approximately 5 minutes to complete. The original standardization sample included 1,086 psychiatric outpatients (42% men, 58% women), and the final subsample included 160

participants who completed the final version of the BAI used to conduct extensive validation of the measure. The analyses indicate that the BAI has high internal consistency and test-retest reliability and good discriminant and concurrent validity. Scores on this measure were combined with scores on the BDI-II as a measure of psychological distress.

Objectified Body Consciousness Scale (OBCS). The OBCS (McKinley & Hyde, 1996) is a 24-item self-report instrument developed as a measure of objectified body consciousness (OBC: the tendency to view oneself as an object to be looked at and evaluated by others). As with the OBC Youth, the OBCS contains three subscales that assess body surveillance (the tendency to use self-surveillance and focus on seeing one's body as others see it), body shame, and appearance control beliefs. The measure takes approximately 10 minutes to complete. Response choices for items on the OBCS are rated on a 7-point scale ranging from strongly agree to strongly disagree. Psychometric analyses indicate that the OBCS is factorially sound, internally consistent, and temporally reliable (McKinley & Hyde, 1996). Unlike with the OCB Youth, the control beliefs scale on the OBCS demonstrated adequate internal consistency ($\alpha = .72$) and good construct validity when used with undergraduate women. As such, this scale was included when measuring OBC as a dependent variable in the present study. This measure was included because components of OBC, body shame and body surveillance, are associated with disordered eating behavior and attitudes in college women (Greenleaf & McGreer, 2006; Tylka & Hill, 2004).

Eating Disorder Diagnostic Scale (EDDS). The EDDS (Stice et al., 2000) was developed as a brief diagnostic measure of AN, BN, and BED to be used in etiological research and prevention and treatment studies. The scale contains 22 items and takes approximately 5 minutes to complete. The EDDS can be used to generate subscale scores indicative of threshold

or subthreshold diagnoses of AN, BN, or BED or a single full scale symptom composite score. For the purposes of evaluating the hypotheses in this study, only the symptom composite score was used. It was initially proposed that women who met criteria for full-threshold EDs would be notified and referred to counseling; however, none of the participants in the study met criteria for these disorders based on their self-reports on this scale.

The standardization sample for the EDDS included 367 adolescent girls and women between the ages of 13 and 65 who were recruited from the metropolitan areas of San Francisco, New York, Minneapolis-St. Paul, and Austin. The original two studies conducted by the authors (Stice et al., 2000) demonstrated that the scale possessed temporal stability and high internal consistency. Further, good criterion validity was established through comparison with interview diagnoses, and content validity was established through use of a panel of ED experts. Convergent validity was supported as individuals identified as having an ED by the scale also scored high on existing eating pathology inventories. Stice, Fischer, and Martinez (2004) found additional support for the criterion validity, convergent validity, and internal consistency of this measure. Further, the questionnaire was found to be sensitive to the effects of a dissonance-based ED prevention program, and demonstrated predictive validity in that it was able to predict response to the prevention program and future onset of disordered eating behavior and cognitions. This questionnaire was included because disordered eating behavior is the primary dependent variable in this study.

The Brief Young Adult Alcohol Consequences Questionnaire (B-YAACQ). The B-YAACQ (Kahler, Strong, & Read, 2005) is a comprehensive and efficient measure of alcohol problems in college students derived through item response modeling of the items from the original Young Adult Alcohol Consequences Questionnaire (YAACQ: Read, Kahler, Strong,

Colder, 2006). The sample used for instrument development included 340 college students (176 women) from a midsize northeastern university who reported that they drank alcohol at least once a week. The scale contains 24 items and should take approximately five minutes to complete. Kahler, Strong, and Read (2006) reported that the final 24-item scale had items adequately matched to the severity of alcohol problems in the sample, covered a full range of severity of problem, and appeared highly efficient in retaining all of the meaningful variance captured by the 48 items from the original measure. The YAACQ demonstrated good concurrent validity in comparison with other measures of alcohol involvement (Read et al., 2006). Further, Kahler, Hustad, Barneet, Strong, and Borsari (2008) performed a subsequent validation study of a 30-day version of the measure (as opposed to the 12-month time frame of assessment used in the original measure) with college students who received citations for alcohol violation and were mandated to participate in an alcohol intervention by the university. This study found the 30-day version of the B-YAACQ to have high internal consistency at baseline ($\alpha = .84$) and six-week follow-up ($\alpha = .89$). This measure was combined with a measure of alcohol consumption to assess the dependent variable alcohol abuse.

Alcohol Consumption Questionnaire. Adult participants completed a questionnaire developed for the purpose of this study to assess alcohol use in the past 90 days. This measure asked questions about typical quantity and frequency of alcohol consumption, average weekly frequency of heavy drinking (four or more drinks in a single sitting), and average weekly frequency of drunkenness. Before answering these questions, participants were advised that a “standard drink” consists of one ounce of hard liquor, six ounces of wine, or 12 ounces of beer. This measure was combined with the B-YAACQ to measure the dependent variable alcohol abuse. See Appendix J for a copy of all adult measures.

Results

Data Analyses

Missing Data Imputation. Several participants in the study left blank responses to single questions and sections of certain questionnaires. It should be noted that for the adolescent participants, most of the missing data referred to weight, and for the adult participants most of the missing data referred to disordered eating behaviors. In both cases, it appeared that these items were intentionally left blank. Some respondents circled two response choices per question. As such, it was necessary to address some of the missing data to perform the analyses. For the questions left blank by participants, means of the participants' responses to the measure or subscale of the measure were calculated and substituted for the missing data when possible. Unfortunately, on the EDDS it was not possible to replace the missing data with scale or subscale means due to the extremely variable nature and phrasing of the questions. As such, responses on this measure from three participants were unusable and removed from the final analyses. In the case of participants who provided two responses for the same question, the more conservative (against stated hypotheses) of the two responses was chosen.

Sample Descriptions

The attrition rate for both samples was relatively low. For the adolescent girls, 34 participants completed the pre-intervention measures, and 31 participants completed the post-intervention measures. The three girls who did not participate in the post-intervention data collection were ineligible as they had dropped out of the *It's Great to be a Girl!* program after only one or two sessions. For the university women, 39 participants completed the pre-intervention measures, and 36 participants also completed the post-intervention assessment. The three women who did not complete the study were absent from class on the day the post-

intervention measures were completed. Efforts were made to contact these women to make arrangements to complete the study, but none of these participants replied to the requests for further participation in the study.

Adolescent girls. All 31 adolescent participants who completed the study were students at Ypsilanti Middle School, and the demographic variables of the sample approximated those of the population at this school. Participants were in the 7th and 8th grade and were, on average, 12.61 years of age at the time of the study (age range from 12 to 14). The majority of the participants identified as Black or African American (51.6%), followed by 38.7% who identified as Bi/multiracial, and 9.7% identifying as Caucasian/White. With regard to family income, only 18 of 34 participants who completed pre-intervention data provided responses to this question. Of those who did respond, 43.7% indicated that their family income was below \$10,000 a year, and 25.0% described their family income as being between \$10,000 and \$24,999 a year. Of the rest of the girls who responded, one identified her family income as \$25,000 to \$49,999 a year, another stated her family income was \$50,000 to \$74,999, and three participants reported a family income of \$75,000 to \$99,999. It should be noted that during data collection many girls indicated that they did not know this information and these numbers may not truly reflect the actual financial situations of these girls and their families.

The mean BMI for girls in the study was 25.88 (SD = 7.80), and scores ranged from 17.40 to 51.30. It should be noted that nine (29%) of the adolescent participants did not provide this information. While some participants claimed that they did not know this information, others stated that they did not want to provide it. According to the Centers for Disease Control and Prevention, healthy weight ranges for children cannot be determined as they can for adults because healthy weight ranges change for each month of age for each sex and because healthy

weight ranges change as height increases (Centers for Disease Control and Prevention, 2011). However, by using percentile rankings for age, it is possible to gain some understanding of weight categorization.

These “age for weight status” charts indicate that a girl of 12.5 years (the mean age of girls in our study) with a BMI of 15 or below would be underweight, between 15.20 and 22.20 would be healthy weight, between 22.21 and 25.80 would be overweight, and above 25.80 would be obese. While these guidelines would indicate that the mean BMI for girls in this study is in the obese category, the extremely large standard deviation demonstrates how variable these scores are, and it should be noted that the mean score is skewed by just a few girls who had extremely high BMIs. This effect can be seen in Figure 3. In addition, further inspection of the BMI data reveals that the modal BMI for the girls was 19.50 and the median score was 23.50. It should also be noted that a paired samples t-test was performed on pre- and post-intervention BMI scores and found no significant differences, $t(17) = -.767, p = .454$. Table 2 provides information on adolescent sample characteristics.

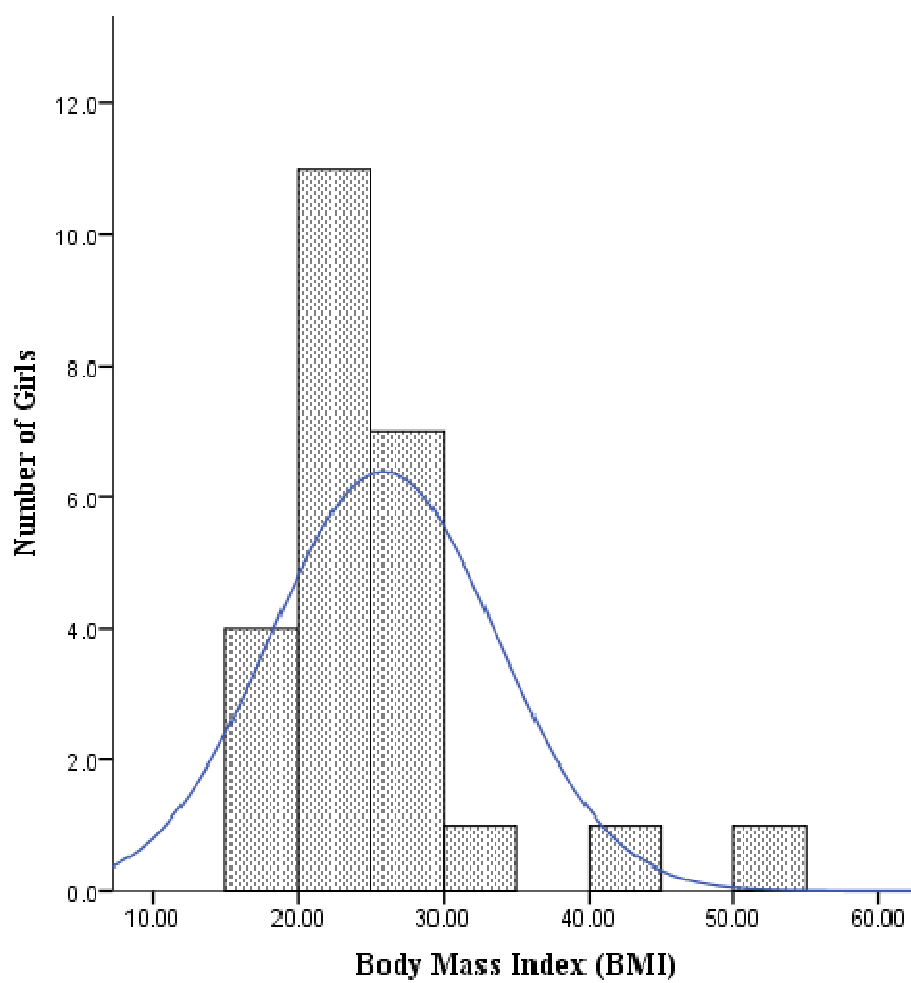


Figure 3. Distribution of Body Mass Index Scores for Adolescent Participants.

Table 2

Demographic characteristics of Adolescent Participants.

N=31	
Variable	Mean (SD) or Percentages
Age	12.61 (SD = .62)
BMI	25.88 (SD = 7.80)
Race or Ethnicity	
White or Euro-American	9.7% (3)
Black or African-American	51.6% (16)
Biracial or Multiracial	38.7% (12)
Household Income	
Below \$10,000	43.7% (7)
\$10,000-\$24,999	25.0% (4)
\$25,000-\$49,999	6.3% (1)
\$50,000-\$74,999	6.3% (1)
\$75,000-\$99,999	18.8% (3)

University women. All 36 adult participants were female undergraduate students at Eastern Michigan University, and the demographic variables of the sample approximated those of the population at this university. Participants were, on average, 23 years of age at the time of the study and ranged in age from 18 to 58. Eighteen to twenty-one-year-olds made up 66.6% of the sample, and only five participants were over the age of 25. The majority of the participants were White/European American (52.8%), followed by African American women, composing

36.1% of the sample. Very few participants in the sample identified as being of races or ethnicities other than Black or White. As such, although this practice is not preferred from a multicultural perspective, for purposes of ease of analysis, participants who identified as “Hispanic/Latina/Chicana, Asian or Pacific Islander, Native American, and Middle Eastern” were combined into one group hereafter referred to as “other.”

The majority of the sample was single, with 80.6% reporting that they had never been married. With regard to income, the largest group of participants (19.4%) reported that their household income was between \$75,000 and \$99,999. In addition, 11.1% reported an income of below \$10,000, 16.7% indicated a household income of \$10,000-\$24,000, 16.7% reported \$25,000-\$49,999, 13.9% selected \$50,000-\$74,999 as their income, and 16.7% claimed a household income of above \$100,000. The majority of participants (66.7%) reported that they live with their parents or roommates. Most of the participants (77.8%) reported their employment status as “Full time student” and only 13.9% indicated that they live alone. The mean BMI for adult participants in the study was 25.13 ($SD = 5.85$), and scores ranged from 15.10 to 40.30. Although this mean BMI score would be considered “overweight,” this finding appears to be skewed due to the scores of a few women with very high BMIs. This can be seen in Figure 4. In addition, the median BMI score for the women was 23.50 and the mode was 24.10, with both scores falling in the normal weight range. It should also be noted that a paired samples t-test was performed on pre- and post-intervention BMI scores and found no significant differences, $t(33) = -.911, p = .369$. Figure 4 provides adult sample characteristics.

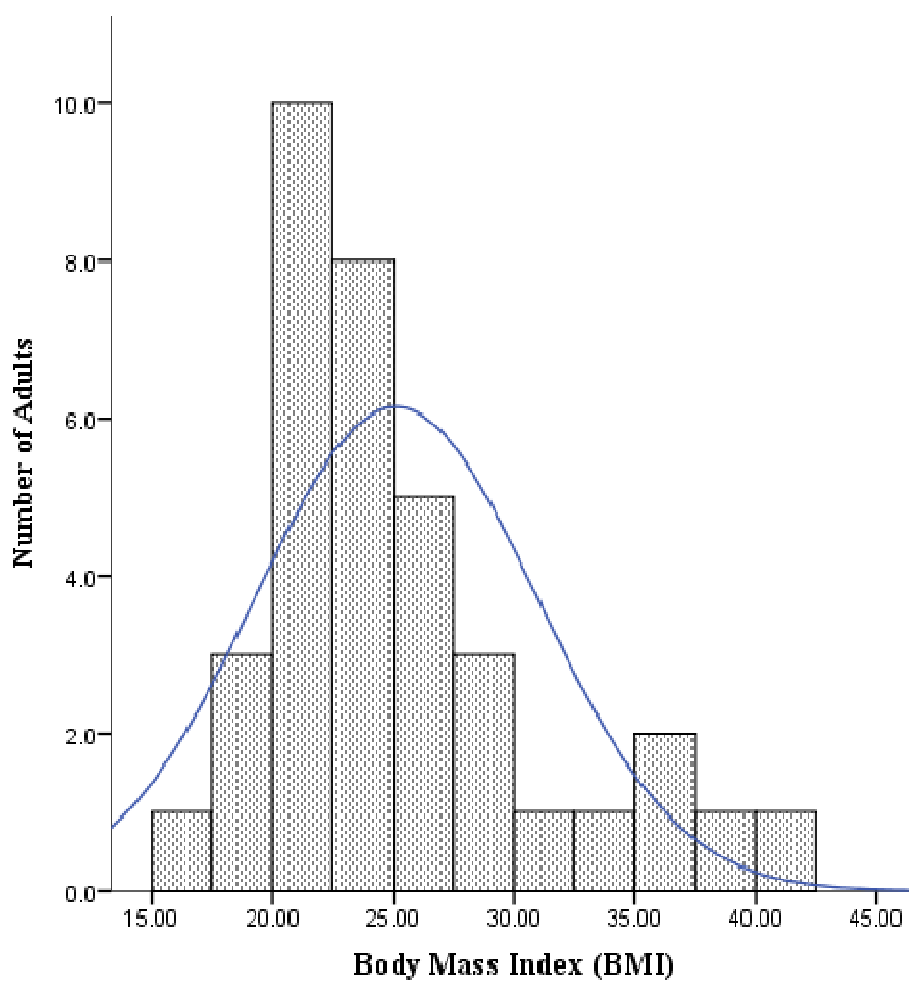


Figure 4. Distribution of Body Mass Index Scores for Adult Participants.

Table 3

Demographic characteristics of Adult Participants.

N=36	
Variable	Mean (SD) or Percentages
Age	23.00 (SD = 8.89)
BMI	25.13 (SD = 5.85)
Race or Ethnicity	
White or Euro-American	52.8% (19)
Black or African-American	36.1% (13)
Latina, Chicana, or Hispanic	5.6% (2)
Asian or Pacific Islander	2.8% (1)
Middle Eastern	2.8% (1)
Native American	2.8% (1)
Marital Status	
Never Married	80.6% (29)
Now Married	2.8% (1)
Divorced	5.6% (2)
Separated	2.8% (1)
Living with partner	8.3% (3)
Household Income	
Below \$10,000	11.1% (4)
\$10,000-\$24,999	16.7% (6)
\$25,000-\$49,999	16.7% (6)

\$50,000-\$74,999	13.9% (5)
\$75,000-\$99,999	19.4% (7)
Above \$100,000	16.7% (6)

Living Situation

I live alone	13.9% (5)
Spouse/Partner	13.9% (5)
Extended Family	2.8% (1)
Parent(s)	38.9% (14)
Roommates	27.8% (10)
Other	2.8% (1)

Employment

Full time (40 hrs/wk or more)	2.8% (1)
Part-time	13.9% (5)
On disability	2.8% (1)
Retired	2.8% (1)
Student	77.8% (28)

Group Comparisons

As data from both the adolescent girls and the university women were collected over two different semesters, analyses were computed using Independent Samples T-tests to determine if the groups differed with regard to demographic characteristics. In addition, due to changes in the program precipitated by changes in the school district (as discussed above), many of the adolescent participants had taken part in the program once prior to this study. As such, an Independent Samples T-test was also performed to explore group differences on the variables of interest between girls who were new to the program and girls who were not.

For the adolescent participants, the only significant difference found in demographic variables was that the girls who participated in the Winter semester of 2011 ($N = 15$) were significantly older than the girls who participated in the Fall of 2010 ($N = 19$), $t(32) = -2.42, p < .05$. Although this difference was significant, it should be noted that the mean age of students in the Fall semester was 12.47, and the mean age of the students in the Winter semester was 13.00 years of age. Further, the racial and financial demographics of the groups were similar between the two semesters with the exception that the three White participants all participated during the Fall semester, leaving only participants who identified as African American/Black and Bi/multiracial in the winter semester.

Only one significant difference was found between girls who had participated in *It's Great to Be a Girl!* prior to the beginning of this study and those who had not. Girls who had participated in the program before ($N = 25$) were found to score significantly higher on the measure of feminist identity pre-intervention than girls who had not participated in the program before ($N = 11$), $t(32) = -2.691, p = .01$. It should be noted that this difference did not remain post-intervention.

Analyses of the adult participants revealed that there were no significant differences in most demographic variables between the participants from the Winter semester of 2010 ($N = 19$) and the Fall semester of 2010 ($N = 20$). However, the racial composition of the groups was different in that the Winter group was composed of 50% African American/Black participants and 46.1% White/European American participants, and in the Fall semester the sample included only 25% African American/Black participants and 60% White/European American participants.

Preliminary Analyses

For both the adolescent and adult participants, correlation matrices were constructed with the demographic variables and variables of interest (see Tables 4 and 5). In addition, independent samples T-tests were also computed to explore group differences on the dependent variables between the participants based on race, marital status, employment, and living situation. This was done to identify any demographic variables that might act as covariates to be controlled for while analyzing the main hypotheses. These analyses indicated that there were significant relationships among some of the variables of interest and demographic variables.

Adolescent girls. Significant correlations were found between the demographic variable of BMI and measures of Self-Esteem, Disordered Eating, and Psychological Distress. There was a significant negative correlation between BMI and self-esteem, $r = -.506, p < .01$, and significant positive correlations between BMI and disordered eating, $r = .509, p < .01$, and BMI and psychological distress $r = .464, p < .05$. In addition, significant correlations were found between measures of Self-Esteem, Objectified Body Consciousness, Disordered Eating, and Psychological Distress. Further, there were significant negative correlations between self-esteem and disordered eating $r = -.655, p < .01$ and self-esteem and psychological distress $r = -.637, p < .01$. There was also significant positive correlations between objectified body consciousness

and disordered eating $r = .591, p < .01$ and objectified body consciousness and psychological distress $r = .660, p < .01$. Last, a strong positive correlation was found between disordered eating and psychological distress $r = .855, p < .01$. Table 4 provides a correlation matrix for adolescent participants.

Independent samples T-tests revealed pre-intervention differences on three dependent variables between girls who identified as African American/Black and girls who identified as biracial or multiracial. That is, African American/Black girls scored significantly higher than Biracial/multiracial girls on pre-intervention scores on the RSE (self-esteem measure), $t(29) = 2.091, p < .05$. In addition, the African American/Black girls scored significantly lower than the self-identified Biracial/Multiracial girls on the MRFS composite (disordered eating measure), $t(29) = -2.539, p < .05$, and measures of psychological distress, the CDI and RCMAS $t(29) = -3.157, p < .01$. No other significant differences were found between the participants on demographic variables.

Table 4

Correlation Matrix for Adolescent Participants

	1.	2.	3.	4.	5.	6.	7.
1. Age							
2. Family income	.019						
3. BMI	.125	-.277					
4. Self-Esteem	-.150	-.078	-.506**				
5. Feminist Identity	.010	.014	.269	.188			
6. Objectified Body Conscious	.050	.151	.283	-.436*	-.033		
7. Disordered Eating	.265	-.173	.509**	-.655**	.013	.591**	
8. Psychological Distress	.161	-.066	.464*	-.637**	-.114	.660**	.855**

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

University women. Correlations between measures of Self-Esteem, Positive Body Image, Disordered Eating, Psychological Distress, and Drinking problems were statistically significant. There was a significant positive correlation between positive body image and self-esteem $r = .354, p < .05$. In addition, significant negative correlations were found between disordered eating and self-esteem $r = -.349, p < .05$ and disordered eating and positive body-image $r = -.759, p < .01$. Further, there were significant negative correlations between psychological distress and self-esteem $r = -.663, p < .01$ and psychological distress and positive body image $r = -.392, p < .05$. A significant positive correlation between psychological distress and disordered eating behavior was found $r = .435, p < .05$. Finally, significant negative

correlations were found between drinking problems and self-esteem $r = -.743$, $p < .01$ and drinking problems and positive body image $r = -.363$, $p < .05$, along with significant positive correlations between drinking problems and psychological distress $r = .390$, $p < .05$ and drinking problems and disordered eating behaviors $r = .857$, $p < .01$. It should also be noted that the relationship between the two scales used to assess drinking problems was examined to verify the appropriateness of combining these measures, and a moderate, positive correlation was found between the scores on these scales $r = .607$, $p < .01$. Table 5 provides a correlation matrix of adult participants.

An independent samples T-test revealed that African American/Black women scored significantly lower than White/European American women on pre-intervention scores on the EDDS (disordered eating measure), $t(28) = 2.716$, $p < .05$. In addition, women who were ethnically classified as “Other” scored significantly higher on the OBCS (measure of objectified body consciousness than Black women, $t(15) = 2.100$, $p = .05$. No other significant differences were found between the participants on demographic variables.

Table 5

Adult Correlation Matrix

Variable	1	2	3	4	5	6	7	8
1. Age								
2. BMI	-.158							
3. Family Income	.133	-.014						
4. Self-Esteem (RSE)	-.028	-.115	.006					
5. Feminist Identity (LFAIS)	.148	.044	.047	.079				
6. Positive Body Image (OBCS)	.076	-.155	-.284	.354*	.311			
7. Disordered Eating Bx (EDDS)	-.199	.067	.144	-.349*	-.225	-.759**		
8. Psychological Distress (BDI&BAI)	-.050	-.167	-.013	-.663**	-.123	-.392*	.435*	
9. Drinking Problems (BYAACQ&ACC)	.068	-.014	-.064	-.743**	-.110	-.363*	.390*	.857**

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Descriptive Statistics of Measures of Interest

Descriptive statistics of the measures of interest in the study were computed pre-intervention for both the adolescent and adult participants. When possible, the means on these measures were compared to published normative data using one sample t-test and comparator means. However, it should be noted that for some measures (LFAIS-SF, OBC-Y, OBCS, EDDS and the MRFS-IV) there was no normative data available with which to compare the current sample.

Adolescent girls. For the adolescent girls, the mean score on Rosenberg Self-Esteem Scale (SES) was 55.74 (SD = 10.93). This score was significantly higher than the norm for females between 12 and 13 years of age, $t(33) = 2.59, p = .01$ (Bagley, Bolitho, Bertrand, 1997). On the Liberal Feminist Attitudes and Ideas Scale – Short Form (LFAIS – SF), the mean score was 44.68 (SD = 6.62). There have been no published studies utilizing this scale with adolescent participants. However, compared with a study that utilized this measure with a large sample of university students (Burn, Aboud, & Moyels, 2000), the adolescent participants were significantly lower on feminist identity, $t(33) = -5.65, p < .001$. This comparison must be taken with great caution given that the use of the one sample t-test is predicated on the assumption that the sample being compared to the normative population is demographically similar. As there is a significant disparity in age, the sample in the current study was not a subsample of the normative population, but this test was utilized nonetheless to give a frame of reference for the meaning of this result. Responses to the Children’s Depression Inventory – Short Form (CDI-S) revealed a mean score of 2.82 (SD = 3.69). This score did not differ significantly from the norm for a nonclinical sample of 12 to 13-year-old adolescents (Kovacs, 2003), indicating that participants in the current study displayed an “average” level of depression. Responses on the Revised

Children's Manifest Anxiety Scale – 2nd Edition (RCMAS-2) yielded a mean score of 2.68 (SD = 2.45). The score on the RCMAS was also significantly lower than that of the population mean for this age, $t(33) = -3.39, p < .05$ (Reynolds & Richmond, 2008). The mean score on the Objectified Body Consciousness Scale for Youth (OBC-Y) was 32.44 (SD = 13.87). Compared with the adolescent girls used in the validation study conducted during the creation of this scale (Lindberg, Hyde, & McKinley, 2006), there was no significant difference on the subscale of “Body Surveillance.” However, on the subscale of “Body Shame,” the participants in the current study were significantly higher than the participants in the validation study, $t(33) = 2.13, p < .05$. Last, the Composite of the McKnight Risk Factors Survey – IV (MRFS-IV) yielded a mean score of 16.00 (SD = 5.47).

As this composite score was created for the purposes of this study, there is no normative score with which to compare it. However, the authors of this subscale have provided normative data for the *subscales* used in this composite. An analysis of the subscale scores for this sample compared with mean scores for Black adolescent girls of the same age revealed that there were no significant differences on pre-intervention scores except for the subscales of “Over Concern with Weight and Shape” and “Weight Control Behaviors.” On the “Over Concern with Weight and Shape” subscale, it was found that the adolescents in the current study scored significantly higher than the normative sample pre-intervention, $t(33) = 2.12, p < .05$. However, post-intervention, there was no significant difference between the adolescents in the current study and the normative sample on this subscale. On the “Weight Control Behaviors” subscale, the adolescents in the current study were significantly higher than the normative sample pre-intervention, $t(33) = 2.22, p < .05$, and significantly lower post-intervention, $t(31) = 1.77, p = .05$. In addition, comparison of post-intervention data revealed that the adolescents in this sample

were significantly lower than the normative sample on the subscales of “Binge Eating,” $t(31) = 1.37, p < .001$, “Purging,” $t(31) = 1.08, p = .01$, “Emotional Eating – Less,” $t(31) = 1.55, p < .001$, and “Emotional Eating – More,” $t(31) = -3.13, p < .01$. Table 6 provides more information on Descriptive Statistics for the adolescent participants

Table 6

Descriptive Statistics of Adolescent Measures of Interest – Pre-intervention

Measure	Mean	SD	Min	Max	Possible Min	Possible Max	Alpha
SES	55.74	10.93	24.00	70.00	10	70	.85
LFAIS-SF	44.68	6.62	30.00	58.00	10	60	.65
CDI-S	2.82	3.69	0.00	15.00	0	20	.85
RCMAS-2, SF-TOT	2.68	2.45	0.00	9.00	0	10	.76
OBC-Youth	32.44	13.87	9.00	61.00	9	63	.92
MRFS-IV Composite	16.00	5.47	8.63	31.58	8	61	.89

Note: $n = 34$ for all measures. SES = Rosenberg Self-Esteem Scale. LFAIS-SF = Liberal Feminist attitudes Scale – Short Form. CDI-S = Children’s Depression Inventory – Short Form. RCMAS-2 = Revised Children’s Manifest Anxiety Scale, Second Edition, Short Form Total Anxiety Score. OBC-Youth = Objectified Body Consciousness Scale for Youth. MRFS-IV = McKnight Risk Factor Survey –IV.

University women. For the university women, the mean score on Rosenberg Self-Esteem Scale (SES) was 57.91 (SD = 10.90). A one-sample t-test revealed that this score was significantly higher than the population mean, $t(35) = 2.61, p < .05$ (Sinclair, Blais, Gansler, Sandber, E., Bistis, LoCicero, 2010). On the Liberal Feminist Attitudes and Ideas Scale – Short Form (LFAIS – SF), the mean score was 50.00 (SD = 6.27). Although there are no norms

published for this scale, comparison with a study that utilized this measure with a large sample of university students (Burn, Aboud, & Moyels, 2000) revealed no significant differences between the two samples on this measure. Analysis of participants' responses to the Beck Depression Inventory – II (BDI-II) revealed a mean score of 10.00 (SD = 10.08). This score did not differ significantly from the published norm for this age group (Beck, Steer, & Brown, 1996), indicating that the participants in the current study closely resemble a nonclinical sample in the population. Responses on the Beck Anxiety Inventory (BAI) yielded a mean score of 11.47 (SD = 9.83), which was not significantly different from the mean score of the normative sample (Beck, Brown, Epstein, & Steer, 1988). This finding suggests that the participants in the current study did not demonstrate a higher level of anxiety than average. The mean score on the Objectified Body Consciousness Scale (OBCS) was 75.22 (SD = 13.70). No normative data exists for this scale, but a recent study which used the OBCS with 161 college women reported scale scores that can be used to gain some level of comparison (Chen & Russo, 2010). Analyses revealed the current study participants demonstrated significantly lower “Body Shame,” $t(35) = 3.15, p < .01$, and significantly higher “Body Surveillance,” $t(35) = 3.11, p < .01$, and “Control Beliefs,” $t(35) = 2.04, p < .001$. Analysis of participants' responses to the Eating Disorder Diagnostic Scale (EDDS) revealed a mean score of 21.02 (SD = 15.74). This scale is relatively new, and the authors have not provided any information on normative data. However, in their report of the validation trials conducted on the measure, the authors provide data gathered on a sample of 180 undergraduate women who were enrolled in a seminar on disordered eating (Stice, Fischer, & Martinez, 2004). Comparison of the current sample with a nonclinical sample from the validation trial revealed no significant differences. On the Brief Young Adult Alcohol Consequences Questionnaire (BYAACQ), the mean score was 2.58 (SD = 3.95). This score was

significantly *lower* than the population mean, $t(35) = -7.02, p < .001$ (Kahler, Strong, & Read, 2005). Last, the Alcohol Consumption Questionnaire yielded a mean score of 7.04 (SD = 7.47). As this measure was created for this study, there is no norm with which to compare it. However, one of the four questions on the measure asked how often the women in the study had more than our drinks at a time over the past month. The majority of the participants (55.6%, N = 20) responded “none,” 19.4% (N = 7) responded “once,” 11.1% (N = 4) responded “twice,” 8.3% (N = 3) responded “3 -5 times,” 2.8% (N = 1) responded “6 – 9 times,” and 2.8% (N = 1) responded “more than 10 times.” Data available on the general population of female students at Eastern Michigan University demonstrate that when asked how often they had consumed more than five drinks in a sitting over the past *two weeks*, 62% responded “none,” 19.1% responded “1 – 2 times,” 2.9% responded “3-5 times,” and .7% reported they had more than 5 drinks 6 or more times (American College Health Association, 2011). As compared with these data, it appears that the students in the present study consume at or below the same level of alcohol as the general student population at this university. Table 7 provides more information on Descriptive Statistics for the adult participants.

Table 7

Descriptive Statistics of Adult Measures of Interest – Pre-intervention

Measure	Mean	SD	Min	Max	Possible Min	Possible Max	Alpha
SES	57.91	10.90	26.00	70.00	10	70	.90
LFAIS-SF	50.00	6.27	31.00	60.00	10	60	.80
BDI-II	10.00	10.08	.00	52.00	0	63	.92
BAI	11.47	9.83	.00	43.00	0	63	.92
OBCS	75.22	13.70	45.00	99.00	22	132	.86
EDDS	21.02	15.74	.00	65.00	0	109	.87
B-YAACQ	2.58	3.95	.00	19.00	0	24	.91
ACQ	7.04	7.47	.00	27.00	0	n/a	.88

Note: n = 36 for all measures. SES = Rosenberg Self-Esteem Scale. LFAIS-SF = Liberal Feminist attitudes Scale – Short Form. BDI-II = Beck Depression Inventory – II. BAI = Beck Anxiety Inventory. OBCS = Objectified Body Consciousness Scale. EDDS = Eating Disorder Diagnostic Scale. B-YAACQ = The Brief Young Adult Alcohol Consequences Questionnaire. ACQ = Alcohol Consumption Questionnaire.

Tests of Hypotheses

Hypotheses related to adolescent participants. As compared to pre-intervention assessment, it was hypothesized that adolescent participants would demonstrate statistically significant improvements on post-intervention measures of

Hypothesis 1) disordered eating

Hypothesis 2) psychological distress

Hypothesis 3) objectified body consciousness

Hypothesis 4) self-esteem

Hypothesis 5) feminist identity

Hypotheses 1 through 5 were tested using a repeated-measures Multiple Analysis of Variance (MANOVA). MANOVA was used instead of mixed model analysis of variance (ANOVA) because MANOVA does not assume sphericity, which is easily violated with ANOVA as sphericity is difficult to meet in many cases (Weinfurt, 2000). Use of MANOVA rather than ANOVA further guarded against the probability of committing a type I error. Levene's Tests of Equality of Error Variances were assessed for both the adolescent and adult participants' data sets to determine if the data met the assumption of normality required for MANOVA. All of the DVs assessed for the adult participants were found to be normally distributed. Although most of the DVs were found to be normally distributed for the adolescent girls, a few of them (disordered eating pre-intervention, disordered eating post-intervention, self-esteem pre-intervention, and psychological distress pre-intervention) did not demonstrate normal distribution. However, it should be noted that MANOVAs are robust to violations of normality in sample sizes that produce at least 20 degrees of freedom for error in the univariate test when sample sizes are equal (Tabachnick & Fidell, 2001). As the current sample demonstrated 28 degrees of freedom for error in the univariate test, robustness of the test should be ensured.

To test these hypotheses, the dependent variables were measured by scores on the scales of disordered eating (MRFS-IV), psychological distress (CDI-S and RCMAS-II-SF), objectified body consciousness (OBCSY), self-esteem (RSE), and feminist identity (LFAIS; Hypotheses (1, 2, 3, 4, 5). Within-subject main and interaction effects were evaluated to investigate improvements in the above listed domains following participation in the intervention (*It's Great to be a Girl!* mentoring program). As significant relationships were found on pre-intervention measures on some of these dependent variables and the demographic variable of race, race was used a grouping variable in the model.

Results of the analysis revealed that when race was used a grouping variable, a significant effect was found for overall Time, $F_{(5,24)} = 5.017, p < .01, \eta^2_p = .511$. In addition, significant main effects were found for the dependent variables of disordered eating ($F_{(1,28)} = 14.202, p = .001, \eta^2_p = .337$), which was significantly lower post-intervention, and feminist identity ($F_{(1,28)} = 4.262, p < .05, \eta^2_p = .132$), which was significantly higher post-intervention. Non-significant effects were found for the dependent variables of self-esteem ($F_{(1,28)} = .189, p = .667, \eta^2_p = .007$), objectified body consciousness ($F_{(1,28)} = 2.553, p = .121, \eta^2_p = .084$), and psychological distress ($F_{(1,28)} = .011, p = .917, \eta^2_p = .000$). Further, non-significant interactions were found between the demographic variable of race and the dependent variables of disordered eating ($F_{(2,28)} = 2.668, p = .087, \eta^2_p = .160$), feminist identity ($F_{(2,28)} = .898, p = .419, \eta^2_p = .060$), self-esteem ($F_{(2,28)} = .515, p = .603, \eta^2_p = .035$), objectified body consciousness ($F_{(2,28)} = 2.291, p = .120, \eta^2_p = .141$), and psychological distress ($F_{(2,28)} = 1.566, p = .227, \eta^2_p = .101$). Based on the results, Hypotheses 1 and 5 were supported, but Hypotheses 2 through 4 were not supported. Adjusted means on DVs pre- and post-intervention are provided in Table 8.

Table 8

Pre-intervention and Post-intervention Adjusted Means for Adolescent Participants

	Pre-intervention		Post-intervention	
	M	Std. Error	M	Std. Error
Disordered Eating	16.15	1.21	12.77	1.06
Self-esteem	54.69	2.49	55.63	2.17
Psychological Distress	-.117	.373	-.151	.399
Objectified Body Consciousness	32.54	3.26	29.07	3.21
Feminist Identity	43.76	1.34	47.31	1.31

Hypotheses related to adult participants. In addition, as compared to pre-intervention assessment, undergraduate participants would demonstrate statistically significant improvements on post-intervention measures of

Hypothesis 6) disordered eating

Hypothesis 7) psychological distress

Hypothesis 8) objectified body consciousness

Hypothesis 9) self-esteem

Hypothesis 10) alcohol use and abuse

Hypothesis 11) feminist identity

Hypotheses 6 through 11 were also tested using a repeated-measures Multiple Analysis of Variance (MANOVA).

To test these hypotheses, the dependent variables were measured by scores on the scales of disordered eating (EDDS), psychological distress (BDI and BAI), objectified body

consciousness (OBCS), self-esteem (RSE), alcohol abuse (ACQ and BYAAC), and on the measure of feminist identity (LFAIS; Hypotheses 6, 7, 8, 9, 10, 11). Within-subject main and interaction effects were evaluated to investigate improvements in the above listed domains following participation in the intervention (*It's Great to be a Girl!* mentoring program). As a significant relationship was found on pre-intervention measures between the scores on the measures of disordered eating and objectified body consciousness and the demographic variable of race, this variable was included as a covariate in the model.

Results of the analysis revealed that when using race as a grouping variable, there was a non-significant effect for overall Time, $F_{(6,24)} = 2.433$, $p = .056$, $\eta^2_p = .378$. However, a significant main effect was found for the dependent variable of feminist identity ($F_{(1,28)} = 14.687$, $p = .001$, $\eta^2_p = .336$), which was significantly higher post-intervention. Non-significant effects were found for the dependent variables of disordered eating ($F_{(1,28)} = .359$, $p = .553$, $\eta^2_p = .012$) self-esteem ($F_{(1,28)} = 1.998$, $p = .168$, $\eta^2_p = .064$), objectified body consciousness ($F_{(1,28)} = .098$, $p = .756$, $\eta^2_p = .003$), psychological distress ($F_{(1,28)} = .315$, $p = .597$, $\eta^2_p = .011$), and drinking problems ($F_{(1,28)} = .043$, $p = .838$, $\eta^2_p = .001$). Further, non-significant interactions were found between the demographic variable of race and the dependent variables of disordered eating ($F_{(2,28)} = 1.36$, $p = .272$, $\eta^2_p = .086$), feminist identity ($F_{(2,28)} = 2.065$, $p = .145$, $\eta^2_p = .125$), self-esteem ($F_{(2,28)} = 2.232$, $p = .125$, $\eta^2_p = .133$), objectified body consciousness ($F_{(2,28)} = .473$, $p = .628$, $\eta^2_p = .032$), psychological distress ($F_{(2,28)} = .477$, $p = .265$, $\eta^2_p = .032$), and drinking problems ($F_{(2,28)} = .1.200$, $p = .316$, $\eta^2_p = .076$). Based on these results, Hypothesis 11 was supported, but Hypotheses 6 through 10 were not supported. In addition, there were no trends towards significance observed on any of the tests of these hypotheses. These findings and their

implications will be further addressed in the discussion section. Adjusted means on DVs pre- and post-intervention are provided in Table 9.

Table 9

Pre-intervention and Post-intervention Adjusted Means for Adult Participants

	Pre-intervention		Post-intervention	
	M	Std. Error	M	Std. Error
Disordered Eating	21.40	3.13	19.94	3.61
Self-esteem	57.71	2.39	59.51	1.98
Psychological Distress	-.07	.38	-.22	.34
Objectified Body Consciousness	72.28	2.89	72.88	3.09
Feminist Identity	49.01	1.36	51.68	1.30
Drinking Problems	-.18	.39	-.11	.35

Discussion

The purpose of this study was to explore the effects of a mentoring program on adolescent mentees and their adult mentors. More specifically, the study investigated changes in disordered eating behavior, self-esteem, objectified body consciousness, psychological distress, and feminist identity pre- and post-intervention. In addition, substance use was measured in mentors. As many prevention programs have attempted to decrease disordered eating behaviors yet little success has been demonstrated by the vast majority of these programs, the primary aim of this study was to identify whether a mentoring program could reduce ED behaviors and attitudes among girls and young women. Further, the existing research presents a complicated picture of the etiology of disordered eating and several studies have provided conflicting findings

on the relationship between self-esteem, psychological distress, objectified body consciousness, feminist attitudes, substance use, and disordered eating. As such, hypotheses also included these additional variables as anticipated correlates of the primary variables of interest.

Disordered Eating

Disordered eating was the central phenomenon under investigation in this study. The finding that adolescents demonstrated a significantly lower score on the composite ED measure post-intervention supported the hypothesis that adolescent participants in the *It's Great to be a Girl!* mentoring program would experience significant reductions in disordered eating behavior. This hypothesis was further supported by the finding that post-intervention levels of bingeing, purging, and emotional eating (both eating more and eating less to cope with emotions) dropped significantly below the normative levels for this population. This result is also indicative of effective prevention, which is of great significance as prevention is extremely important due to the difficulty nature of treating full-threshold ED. Although a decrease in disordered eating was expected, the finding is somewhat puzzling in that related domains under investigation, such as self-objectification, psychological distress, and self-esteem did not demonstrate significant changes. In light of these findings, it is difficult to speculate on *why* changes in disordered eating occurred. Although this program does not specifically aim to change disordered eating behavior, it does directly address concepts such as positive body image, healthy relationships, and coping with emotions. Some of the literature on disordered eating has suggested that a “covert” approach to reducing disordered eating behavior may be more successful in creating change in this behavior (O'Dea, 2004; Stice, Mazotti, et al., 2000; Stice & Ragan, 2002). It was hypothesized that this covert approach, through addressing issues *related* to disordered eating, might be beneficial in changing disordered eating behavior in this program. However, as the

study found no significant changes in self-esteem, psychological distress, and self-objectification, it is unlikely that the results are due to changing these related variables. In addition, it should be noted that ceiling and floor effects were found for some of these variables. These effects will be discussed below in the Limitations section.

As the mean BMI for adolescent participants in this study fell in the “obese” range, it is important to consider whether the reduction in disordered eating of the adolescent participants was in fact a lapse in appropriate dieting of students who needed to lose weight in order to achieve improvement in their health. However, although this may be a possibility, two aspects specific to the population and the study suggest otherwise. First, as stated above, although the mean BMI was in the “obese” range, this average was skewed by two participants with extremely high BMIs (in the 40s and 50s). Closer inspection of the data revealed that the vast majority of the participants were in the average range. Therefore, most of the participants did not need to use weight loss strategies to improve their health status. In addition, the questionnaire used to assess disordered eating with the adolescents contained subscales that assessed weight and shape concerns, dieting behavior, bingeing behavior, purging behavior, and emotional eating. As such, only a small number of items on the questionnaire are related to eating behaviors that could be conceptualized as appropriate dieting.

As the BMI for the adult participants fell in the “overweight” range, it is similarly important to consider whether the *lack* of significant decrease on this variable was an appropriate adherence to weight loss strategies. Again, as with the adolescents, the mean BMI for adults was an inaccurate representation of the sample as the majority of the participants fell in the average range for BMI. In addition, the assessment employed to measure disordered eating in adults was specifically designed to diagnose eating disorders and referenced behaviors regarding bingeing,

purging, loss of control, excessive exercise, and preoccupation with weight and shape. As such, very few questions on the measure related to behaviors that could be construed as healthy approaches to weight loss.

As it is unlikely that lack of significant reduction in disordered eating behavior was due to continuation of appropriate dieting behaviors, and this domain was a central phenomenon of interest in this study, it is prudent to consider why the adults did not experience a decrease in this domain. As mentioned in the Results section, it is difficult to interpret these results because this scale is relatively new and the authors have not provided any information on normative data. However, in their report of the validation trials conducted on the measure, the authors report data gathered from a sample of 180 undergraduate women who were enrolled in a seminar on disordered eating (Stice, Fischer, & Martinez, 2004). The sample in this study serves as a good comparison because the participants were university students, the majority of women in both studies were White, and they were similar in mean age (21.6 years in the validation study and 23.0 years in the current study) to the students in the present study. There are two differences in these samples that should be noted, however. In the validation study, only 2% of the participants were Black, and in the current study 31.6% identified as Black or African American. In addition, the mean BMI of the validation study sample was in the healthy range (22.5), but the mean BMI of our sample was in the overweight range (25.13).

Despite these differences, the samples are sufficiently similar to provide some point of comparison for the current study. In the validation study, the authors reported that the average pretest score of the participants was 3.76 and posttest was .75. This study also used a matched control group that exhibited pretest mean scores of -.29 and posttest mean scores of .89 (non-significant difference). In comparison, the participants in the current study demonstrated a pre-

intervention score of .31, which more closely resembles the matched control group scores and the posttest scores of the intervention group. The matched control group is a good point of comparison as we would expect to find a similar rate of disordered eating as in the current sample, as neither was recruited with any mention of ED behavior and/or cognition. It should be noted that the authors also found a significant difference between the intervention and control groups on disordered eating, indicating that the intervention group was significantly higher on this variable. As such, it appears that the participants in the current study may have been healthy eaters prior to participating in the study, so significant effects may not have been found in this study due to their lower pre-intervention levels of disordered eating.

Objectified Body Consciousness

The lack of decrease in objectified body consciousness for the adolescent girls is somewhat puzzling given their reduction in disordered eating. As many previous studies (Fredrickson & Roberts, 1997; Slater and Tiggemann, 2002; Tylka & Hill, 2004) have shown a relationship between this construct and disordered eating, and there was a decrease in disordered eating in this study, it would be expected that scores on the measure of this construct would have also decreased. In addition, pre-intervention analyses showed a significant positive correlation between disordered eating and objectified body consciousness. In light of these findings, it may be the case that the behavior (disordered eating) changes before the cognitions related to the behavior (self-objectification). As demonstrated by the literature on cognitive dissonance, it is possible for behavior change to precede attitude change (Festinger, 1957; Festinger & Carlsmith, 1959; Killen, 1985; Leake, Friend, & Wadhwa, 1999; Lippé, 1994). As such, it may take more time for one's self-concept to change, and we might anticipate seeing changes in this domain had the study been longer. It would be interesting to see if a longitudinal study or collection of

follow-up data from these participants would demonstrate significant reduction on this domain.

Feminist Identity

Although feminist identity was not a central focus in this study, changes in this construct were measured due to the feminist nature of the program. That is, an overarching theme of the *It's Great to be a Girl!* program was the creation of change through increased awareness (and subsequent resistance) of cultural stereotypes of girls and women. As such, feminist identity was expected to increase for both girls and women in the study.

As predicted, feminist identity did significantly improve for both girls and women in the study. As such, it appears that the empowerment model employed by the program was effective in raising feminist consciousness through improved understanding and resistance of negative cultural portrayals of girls and women. However, it should be noted that, for the women, this result may have also been influenced by their experiences with the Conversations with Girls course. That is, along with teaching about the most effective approaches to mentoring adolescent girls, the course also requires the women to attend lectures, do readings, and complete assignments related to further understanding the developmental and societal challenges adolescent girls face in our culture (see Appendix K for the syllabus). These readings and lectures may have been influential in creating a change in this domain in addition to or instead of their experiences with serving as mentors to the adolescent participants. Further, simply the fact that women involved in this program are referred to as “Femtors” in order to highlight their role as feminist mentors may have increased their likelihood to self-identify as feminists.

Participants

Adolescent Girls. Adolescent participants in the study were primarily Black/African American or Bi/multiracial girls between the ages of 12 and 14. Although information on

socioeconomic status was incomplete due to missing data, it appears that many of the girls in the study were from relatively low income families. These demographic factors are important as relatively little attention has been paid to potential ethnic and racial disparities in eating pathology in children and adolescents in the literature on disordered eating prevention programs (Shaw, Stice, & Becker, 2009). The results of this study confirm that the relationships among the dependent variables are also observed within a mostly minority population. That is, there were several significant correlations between dependent variables that further support the multifactorial nature of disordered eating. For adolescent girls, self-esteem was found to be significantly negatively correlated with BMI, objectified body consciousness, psychological distress, and disordered eating. In addition, objectified body consciousness was highly positively correlated with psychological distress and disordered eating, which were also positively correlated with each other.

Some unexpected findings of the preliminary analyses of the data were the significant differences on some of the dependent variables as a result of racial identification. Adolescent girls who identified as African American/ Black appeared relatively healthier than girls who identified as biracial/multiracial. That is, African American/Black girls were higher on self-esteem and lower on disordered eating and psychological distress than Biracial/Multiracial girls. Some previous research has resulted in similar findings. In their study of biracial and monoracial adolescents, Bracey, Bamaca, and Umana-Taylor (2004) found that youth who identified as biracial scored significantly lower on a measure of self-esteem. In addition, an examination of the data collected in the National Longitudinal Survey of Adolescent Health found that biracial adolescents reported significantly higher levels of depression and lower levels of self-worth than White and monoracial minority peers (Milan & Keiley, 2000). The authors of this study adopted

a social constructionist perspective in their attempt to explain these findings and speculated that lack of a clear label in a culture that places profound importance on classification of individuals by their ethnic heritage may have had a negative impact on these adolescents' sense of self-worth, stating, "if one does not exist in language, how important can one be to others?" (312).

However, more recent studies provide a more complicated picture of the impact of multiracial identification. Research that investigated differences among multiracial individuals has found that some adolescents who identify with multiple groups demonstrate increased psychological well-being and social engagement (Binning, Unzueta, Huo, & Malina, 2009). This study surveyed a large sample of multiracial high school students and asked them to identify what group they *primarily* identified with. Results indicated that those who identified with multiple groups reported significantly higher scores on positive affect than multiracial students who identified primarily with a low-status group (i.e., Black or Latino) and lower on a measure of stress than individuals who identified primarily with a low-status group or a high-status group (i.e., White or Asian). The authors argued that previous research that grouped multiracial individuals together is flawed as "multiracial" is treated as a homogenous category and, as such, may be blurring important distinctions within the group. They then speculated that identification with multiple groups may benefit these individuals as their decision to self-identify in this manner may indicate a level of resiliency in their choice to resist the pressure to identify with one group.

Although, Binning, Unzueta, Huo, and Malina (2009) suggest that multiracial individuals may be able to benefit through focusing on different aspects of their identity depending on their social context, other research shows that malleability of racial identification is maladaptive for psychological health (Sanchez, Shih, & Garcia, 2009). That is, their examination of the effects

associated with racial malleability found significantly higher depressive symptoms among adults with malleable racial identification. Further, they found that this effect was mediated by unstable racial regard for individuals who demonstrate low tolerance for inconsistency and contradiction. However, individuals who had high tolerance for inconsistency did not appear to have negative psychological outcomes associated with malleability of racial identification. The authors point out that although previous research has found positive implications for multiple identifications (e.g. Cross, Smith, & Payne, 2002; Shih, Pittinsky, & Ambady, N., 1999), research focused on identification across multiple *social* categories (e.g. gender, race, and class) rather than multiple *racial* categories. They assert that these multiple identities within a *single* domain may actually undermine that domain. In light of these studies, understanding of the impact of multiracial identification appears extremely complex and clearly deserves further consideration in the literature. As such, more information would be needed about the racial identification of the girls in the current study to further understand the results.

University women. University women in the study were primarily single, young women in their 20s, from a range of socioeconomic backgrounds. Approximately half of the women were White and a third were African American/Black. As with the adolescent girls, university women showed significant relationships between the dependent variables under investigation. That is, self-esteem was significantly negatively correlated with objectified body consciousness, psychological distress, disordered eating, and problem drinking behavior. Unlike the girls, however, there was no relationship between these constructs and BMI. It may be that for the women, age or feminist identification was protective in that body weight and shape were not as strongly related to psychological distress, objectified body consciousness, disordered eating, and problem drinking. In addition, disordered eating was positively correlated with objectified body

consciousness, psychological distress, and problem drinking. These relationships are not surprising given the previous research in these domains. For example, Tylka and Hill (2004) found that body shame predicted disordered eating in college women, and Slater and Tiggemann, (2002) body shame led to disordered eating in adolescent girls. Further, Patton and colleagues (2003) found significantly higher rates of frequent alcohol use among participants with partial BN compared with the non-disordered comparison group. Finally, a number of studies have demonstrated a relationship between disordered eating and anxiety, depression, and substance abuse and use (Killen, Taylor, Telch, Robinson, Maron, & Saylor, 1987; Lewinsohn, Striegel-Moore, & Seeley, 2000; Patton, Coffey, & Sawyer, 2003; Santos, Richards, & Bleckley, 2007; Piran & Robinson, 2006; Wonderlich, 2006). As such, the findings in the current study give further support to the importance of objectified body consciousness as a construct related to disordered eating.

Preliminary analyses revealed some differences between the participants based on racial identification. That is, Black/African American women scored significantly lower on disordered eating than White women. In addition, Black/African American women scored significantly higher on positive body image than women classified as “other.” This finding lends support to previous research indicating that Black women may have some protective factors relating to body image and disordered eating (Akan & Grilo, 1995; Alan, Mayo, & Michel, 1993; Casper & Offer, 1990; Molloy & Herzberger, 1998; Parker, Nichter, Nichter, & Vuchovic, 1995).

Limitations

Mentoring relationships. This study was the first to examine the ability of a mentoring program to promote positive changes in both adolescent mentees and their adult mentors in the realms of disordered eating, psychological distress, feminist identity, objectified body

consciousness, and self-esteem. As the only significant result for the adolescent girls was in the domain of disordered eating, it is important to consider why there was a lack of significant effects for the other dependent variables in light of the role of mentoring. Recent research has shown that the ability of mentoring to have an effect on adolescents is determined by the quality of relationships in their lives prior to the mentoring experience (Schwartz, Rhodes, Chan, & Herrera, 2011). That is, adolescents with satisfactory relationships prior to the mentoring experience benefitted significantly more from mentoring than adolescents with strongly positive *or* strongly negative pre-existing relationships. As such, it may have been that the adolescent participants in this study failed to benefit from the experience in regard to psychological distress and self-esteem due to the quality of their pre-existing relationships. Future research might benefit from incorporating measures that assess the quality of mentees' interpersonal relationships.

Alternatively, the quality of the *mentoring* relationships may have affected this study's ability to detect changes in both the adolescent and adult participants. Anecdotal information about the mentoring relationships gained from the PI's conversations with the director of the mentoring program may shed light on the lack significant findings. As mentioned above, the study was originally intended to be conducted with adult mentors from both the University of Michigan and Eastern Michigan University, but only students from EMU were used for the study due to the difficulty in securing instructor permission to work with the U of M femtors. During a meeting about the logistics of data collection, the director of *It's Great to be a Girl!* mentioned that she would be coming to the program unannounced on the day of data collection to observe the mentors. She reported that she was experiencing problems with the EMU students in that she had received reports from her site directors that the EMU students were not engaging with the

mentees as much as the U of M students. She stated while a few mentors were working closely with the girls, many of the mentors were observed to be more interested in interacting with each other than with the mentees. As such, it may be that the adolescent girls did not experience positive gains in self-esteem, psychological distress, and objectified body consciousness due to a failure to build beneficial relationships with the mentors. This lack of engagement on the part of the mentors may have also prevented the women from gaining benefits on the variables under investigation from participation in the program.

Floor and Ceiling Effects

For both adolescent girls and university women, scores on some of the dependent variables were sufficiently low prior to the intervention that decreases in those constructs were unlikely to be observed.

More specifically, a floor effect may have prevented detection of significant changes in regard to psychological distress as measured in the adolescent participants. The mean scores on the measure of anxiety, which was combined with the measure of depression to indicate level of psychological distress, were low. Although the mean score on the CDI-S was in the “average” range and not significantly different from the population mean, the mean score on the RCMAS-2, SF-TOT was significantly lower than the reference sample norm. As such, the relatively low anxiety scores may have made it difficult to detect a significant reduction in psychological distress. Similarly, a ceiling effect may have prevented significant differences from being detected on the scores on the measure used to determine level of self-esteem. That is, the mean score on the SES was significantly higher than the normative score for females aged 12 to 13. These findings may indicate that the sample used in this study was relatively healthy prior to the intervention, limiting the potential of the intervention to have a meaningful impact.

The adult women also demonstrated relative health on some domains measured for the study, thus limiting the potential for change in these areas. Most notably, while the authors of the B-YAACQ report normative data indicating the mean score demonstrated by college students on this measure of problematic drinking is a 7.2 (Kahler, Strong, & Read, 2005), the participants in this study displayed a mean score of 2.58 pre-intervention, which was significantly lower than the norm. Additionally, while the normative score for the self-esteem measure (SES) is 53.17 (Sinclair et al., 2010), the students in this study had a pre-intervention mean score of 57.91, which was significantly higher than the norm. This information may indicate that the students in this study were already so healthy in these domains that it was unlikely that any intervention would promote significant changes in these areas due to the ceiling effect that was demonstrated.

Procedural and Methodological Issues

Programmatic and methodological problems surfaced during the course of this study for both adolescent and university women participants. The nature of program evaluation research is such that “real world” problems often occur during the course of a study due to the chaotic nature of not only conducting research outside of the laboratory, but also conducting research on existing programs and organizations that are under the control of third parties. As discussed above in the Procedures section (page 53 and 54), during the course of this study, issues with the course schedules, school district, weather, and building issues all affected the ability of the study to run smoothly.

Data collection. A limitation and possible explanation for the lack of significant results for the adolescent participants on many of the hypotheses may be related to the method of data collection employed during the study. That is, collecting the data in a group setting may have influenced the participants’ ability to honestly answer the questions presented in the measures.

Although the participants were instructed to individually answer the questions on the measures (and frequently reminded of this instruction), the data were collected in either a large room void of chairs and tables, or a room with large tables and benches. As such, many of the girls sat together in small groups at the large tables or on the floor and were observed to be interacting during this time. It is possible social desirability was present in these interactions and influenced the participants' responses, and as such, the data may not be accurate reflections of their true feelings and behaviors. The principal investigator (PI) was present for all data collection events and observed the participants' interactions with each other while completing the questionnaires. Although some of the girls sat alone and spoke to no one while completing the measures, the majority of the participants sat in small groups and conversed while answering the questions presented on the scales, compared answers, looked at each other's forms, and commented on specific responses. The PI often overheard comments between the girls such as "What did you answer for number 5 on this one?" or "That's not true! You should change that answer!" As such, the participants may have felt pressure from their peers to respond in specific ways. Alternatively, they may have simply been too distracted to provide thoughtful and accurate answers. These factors may have resulted in an inaccurate representation of both their pre-intervention levels of the constructs measured and their post-intervention changes on these factors.

Prior program participation. As mentioned above in the Procedures section, due to changes in the school district that necessitated the program being offered to 7th and 8th grade girls instead of 6th grade girls as initially intended, most of the girls (23 of 31; 74%) who completed the study had already participated in the program before, and this may have affected this study's ability to detect significant changes in these domains. A dose-response curve may have occurred,

and it is plausible that more changes would have been observed had the data collection occurred pre- and post-intervention during the girls' first exposure to the materials. Although the program creators use different materials and activities each semester the program is offered, these materials address the same topics, and it may have been that previous exposure to these topics limited the ability see significant changes. However, if that were the case, higher pre-scores for the girls who had prior participation in the program should have been observed across the board, and this was only seen for the measure of feminist identity.

Timing of study. For the university women, the results may have been affected by the timing of the study. That is, as the data were collected in conjunction with a college course, the pre-intervention data were collected at the beginning of the semester and the post-intervention data were collected during finals week. As such, it may have been that their reports of psychological distress, disordered eating, and self-esteem were affected by this timing, as these constructs could all be influenced by the stress associated with final exams. A couple of studies have demonstrated that anxiety and depression levels rise during final exams (Martínez-Sánchez et al., 1998; Rosenthal, Edwards, & Ackerman, 1987). Further, Weidner, Kohlmann, Dotzauer, and Burns (1996) found that 4 of 5 health behaviors investigated (exercise, nutrition, self-care, and drug avoidance) worsened under the stress of final exams. Therefore, it may have been that at least some of the variables under examination actually did change in a positive direction as a result of the intervention, but these changes were not detectable as the stress of final exams temporarily inflated scores on these variables. In fact, on the day post-intervention data were collected, several of the students in the Conversations with Girls course were due to give their final exam presentations immediately preceding the data collection, which may have further exacerbated their distress.

Disrupted experience. Programmatic problems that were encountered during the first semester of this study may also have dampened the ability of the intervention to affect significant change in the variables of interest. As mentioned in the Procedures section, there were several issues with the program in the winter of 2010 due to weather and changes in the school district that resulted in some of the university women not receiving the full “intervention.” Although efforts were made to create a substitute for the usual program experience (e.g. providing one-time presentation of mentoring activities in a local high school), this disruption may have prevented the participants from experiencing essential components of the program.

Study design. Across both adolescent and adult samples, the design of the study is somewhat limited. In particular, as this was a pilot study, a quasi-experimental design was employed, and no control group was utilized. In addition, random selection was not used, and there may be some sampling bias and/or unknown qualities about the women who chose to take the Conversations with Girls course and become mentors and the adolescent girls who select to participate in *the It's Great to be a Girl!* program. That is, the characteristics of girls and women who choose to participate in these programs may make them statistically different than the general population on certain constructs that were measured for this study. As was noted previously, the women were significantly lower than the population mean on a measure of consequences of alcohol use, and the girls were significantly lower on anxiety. Moreover, both women and girls were significantly higher than the norm on self-esteem. As such, the significant changes found in the study cannot be said to be a direct cause of the intervention under investigation.

Measures. Some of the measures used in the study may have prevented optimal hypothesis testing. That is, some of the measures used to assess constructs in this study have had

limited use in previously published studies. As such, there was a lack of normative data with which to compare the participants in this study, making interpretation and understanding of their pre-intervention levels of the constructs challenging at best. Although these measures were limiting in their ability to interpret the data, use of these measures was the best option for examining the constructs under investigation. As such, it is important to recognize that more work is needed in regard to instrument development in these areas.

Missing or Inaccurate Information

A major limitation of the study relates to the missing data regarding BMI of the adolescent participants and eating behavior of the adult participants. As mentioned in the Results section, the majority of missing data in this study resulted from adolescent participants who seemingly refused to provide information on, or were unaware of, their current weight and/or height and adults who left unanswered questions about their eating behaviors. As such, it was impossible to calculate BMI for several adolescent participants, and some of the adult participants were excluded from the analyses regarding disordered eating behavior. The data that were collected on height and weight indicated that the girls' mean BMI was in the "obese" range. However, considering that nine participants (29%) in the adolescent sample did not provide this information, it is possible these mean scores are an inaccurate representation of these participants. Although some girls who failed to provide this information indicated that they did not know their weight and height, others expressed that they did not want to provide this information. This refusal seems to indicate a level of shame that speaks to the nature of the problem under investigation and the importance of this research. In addition, the adult women who did not respond to questions on eating behavior may have left this information unanswered precisely because they were employing unhealthy weight control behaviors. As discussed in the

literature review, research in this area is problematic as individuals who are at risk or have subclinical ED either do not respond or respond untruthfully to ED screens (Beglin & Fairburn, 1992; Yates, Edman, Crago, & Crowell, 2001). As such, the data missing from these individuals may have been particularly valuable in assessing whether the program was successful in changing disordered eating behavior for the women who most needed it.

In addition to the lack of information about BMI due to missing data, it is possible that these scores are also inaccurate due to the self-report method used to collect these data. An integrative review of the literature on self-reported height and weight in women found that women tend to overestimate their height and underestimate their weight (Engstrom, Paterson, Doherty, Trabulsi, & Speer, 2003). These imprecise estimates can cause significant inaccuracies in calculations of BMI. As such, the use of self-report to collect data on height and weight may have caused the information on BMI in this study to be inaccurate. This is important because accurate data on this variable may have allowed for a better understanding of the relationships between BMI and theoretically related constructs.

In addition to more accurate information on BMI, lack of information about the lives of the girls and women who chose to participate in the study may have been a limitation in this study. That is, knowing about the participants' previous experiences with variables such as mentoring, psychological assistance, friendships, family relationships, and so on could have provided more information for interpreting the data and gaining insight regarding the ability of the program to have significant effects on the certain subsets of participants.

Implications

Although the hypotheses investigated in this study produced mixed results, one very important result was found in that the adolescent participants did experience a significant

reduction in disordered eating behavior. This finding is even more noteworthy in light of the finding that, post-intervention, the girls in this study not only showed a significant reduction in disordered eating behavior, but they also demonstrated significantly lower binge eating, purging, emotional eating, and dieting behaviors than the normative sample for their age group. Should future studies replicate this finding and demonstrate that the effect is sustainable over time, the addition of mentoring components to eating disorder prevention programs would be warranted.

In addition, the findings indicate that for both adult women and adolescent girls, engagement in a mentoring program operating within an empowerment framework may increase their feminist identity. This is important because women who identify as feminist have demonstrated higher levels of self-esteem (de Man & Benoit, 1982) and self-efficacy (Eisele & Stake, 2008). In addition, feminist identity predicts improved coping in response to sexual harassment (Leaper & Arias, 2011). Further, feminist identification has been shown to be related to rejecting feminine norms of thinness and appearance (Hurt et al., 2007).

The relationships found in this study between demographic variables and disordered eating, psychological distress, and self-esteem further inform the literature on disordered eating. The finding that biracial/multiracial girls were significantly lower on self-esteem and significantly higher on disordered eating than Black/African American girls seems to indicate that this population warrants special attention in addressing these issues. A particular strength of this study is that the sample of adolescent participants was composed of primarily Black/African American and biracial/multiracial girls from lower socioeconomic backgrounds. This is important because most studies investigating disordered eating behaviors among girls are comprised of primarily White participants from higher socioeconomic backgrounds. In order to change the perception that disordered eating is a White, middle class problem, it is essential that

more studies investigate these behaviors with samples including a large percentage of people of color. In light of the findings in this study, it is imperative that more studies investigate the impact of multiple racial identities on psychological well-being.

The correlations found between disordered eating, psychological distress, self-esteem, objectified body consciousness, and BMI indicate that prevention programs would benefit from paying attention to and addressing all of these issues and problems simultaneously. That is, programs that aim to decrease disordered eating might benefit from incorporating components specifically designed to improve self-esteem, objectified body consciousness, and coping skills.

Future Directions

As no previous research has been conducted in this area, this pilot study was conducted to gain some preliminary information on the possibility of creating changes in disordered eating and other psychological variables through a mentoring group on both mentors and mentees. As this was a pilot study, use of a control group would have been premature at this stage. However, as this study demonstrated a significant decrease in disordered eating behavior among adolescent girls, it would be important to replicate this finding through conducting a study that also included a control group. Use of a control group would help determine whether the results were random and/or due to a decrease in this variable due to time.

In addition, use of follow-up data collection at 3 months, 6 months, and one year would be important to determine whether the effects of the program are maintained and perhaps even enhanced once participation has ended. Further, it would also be important to see if these improvements could be maintained through the use of simple booster sessions or some type of continued contact with the mentors of the study, even if minimal in nature (e.g. emails, text messages, etc.).

Since no changes were found for the adolescent girls in the variables of psychological distress, self-esteem, and objectified body consciousness, efforts should be made in future studies to identify the factors in the study that led to the significant decrease in disordered eating in this study. It is possible that building relationships with mentors and other girls in the program or receiving information on healthy body image or some unknown mechanism is responsible for this change. As such, methods and statistical analyses should be geared towards capturing data or gaining deeper insight into this variable.

In addition, a study that employed a larger sample size could be beneficial in gaining further insight into the phenomena under investigation by evaluating subgroups within the sample population. For example, a larger sample would allow a sufficient number of participants with higher levels of disordered eating to be identified. Comparison of participants with a high level of disordered eating with participants who display low levels of this behavior would help determine whether this intervention would benefit all women and girls or only those who are at risk for developing full threshold ED. In addition, a large sample would allow for stratification of groups by BMI, race, ethnicity, class, and so on. This would allow for further meaningful analyses of the data to determine how these factors impact the effectiveness of the intervention.

As BMI data were sparse and possibly inaccurate, use of direct measurement of height and weight would be recommended for future studies. This would not only allow for a more accurate assessment of BMI, but it would also ensure that data are collected from all the participants in the study on this variable.

In light of the observations regarding adolescent participant interactions with each other and the possible effect this may have had on the accuracy of the data, further efforts should be taken to ensure that adolescent participants complete the measures without conversing with each

other. Perhaps this could be accomplished through group data collection in a classroom setting where participants sit at individual desks. Alternatively, participants could be told that as a requirement of participation no discussion would be allowed, and research assistants could make concerted efforts to enforce this requisite.

As the results of the study for the adult participants may have been influenced by the stress of final examinations, future studies should endeavor to eliminate this potential confound. Although it might increase attrition, data could be collected the week following final exams or at the beginning of the following semester. Alternatively, efforts could be made to measure and control for this problem. Perhaps gaining information on the stress levels experienced by the individual participants by simply acquiring a rating of school related stress pre- and post-intervention would allow this phenomenon to be controlled for in the final analyses. Alternatively, efforts could be made to administer the measures the week before final exams; however, this option would not allow for completion of the program and the participants would not have gained the full mentoring experience before completing the post-intervention measures.

Given that the results of this study may have been impacted by a large number of adolescent participants having prior experience with the program, future studies should examine only students who have never participated in this mentoring program. Likewise, as programmatic changes prevented approximately half of the adult mentors from gaining a complete experience, future adult participants should be required to have a complete mentoring experience. As these problems were the direct result of anomalies in the program, it should not be difficult to satisfy these requirements.

Conclusion

The present study found that disordered eating significantly decreased for adolescent girls who participated in a group mentoring program that employed a feminist empowerment model. This finding is important because disordered eating is prevalent among adolescent girls and young women, and this behavior can have severe consequences. In addition to potential evolution into full-threshold eating disorders, women and girls with subclinical levels of disordered eating are more likely to experience depression, anxiety, substance abuse, and suicidal ideation. Despite these problems, subclinical disordered eating often goes untreated because it is not considered a disorder worthy of clinical attention. Moreover, eating disorder prevention programs could catch women and girls with these problems early and provide a type of intervention to address these problems before they evolve into full threshold ED. This is especially important as full threshold ED is particularly difficult to treat effectively. As such, the use of a group mentoring program may offer an effective option for reducing disordered eating behavior and preventing development of full threshold eating disorders. Use of this prevention model within a school setting is especially attractive as students with subclinical disordered eating need not be identified and singled out for participation. For a high base rate problem, such as this, a model like this could provide significant benefit to adolescent girls.

Of course, the ultimate goal would be to provide girls and young women with a social environment that encourages them to value their bodies for what they do instead of how they appear to others. In such an atmosphere, girls would focus their energies on creating strong, healthy bodies that could accomplish physical feats rather than creating thinner and thinner bodies with the primary goal of appearing attractive to others. As self-objectification among girls and young women has been identified by the APA Task force on the Sexualization of Girls as a

major issue facing this population (APA, 2007), this radical social transformation may not happen for a long time. In the meantime, identification of programs that can help young women and girls learn how to value agency over the appearance of their bodies could have a dramatic difference in their experience of their bodies and their selves.

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Appendix A**Letter of Support for Research From Project Director of
*It's Great to Be a
Girl!***

September 14, 2009

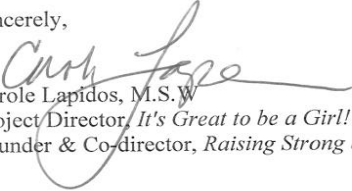
Human Subjects Review Committee
Eastern Michigan University
Ypsilanti, MI 48197

Re: Approval for Marya McCarroll's Dissertation Study

To whom it may concern;

My name is Carole Lapidos, and I am the Project Director of the *It's Great to be a Girl!* after school mentoring program for adolescent girls. Over the past year I have been meeting with Marya McCarroll to discuss the possibility of her doing a research study for her doctoral dissertation on the effects of involvement in *It's Great to be a Girl!* for both the adolescent girls and undergraduate mentors who are participating in the program. Marya has informed me in detail about the goals and procedures involved in this study. I am excited about the possibility of having some evidence to support my belief that this program is beneficial to girls and women, and I have given Marya my full support in collecting data from both the adolescent mentees and the adult mentors participating in *It's Great to be a Girl!*

Sincerely,



Carole Lapidos, M.S.W.
Project Director, *It's Great to be a Girl!*
Founder & Co-director, *Raising Strong and Confident Daughters*

Appendix B

Script for Recruiting Adolescent Participants

Hello, my name is Marya and I am a psychology student at Eastern Michigan University. I am very excited about *It's great to be a girl!*, and I think it will have a lot of great benefits for adolescent girls like you who participate in the program. In order to get a better understanding of how participating in *It's Great to be a Girl!* helps girls, I am conducting a research study. The results of my research study might help to get more support for programs like this, and to start programs like this in other schools. So that I can find out how *It's Great to be Girl!* helps girls like you, I need to get some girls who participate in the program to answer questionnaires for me both before the program starts and after the program ends.

If you decide to take part in the study, and your parents agree, you would fill out questionnaires at two different times that ask about general information about yourself, your moods, thoughts and feelings, dieting and eating habits, and feelings about your body. It should take between 45 minutes to an hour to fill out all the questionnaires. If you have any questions, you can ask me after the presentation or e-mail me at mmccarro@emich.edu. Thank you for letting me talk to you about my study.

Appendix C

Dear Parent/Guardian,

My name is Marya McCarroll, and I am a doctoral student at Eastern Michigan University. I am doing a research study on how mentoring programs like *It's Great to be a Girl!* may help girls maintain or improve their physical and emotional health. I am writing to ask your permission for your daughter to participate in this research study.

If you decide to allow your daughter participate in this study, she will be asked to fill out some questionnaires asking her about basic information about herself (age, ethnicity, etc.), diet and eating habits, moods and feelings, and thoughts and feelings about herself and her body. Total participation time for this study should be approximately one hour and will take place at regularly schedule *It's Great to Be a Girl!* meetings. This will happen once before she begins the program and once after she completes the program.

All answers your daughter gives on the questionnaires will remain private and will only be seen by the primary investigator and members of the research team. In order to make sure her information stays private, she will be given a code number that will be used for all of the information she provides. A master list linking her name and subject number will be stored separately from the data and will be destroyed at the end of the study. All data will be stored in a locked file cabinet at EMU.

There are no known benefits of participating in this study. As compensation for participating in the study, your daughter will receive a \$10 gift card to Target.

There are also no known risks associated with completing this study. However, if participating in this study upsets your daughter in any way or leads her to want to talk with a counselor, please contact me, Marya C. McCarroll, at the EMU Psychology Clinic, (734) 487-4987. I will then recommend places where you can get her help dealing with her feelings. Also, if your daughter does participate in this study and indicates that she is experiencing psychological distress, such as depression or anxiety, you will be immediately notified and given recommendations for how to find the appropriate services for your daughter. No questions will be asked of your daughter regarding abuse or neglect during the course of this study. However, if your daughter were to spontaneously report any abuse or neglect to the investigators of this study, Michigan law specifies that the researchers must file a report with Child Protective services.

Participation in this study is voluntary. That means that your daughter doesn't have to do it if you don't want her to or she doesn't want to. If you do decide to let her participate, you can change your mind at any time and take her out of the study. In addition, if she decides to participate, she can change her mind at any time and stop participating. There will be no penalty if she does not participate in this study. If significant new findings develop during the course of this study that could impact your willingness to allow your daughter to continue to participate, you will be informed of these findings and given an opportunity to withdraw her from the study.

No names or information that could identify your daughter will be shared. Information gained from this study may be presented at research meetings and conferences, in scientific publications, and as part of a doctoral dissertation being conducted by the principal investigator. This information will be presented in a group format only, and will contain no individual data.

This research has been approved by the EMU University Human Subjects Review Committee (UHSRC). If you have any questions about the approval process, you may contact the UHSRC at human.subjects@emich.edu or 734.487.0042.

Enclosed please find a self-addressed, stamped postcard that you can return to me if you DO NOT want your daughter to participate in this study.

If you do not return the postcard, we will assume that is okay for your daughter to participate.

Thank you for taking your time to read this letter and giving me the opportunity to explain my research study to you. If you have any questions concerning your daughter's possible participation in this study, you can contact me at (734)-487-4987 or via e-mail at mmccarro@emich.edu.

Sincerely,

Marya C. McCarroll, M. Ed., M.S.
Doctoral Candidate
Eastern Michigan University

Appendix D

Passive Parental Consent Postcard

RETURN THIS POST CARD ONLY IF YOU **DO NOT WANT** YOUR CHILD TO PARTICIPATE IN THIS STUDY. IF YOU DO NOT RETURN THIS POST CARD, YOUR CHILD WILL BE INVITED TO PARTICIPATE. THERE IS NO PENALTY FOR NOT PARTICIPATING.

I do not wish for my child to participate in Marya McCarroll's research study.

CHILD'S NAME _____

PARENT SIGNATURE _____

DATE _____

Parent Address

Marya C. McCarroll
611 W. Cross St.
Ypsilanti, MI 48197

Appendix E

Informed Assent

Project Title: The Mentoring Study

Researcher: Marya C. McCarroll, M.Ed., Doctoral Fellow

Co-Researcher: Michelle Byrd, Ph.D., Assistant Professor

Reason for the Study: The reason this study is being done is to find out if mentoring programs like *It's Great to be a Girl!* help girls keep up or improve the health of their minds and bodies.

Process of Study: You must be taking part in the *It's Great to be a Girl!* program at Ypsilanti Middle School in Ypsilanti to take part in this study.

If you choose to take part in this study, you will be asked to fill out some surveys asking you basic questions about yourself (age, background, etc.), dieting and eating, moods and feelings, and thoughts and feelings about yourself and your body. You will be asked to fill out one set of surveys before the program starts and one set of surveys after the program ends. Total time for taking part in this study should be about two hours (one hour at each time).

Privacy: All answers you give on the surveys will remain private and will only be seen by the researchers and members of the study team. Yet, if your answers to the questions we ask tells us that you are having problems like being sad or worried all the time, your parent(s) will be told about this in order to get you some help dealing with these feelings. In order to make sure your answers stay private, we will mark your surveys with a number instead of your name and no one will know who's answers are whose. All of your answers will be stored in a locked file cabinet at EMU.

Likely Risks: As far as we know, there are no risks to you by doing this study. Yet, you may feel strange answering questions about yourself and your body. If doing this study leads you to want to talk with a counselor, please tell your parent(s).

Likely Gains: There are no known gains to you, but doing this study may help to start more programs like this one in other middle schools.

Reward: You will receive a \$10 gift card from Target for doing this study.

Deciding to Take Part: It's up to you whether you take part in this study. That means that you don't have to do it if you don't want to. If you do chose to take part, you can change your mind at any time and take yourself out of the study. No one will be mad at you or punish you in any way if you do not take part in the study. If anything comes up during the course of this study that might make you change your mind about taking part, you will be told and given the chance to stop participating.

Use of Study Results: we are not going to tell anyone your specific answers to questions. instead we are going to talk about everyone's answers together at research meetings and in writing.

Questions: If you have any questions, please ask us now. If you have any future questions about taking part in this study, you can contact the researcher, Marya McCarroll, at (734) 487-4987 or via e-mail at mmccarro@emich.edu. You may also contact Dr. Michelle Byrd at (734)487-4919 or via e-mail at mbyrd@emich.edu.

Human Subjects Review Board: This research set of rules and informed assent document has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee (UHSRC) for use from January 1, 2010 to June 1, 2011. If you have any questions about the approval process, please contact Dr. Deb de Laski-Smith (734.487.0042, Interim Dean of the Graduate School and Administrative Co-chair of UHSRC, human.subjects@emich.edu).

Assent to Participate: I have read all of the above info about this research study, including the process of the study, possible risks, and the chance of any gain to me. All my questions, at this time, have been answered. By signing below, I understand that I agree to take part in this study.

PRINT NAME: _____

Your signature

Date

Witness

Date

Appendix F

Measures given to Adolescents and Adults

BACKGROUND INFORMATION (Adults)

1. What is your age? _____

2. Please mark the box or boxes that describe you race or ethnicity best.

- | | |
|---|--|
| <input type="checkbox"/> White, or European American | <input type="checkbox"/> Black or African American |
| <input type="checkbox"/> Chicana/Latina/Hispanic | <input type="checkbox"/> Asian or Pacific Islander |
| <input type="checkbox"/> Native American | <input type="checkbox"/> Middle Eastern |
| <input type="checkbox"/> Other: Please indicate _____ | |

3. Which language(s) is spoken in the home? _____

4. What is your marital status?

- | | | |
|--|--|-----------------------------------|
| <input type="checkbox"/> Never married | <input type="checkbox"/> Now married | <input type="checkbox"/> Divorced |
| <input type="checkbox"/> Separated | <input type="checkbox"/> Living with partner | <input type="checkbox"/> Widowed |

5. What is your family's estimated yearly household income?

- | | | |
|--|--|--|
| <input type="checkbox"/> Below \$10,000 | <input type="checkbox"/> \$10,000 - \$24,999 | <input type="checkbox"/> \$25,000 - \$49,999 |
| <input type="checkbox"/> \$50,000 - \$74,999 | <input type="checkbox"/> \$75,000 - \$99,999 | <input type="checkbox"/> Above \$100,000 |

6. With whom do you live?

- | | | |
|---------------------------------------|---|--|
| <input type="checkbox"/> I live alone | <input type="checkbox"/> Spouse/Partner | <input type="checkbox"/> Extended family |
| <input type="checkbox"/> Parent(s) | <input type="checkbox"/> Children | <input type="checkbox"/> Roommate(s) |
| <input type="checkbox"/> Other _____ | | |

7. What is your employment status?

- | | | |
|--|------------------------------------|--|
| <input type="checkbox"/> Full-time (40 hrs/wk or more) | <input type="checkbox"/> Part-time | <input type="checkbox"/> On disability |
| <input type="checkbox"/> Retired | <input type="checkbox"/> Student | <input type="checkbox"/> Homemaker |

BACKGROUND INFORMATION (Adolescents)

1. What is your age? _____
2. Please mark the box or boxes that describe you race or ethnicity best.
 White, or European American Black or African American
 Chicana/Latina/Hispanic Asian or Pacific Islander
 Native American Middle Eastern
 Other: Please indicate _____
3. Which language(s) is spoken in the home? _____
4. What is your family's estimated yearly household income?
 Below \$10,000 \$10,000 - \$24,999 \$25,000 - \$49,999
 \$50,000 - \$74,999 \$75,000 - \$99,999 Above \$100,000
5. Do you plan to go to college ____ yes ____no
6. Have you participated in It's Great to be a Girl! before? ____ yes ____no
7. What is your current height _____ and current weight_____?

The Rosenberg Self-Esteem Scale (SES)

Rosenberg (1965)

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

Liberal Feminist Attitudes and Ideology Scale – Short Form (LFAIS-SF; Morgan, 1996)

1. Women should be considered as seriously as men as candidates for the Presidency of the United States.
2. Although women can be good leaders, men make better leaders.
3. A woman should have the same job opportunities as a man.
4. Men should respect women more than they currently do.
5. Many women in the work force are taking jobs away from men who need the jobs more.
6. Doctors need to take women's health concerns more seriously.
7. America should pass the equal rights amendment.
8. Women have been treated unfairly on the basis of their gender throughout most of human history.
9. Women are already given equal opportunities with men in all important sectors of their lives.
10. Women in the U.S. are treated as second-class citizens.
11. Women can best overcome discrimination by doing the best that they can at their jobs, not by wasting time with political activity.

Appendix G

Adolescent Measures

The Children's Depression Inventory Short Form (CDI – S)

Kovacs (1992, 2003)

1. I am sad once in a while.

I am sad many times.

I am sad all the time.

2. Nothing will ever work out for me.

I am not sure if things will work out for me.

Things will work out for me O.K.

3. I do most things O.K.

I do many things wrong.

I do everything wrong.

4. I hate myself.

I do not like myself.

I like myself.

5. I feel like crying every day.

I feel like crying many days.

I feel like crying once in a while.

6. Things bother me all the time.

Things bother me many times.

Things bother me once in a while.

7. I look O.K.

There are some bad things about my looks.

I look ugly.

8. I do not feel alone.

I feel alone many times.

I feel alone all the time.

9. I have plenty of friends.

I have some friends but I wish I had more.

I do not have any friends.

10. Nobody really loves me.

I am not sure if anybody loves me.

I am sure that somebody loves me.

Revised Children's Manifest Anxiety Scale, Second Edition (RCMAS – 2)

Short Form Total Anxiety Score (SF-TOT)

Reynolds & Richmond (2008)

1. Often I feel sick to my stomach.
2. I am nervous
3. I often worry about something bad happening to me.
4. I fear other kids will laugh at me in class.
5. I have too many headaches.
6. I worry that others do not like me.
7. I wake up scared sometimes.
8. I get nervous around people.
9. I feel someone will tell me I do things the wrong way.
10. I fear other people will laugh at me.

Objectified Body Consciousness Scale for Youth

Lindberg, Hyde, & McKinley (2006)

1. I often compare how I look with how other people look.
2. During the day, I think about how I look many times.
3. I often worry about whether the clothes I am wearing make me look good.
4. I often worry about how I look to other people.
5. I feel ashamed of myself when I haven't made the effort to look my best.
6. I feel like I must be a bad person when I don't look as good as I could.
7. I would be ashamed for people to know what I really weigh.
8. When I'm not exercising enough, I question whether I am a good enough person.
9. When I am not the size I think I should be, I feel ashamed.

The McKnight Risk Factors Survey IV (MRFS-IV)

McKnight Investigators (2003)

1. In the past year, how often have you been on a diet TO LOSE WEIGHT?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

2. In the past year, how often have you worried about having fat on your body?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

3. In the past year, how often have you starved (not eaten) for a day or more TO LOSE WEIGHT?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

4. In the past year, how often did you drink alcohol when you were by yourself or with friends?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

5. In the past year, how often did you eat less than usual when you were bored?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

6. In the past year, how often have you felt fat?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

7. In the past year, how often have you tried to lose weight?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

8. In the past year, how often have you thought about wanting to be thinner?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

9. In the past year, how often has your father made a comment to you about your weight or your eating that made you feel bad?

(Remember that "father" is the adult man in your life who acts most like a father to you.)

I do not
have contact with
anyone that I think of
as a "father"

0	Never 1	A Little 2	Sometimes 3	A Lot 4	Always 5
---	------------	---------------	----------------	------------	-------------

10. In the past year, how often have you changed your eating when you were around girls/young women?

Never 1	A Little 2	Sometimes 3	A Lot 4	Always 5
------------	---------------	----------------	------------	-------------

11. In the past year, how often have you had someone you can count on to listen to you when you need to talk?

Never 1	A Little 2	Sometimes 3	A Lot 4	Always 5
------------	---------------	----------------	------------	-------------

12. In the past year, how often have you cut back on what you ate TO LOSE WEIGHT?

Never 1	A Little 2	Sometimes 3	A Lot 4	Always 5
------------	---------------	----------------	------------	-------------

13. In the past year, how often did you use drugs (not medicine)?

Never 1	A Little 2	Sometimes 3	A Lot 4	Always 5
------------	---------------	----------------	------------	-------------

14. In the past year, how often did you eat less than usual to try to feel better about yourself?

Never 1	A Little 2	Sometimes 3	A Lot 4	Always 5
------------	---------------	----------------	------------	-------------

15. In the past year, how often have you had someone to share your most private worries and fears with?

Never 1	A Little 2	Sometimes 3	A Lot 4	Always 5
------------	---------------	----------------	------------	-------------

16. In the past year, how often have girls/young women (including sisters) made fun of you because of your weight?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

17. In the past year, how often have you taken laxatives or “water” pills TO LOSE WEIGHT?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

18. In the past year, how often have you skipped meals TO LOSE WEIGHT?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

19. In the past year, how often have you kept eating and eating and felt like you could not stop?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

20. In the past year, how often has a teacher or coach made a comment to you about your weight that made you feel bad?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

21. In the past year, how often did you eat more than usual when you were bored?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

22. In the past year, how often did you smoke cigarettes?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

23. In the past year, how often have you exercised TO LOSE WEIGHT?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

24. In the past year, how often have you tried to change your weight so you would not be teased by boys/young men (including brothers)?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

25. In the past year, how often have you MADE yourself throw-up TO LOSE WEIGHT?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

26. In the past year, how often have you eaten less sweets or fatty foods TO LOSE WEIGHT?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

27. In the past year, how often have boys/young men (including brothers) made fun of you because of your weight?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

28. In the past year, how often has your mother made a comment to you about your weight or your eating that made you feel bad?

(Remember that "mother" is the adult woman in your life who acts most like a mother to you.)

I do not
have contact with
anyone that I think of
as a "mother"

0	Never	A Little	Sometimes	A Lot	Always
	1	2	3	4	5

29. In the past year, how often did you eat less than usual when you were upset?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

30. In the past year, how often have you taken diet pills TO LOSE WEIGHT?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

31. In the past year, how often did you eat more than usual to try to feel better about yourself?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

32. In the past year, how often have your female friends talked about wanting to lose weight?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

33. In the past year, how often have you changed your eating when you were around boys/young men?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

34. In the past year, how often did you eat more than usual when you were upset?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

35. In the past year, how often did you eat a lot of food in a short amount of time when it was NOT a meal or a holiday?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

36. In the past year, how often have you tried to change your weight so you would not be teased by girls/young women (including sisters)?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

37. In the past year, how often have photographs/pictures of thin girls/women made you wish that you were thin?

Never	A Little	Sometimes	A Lot	Always
1	2	3	4	5

38. In the past year, how much have you worried about gaining two pounds?

Not at all	A Little	Pretty Much	A Lot	Totally
1	2	3	4	5

39. If boys (including brothers) have teased you about your weight in the past year, how much has it changed the way you feel about yourself?

I have <u>not</u> been teased	Not At All	A Little	Pretty Much	A Lot	Totally
0	1	2	3	4	5

40. In the past year, how much has your weight made a difference in how you feel about yourself?

Not at all	A Little	Pretty Much	A Lot	Totally
1	2	3	4	5

41. In the past year, how happy have you been with the way your body looks?

Not at all	A Little	Pretty Much	A Lot	Totally
1	2	3	4	5

42. In the past year, how much do you think your weight made boys NOT like you?

Not at all	A Little	Pretty Much	A Lot	Totally
1	2	3	4	5

43. In the past year, how important has it been to your friends that you be thin?

Not at all	A Little	Pretty Much	A Lot	Totally
1	2	3	4	5

44. If girls (including sisters) have teased you about your weight in the past year, how much has it changed the way you feel about yourself?

Not at all	A Little	Pretty Much	A Lot	Totally
1	2	3	4	5

45. In the past year, how much have you tried to look like the girls or women you see on television, in movies, or in magazines?

Not at all	A Little	Pretty Much	A Lot	Totally
1	2	3	4	5

46. In the past year, how important has it been to your mother that you be thin?*(Remember that "mother" is the adult woman in your life who acts most like a mother to you.)*

I do not
have contact with
anyone that I think of
as a "mother"
0

Never
1

A Little
2

Sometimes
3

A Lot
4

Always
5

47. In the past year, how much do you think your weight made other girls NOT like you?

Not at all
1

A Little
2

Pretty Much
3

A Lot
4

Totally
5

48. In the past year, how important has it been to your father that you be thin?

I do not
have contact with
anyone that I think of
as a "father"
0

Never
1

A Little
2

Sometimes
3

A Lot
4

Always
5

49. In the past year, how important has it been to your friends that they be thin?

Not at all
1

A Little
2

Pretty Much
3

A Lot
4

Totally
5

50. Have you gotten your first period yet?

No
0

Yes
1

If **Yes**, what grade were you in when you got your first period? *(Circle one:)*

1. Before 4th grade

2. In the 4th grade

3. Summer after 4th grade

4. In the 5th grade

5. Summer after 5th grade

6. In the 6th grade

7. Summer after 6th grade

8. In the 7th grade

51. Have you started to date?

No
0

Yes
1

If **Yes**, what grade were you in when you started to date? (*Circle one:*)

1. Before 4th grade

2. In the 4th grade

3. Summer after 4th grade

4. In the 5th grade

5. Summer after 5th grade

6. In the 6th grade

7. Summer after 6th grade

8. In the 7th grade

52. In the past year, have you been a cheerleader, a songleader or on a drill/dance team?

No
0

Yes
1

53. In the past year, have you felt, or have others told you, that you eat less than you should?

No
0

Yes
1

54. Please circle any of the people you talk to when you have a problem: (*You can circle more than one*)

A. Mother/Stepmother

B. Father/Stepfather

C. Brother/Stepbrother

D. Sister/Stepsister

E. Other relative

F. Friend

G. Boyfriend

H. Coach/Teacher

I. Counselor/Minister/Priest/Rabbi

J. Other person: _____

K. No one

55. In the past year, how have you been doing in school?

Failing	Below Average	Average	Above Average
0	1	2	3

56. In the past year, has there been a supportive woman (role model) in your life who you look up to and/or talk to about the things that happen to you?

No	Yes
0	1

57. Have other people told you that you have an eating disorder (like anorexia or bulimia, not simply being overweight)?

No	Yes
0	1

58. Are you training to become a professional dancer or ballerina?

No	Yes
0	1

59. Do you think that you have an eating disorder now (like anorexia or bulimia, not simply being overweight)?

No	Yes
0	1

60. In the past year, have you trained for competition in any of the following sports:

ice skating

No	Yes
0	1

swimming

No	Yes
0	1

gymnastics

No	Yes
0	1

track and field

No	Yes
0	1

Appendix H

Recruitment Script - Undergraduate Femtors

Hello, my name is Marya McCarroll, and I am a graduate student in clinical psychology. I am currently doing a research study about the effects of being a female mentor to adolescent girls. As such, all of you in this course (Conversation with Girls or Sociology 389 – Femtors) are eligible to participate in this study. Participation in this study will take approximately one half hour and will involve filling out some questionnaires about psychological distress, eating behavior, experiences with alcohol, and thoughts about yourself and your body. For participating in this study your instructor for this class has agreed to give you extra credit. As with all research studies, the information you provide will be kept strictly confidential. Does anyone have any questions about this study? If you would like to participate, please complete the Informed Consent, and I will bring you a packet of questionnaires to complete. Even if you initially agree to participate in the study, you can change your mind at any time and withdraw from the study. Thank you for your time.

Appendix I

Informed Consent

Project Title: The Mentoring Study

Investigator: Marya C. McCarroll, M.Ed., M.S., Doctoral Fellow

Co-Investigator: Michelle Byrd, Ph.D., Associate Professor

Purpose of the Study: The purpose of this research study is to find out if acting as a mentor to adolescent girls in programs like *It's Great to be a Girl!* help women maintain or improve their physical and emotional health.

Procedure: You must be a mentor involved in the *It's Great to Be a Girl!* mentoring program to take part in this study. You must also be at least 18 years old.

If you decide to participate in this study, you will be asked to fill out some questionnaires at the beginning and end of the semester asking you basic information about yourself (age, ethnicity, etc.), dieting and eating, moods and feelings, and thoughts and feelings about yourself and your body. Total participation time for this study should be approximately one hour.

Confidentiality: All answers you give on the questionnaires will remain private and will only be seen by the primary investigator and members of the research team. In order to make sure your information stays private, you will be given a code number that will be used with all of the information you provide. A master list linking your name and subject number will be stored separately from the data and will be destroyed at the end of the study. This consent form will also be stored separately. All data will be stored in a locked file cabinet at EMU.

Expected Risks: As far as we know, there are no risks to you associated with completing this study. However, you may feel uncomfortable answering questions about yourself and your body. If participating in this study leads you to want to talk with a counselor, please contact the Snow Health Center at (734) 487-1122 if you are an EMU student or University of Michigan Counseling Services (CAPS) at (734)764-8312 if you are a U of M student. Services at the sites are provided free to university students. You may also seek low-cost services at the EMU Psychology Clinic. The phone number at the Psychology Clinic is (734) 487-4987.

Expected Benefits: There are no known benefits of participating in this study.

Compensation: As compensation for participating in this study, you may receive extra credit from your instructor if you are enrolled in either the *Conversations with Girls* course (WGST 230) at Eastern Michigan University or the *Practicum in Sociology: Gender & Sexuality – Femtors* course (SOC 389) at the University of Michigan.

Voluntary Participation: Participation in this study is voluntary. If you do decide to participate, you can change your mind at any time and withdraw from the study without negative

consequences. Refusal to participate will involve no penalty or loss of benefits. If significant new findings develop during the course of this study that could affect your willingness to continue participation, you will be informed of these findings and given an opportunity to withdraw from the study.

Use of Research Results: No names or information that could let others know who you are will be shared. Information gained from this study may be presented at research meetings and conferences, in scientific publications, and as part of a doctoral dissertation being conducted by the principal investigator. This information will be presented in a group format only, and will contain no individual data.

Questions: If you have any questions, please ask us now. If you have any future questions concerning your participation in this study, you can contact the principal investigator, Marya McCarroll, at (734) 487-4987 or via e-mail at mmccarro@emich.edu. You may also contact Dr. Michelle Byrd at (734)487-4919.

Human Subjects Review Board: This research protocol and informed consent document has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee (UHSRC) for use from January 1, 2010 to June 1, 2011. If you have any questions about the approval process, please contact Dr. Deb de Laski-Smith (734.487.0042, Interim Dean of the Graduate School and Administrative Co-chair of UHSRC, human.subjects@emich.edu).

Consent to Participate: I have read all of the above information about this research study, including the research procedures, possible risks, and the likelihood of any benefit to me. All my questions, at this time, have been answered. By signing below, I understand that I agree to take part in this study.

PRINT NAME: _____

Participant (your signature)

Date

Witness

Date

Appendix J

Adult Measures

The Beck Depression Inventory-II (BDI-II)

Beck, Steer, & Brown (1996)

1. Sadness

I do not feel sad.

I feel sad much of the time.

I am sad all the time.

I am so sad or unhappy that I can't stand it.

2. Pessimism

I am not discouraged about my future

I feel more discouraged about my future than I used to be.

I do not expecting things to work out for me.

I feel my future is hopeless and will only get worse.

3. Past Failure

I do not feel like a failure.

I have failed more than I should have.

As I look back, I see a lot of failures.

I feel I am a total failure as a person.

4. Loss of Pleasure

I get as much pleasure as I ever did form the things I enjoy.

I don't enjoy things as much as I used to.

I get very little pleasure form the things I used to enjoy.

I can't get any pleasure form the things I used to enjoy.

5. Guilty Feelings

I don't feel particularly guilty.

I feel guilty over many things I have done or should have done.

I feel quite guilty most of the time.

I feel guilty all of the time.

6. Punishment Feelings

I don't feel I am being punished.

I feel I may be punished.

I expect to be punished.

I feel I am being punished.

7. Self-Dislike

I feel the same about myself as ever.

I have lost confidence in myself.

I am disappointed in myself.

I dislike myself.

8. Self-Criticalness

I don't criticize or blame myself more than usual.

I am more critical of myself than I used to be.

I criticize myself for all of my faults.

I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes

I don't have any thoughts of killing myself.

I have thoughts of killing myself, but I would not carry them out.

I would like to kill myself.

I would kill myself if I had the chance.

10. Crying

I don't cry anymore than I used to.

I cry more than I used to.

I cry over every little thing.

I feel like crying, but I can't.

11. Agitation

I am no more restless or wound up than usual.

I feel more restless or wound up than usual.

I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest

I have not lost interest in other people or activities.

I am less interested in other people or things than before.

I have lost most of my interest in other people or things.

It's hard to get interested in anything.

13. Indecisiveness

I make decision about as well as ever.

I find it more difficult to make decisions than usual.

I have much greater difficulty in making decision than I used to.

I have trouble making decisions.

14. Worthlessness

I do not feel I am worthless.

I don't consider myself as worthwhile and useful as I used to.

I feel more worthless as compared to other people.

I feel utterly worthless.

15. Loss of Energy

I have as much energy as ever.

I have less energy than I used to have.

I don't have enough energy to do very much.

I don't have enough energy to do anything.

16. Changes in Sleeping Pattern

I have not experience any change in my sleeping pattern.

I sleep somewhat more than usual/I sleep somewhat less than usual

I sleep a lot more than usual/I sleep a lot less than usual.

I sleep most of the day/I wake up 1-2 hours early and can't get back to sleep.

17. Irritability

I am no more irritable than usual.

I am more irritable than usual.

I am much more irritable than usual.

I am irritable all the time.

18. Changes in Appetite

I have not experienced any change in my appetite.

My appetite is somewhat less than usual/My appetite is somewhat more than usual.

My appetite is much less than before/My appetite is much greater than usual.

I have not appetite at all/I crave food all the time.

19. Concentration Difficulty

I can concentrate as well as ever.

I can't concentrate as well as usual.

It's hard to keep my mind on anything for very long.

I find I can't concentrate on anything.

20. Tiredness or Fatigue

I am not more tired or fatigued than usual.

I get more tired or fatigued more easily than usual.

I am too tired or fatigued to do a lot of the things I used to do.

I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex

I have not noticed any recent change in my interest in sex.

I am less interested in sex than I used to be.

I am much less interested in sex now.

I have lost interest in sex completely.

The Beck Anxiety Inventory
(Beck, Brown, Epstein, & Steer, 1988)

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by each symptom during the PAST WEEK, INCLUDING TODAY, by placing an X in the corresponding space in the column next to each symptom.

	NOT AT ALL	MILDLY It did not bother me much	MODERATELY It was very unpleasant, but I could stand it.	SEVERELY I could barely stand it.
1. Numbness or tingling				
2. Feeling hot.				
3. Wobbliness in legs.				
4. Unable to relax.				
5. Fear of the worst happening.				
6. Dizzy or lightheaded.				
7. Heart pounding or racing.				
8. Unsteady.				
9. Terrified.				
10. Nervous.				
11. Feelings of choking.				
12. Hands trembling.				
13. Shaky.				
14. Fear of losing control.				
15. Difficulty breathing.				
16. Fear of dying.				
17. Scared.				

18. Indigestion or discomfort in abdomen.				
19. Faint.				
20. Face flushed.				
21. Sweating (not due to heat).				

Objectified Body Consciousness Scale

(McKinley & Hyde, 1996)

1. I rarely think about how I look.
2. I think it is more important my clothes are comfortable than whether they look good on me.
3. I think more about how my body feels than how my body looks.
4. I rarely compare how I look with how other people look.
5. During the day, I think about how I look many times.
6. I often worry about whether the clothes I am wearing make me look good.
7. I rarely worry about how I look to other people.
8. I am more concerned with what my body can do than how it looks.
9. When I can't control my weight, I feel like something must be wrong with me.
10. I feel ashamed of myself when I haven't made the effort to look my best.
11. I feel like I must be a bad person when I don't look as good as I could.
12. I would be ashamed for people to know what I really weigh.
13. I never worry that something is wrong with me when I am not exercising as much as I should.
14. When I'm not exercising enough, I question whether I am a good enough person.

15. Even when I can't control my weight, I think I am an okay person.
16. When I am not the size I think I should be, I feel ashamed.
17. I think a person is pretty much stuck with the looks they are born with.
18. A large part of being in shape is having that kind of body in the first place.
19. I think a person can look pretty much how they want to if they are willing to work at it.
20. I really don't think I have much control over how my body looks.
21. I think a person's weight is mostly determined by the genes they are born with.
22. It doesn't matter how hard I try to change my weight, it's probably always going to be about the same.

EATING DISORDER DIAGNOSTIC SCALE (EDDS)

Stice, Telch, & Rizvi (2000)

Please carefully complete all questions.

Over the past 3 months . . .

1. Have you felt fat?
2. Have you had a definite fear that you might gain weight or become fat?
3. Has your weight influenced how you think about (judge) yourself as a person?
4. Has your shape influenced how you think about (judge) yourself as a person?
5. During the past 6 months have there been times when you felt you have eaten what other people would regard as an unusually large amount of food (e.g., a quart of ice cream) given the circumstances?
6. During the times when you ate an unusually large amount of food, did you experience a loss of control (feel you couldn't stop eating or control what or how much you were eating)?
7. How many DAYS per week on average over the past 6 MONTHS have you eaten an unusually large amount of food and experienced a loss of control?
8. How many TIMES per week on average over the past 3 MONTHS have you eaten an unusually large amount of food and experienced a loss of control?

During these episodes of overeating and loss of control did you . . .

9. Eat much more rapidly than normal?
10. Eat until you felt uncomfortably full?
11. Eat large amounts of food when you didn't feel physically hungry?
12. Eat alone because you were embarrassed by how much you were eating?
13. Feel disgusted with yourself, depressed, or very guilty after overeating?

14. Feel very upset about your uncontrollable overeating or resulting weight gain?
15. How many times per week on average over the past 3 months have you made yourself vomit to prevent weight gain or counteract the effects of eating?
16. How many times per week on average over the past 3 months have you used laxatives or diuretics to prevent weight gain or counteract the effects of eating?
17. How many times per week on average over the past 3 months have you fasted (skipped at least 2 meals in a row) to prevent weight gain or counteract the effects of eating?
18. How many times per week on average over the past 3 months have you engaged in excessive exercise specifically to counteract the effects of overeating episodes?
19. How much do you weigh? If uncertain, please give your best estimate. _____lb.
20. How tall are you? ___ ft ___ in.
21. Over the past 3 months, how many menstrual periods have you missed?
22. Have you been taking birth control pills during the past 3 months?

The Brief Young Adult Alcohol Consequences Questionnaire

Kalher, Strong, & Read (2005)

1. While drinking, I have said or done embarrassing things.
2. I have had a hangover (headache, sick stomach) the morning after I had been drinking.
3. I have felt sick to my stomach or thrown up after drinking.
4. I often have ended up drinking on night when I had planned not to drink.
5. I have taken foolish risks when I have been drinking.
6. I have passed out from drinking.
7. I have found that I needed larger amounts of alcohol to feel any effect, or that I could no longer get high or drunk on the amount that used to me high or drunk.
8. When drinking, I have done impulsive things I regretted later.
9. I've not been able to remember large stretches of time while drinking heavily.
10. I have driven a car when I knew I had too much to drink to drive safely.
11. I have not gone to work or missed classes at school because of drinking, a hangover, or illness caused by drinking.
12. My drinking has gotten me into sexual situations I later regretted.
13. I have often found it difficult to limit how much I drink.
14. I have become very rude, obnoxious, or insulting after drinking.

15. I have woken up in an unexpected place after heavy drinking.
16. I have felt badly about myself because of my drinking.
17. I have had less energy or felt tired because of my drinking.
18. The quality of my work or school work has suffered because of my drinking.
19. I have spent too much time drinking.
20. I have neglected my obligations to family, work, or school because of drinking.
21. My drinking has created problems between myself and my boyfriend/girlfriend/spouse, parents, or other near relatives.
22. I have been overweight because of drinking.
23. My physical appearance has been harmed by my drinking.
24. I have felt like I needed a drink after I'd gotten up (that is, before breakfast).

Alcohol Consumption Questionnaire

The following questions ask about alcohol consumption. Please note that a drink is defined as:

12 ounces of beer (1 can)

5 ounces of wine (1 glass)

1.5 ounces of liquor (1 shot)

1. Over the past 30 DAYS, how often have you had more than 4 drinks in a row?
 - None
 - Once
 - Twice
 - 3 – 5 times
 - 6 – 9 times
 - 10 or more times
 - Don't know
 - Prefer not to answer

2. On average, how long does your drinking episode last? (Please indicate number of hours)

3. What is the highest number of drinks you have consumed in ONE EPISODE in the past 30 DAYS?

4. How often in the past 30 DAYS have you been drunk (not just a little tipsy) on alcohol?

Appendix K

Syllabus for Course Taken by Undergraduate Participants

Eastern Michigan University
Women's and Gender Studies Program

Conversations With Girls (WGST 230) Winter 2010

Tues, 3:30-4:30pm & Thurs, 2:00-5:00pm
(4 Credits)

Instructor:	Kimberly A. Grover
Office:	WGST PH 714 (hours by appointment only)
WGST office phone:	(734) 487-1177
E-mail:	kgrover1@emich.edu

- Required Text** Available at EMU Campus Bookstore:
Leadbeater, Bonnie J. Ross, and Niobe Way. *Urban Girls Revisited*.
NYU Press: New York, 2007.
- Course pack** Available at EMU Campus Bookstore
- E-Reserves** Additional readings may be posted on E-reserves later in the semester.
You will be informed of this in advance. Search under course or
instructor. Password: Africa
- Course Description:** This course has 3 components, 1) classroom discussion and assignments, 2) training, and 3) site work in a middle school. The classroom portion of this course is designed to provide a theoretical background for youth work with middle school girls. Students will be encouraged to think critically about the socialization of girls and the potential for individual and social change through mentoring. Each week we will explore literature that addresses issues and concerns girls face in today's culture; as well as literature that provides a theoretical framework for understanding girls' social experiences and the role of mentoring in mediating those experiences. In addition, the class will serve as a forum for discussion around each student's experience at the program site.
- Course Objectives** Students will learn to develop their own theoretical framework through which to analyze and generalize intellectually about their girl development work in the middle schools. Students will also use the subject matter of the readings and discussions in self-reflections in order to more authentically approach their site work experience.

Trainings:

Attendance at all three trainings is required. Trainings are scheduled for the following 3 Thursdays from 2-5pm in the Kiva Room which is located in the Student Center on the 3rd floor (room 360):

- January 14th
- January 21st
- January 28th

Assignments**General guidelines for all assignments**

All assignments must be turned in by the beginning of class the day they are due. Assignments submitted after class on the due date are considered one day late. Each day (24 hours) constitutes a drop of one grade (i.e. from A to A-). Late assignments may be submitted by email, however, electronic glitches are not acceptable excuses for late assignments. No assignments will be accepted later than one week after the due date (by the next class period) unless an acceptable excuse is submitted within the week that the assignment is due. See absence section for acceptable excuses.

All assignments must be typed in 12pt font (Times New Roman) and double-spaced. Please indicate your name, the assignment title (i.e. Journal 1), and the date at the top.

The number and quality of references made to the course readings and class discussion will have an impact on your grade. Anytime you quote a written work by an author listed on the syllabus, please indicate the author and page number in parenthesis after the quote. If you are quoting any written work that is not on the reading list for the class, please use APA style for citations and reference lists.

Dew knot trussed spell Czech two fined awl yore miss takes. Please pay attention to grammar, spelling, punctuation, and composition. Though minimally, these aspects of your writing will affect your grade. You may find this website helpful when writing college level papers:

<http://www.dartmouth.edu/~writing/materials/student/toc.shtml>

Overview of Assignments and Projects**Reading Presentation and Facilitation**

All students are required to make a brief presentation of one of the readings during the semester and to facilitate the classroom discussion around that particular reading. Your presentation should include the main points of the reading, links to other readings or discussions where possible, and insights from the reading that might help guide everyone's work in the middle school. Presentations should be approximately 5 minutes long. After the presentation you should use your own

comments/questions to generate and guide the classroom discussion. Please submit a one-page summary of the reading. Readings will be assigned randomly at the beginning of the semester.

Journals (2)

Students are encouraged to keep a journal of thoughts about class discussions and experiences at the program site. Over the course of the semester two journal entries will be typed and submitted as class assignments. Each journal entry should state observations made during the sessions at the program site, personal reflections, and connections to the readings and class discussions where possible. You may choose to use a personal story reflecting a middle school experience of your own that has some relationship to your observations on site and the literature explored in class. In this case you should use the first part of the paper to relay the story and then move into an analysis of the experience drawing on the concepts discussed in class and your observations of the girls you're working with now. Entries should be 3-4 pages typed.

Media Reviews

Each student will research and present in class one media sample. Students may draw from television/film, print or online media. The first part of the presentation should describe the chosen media sample including the promoter or advertiser and the audience targeted. The second part of the presentation students will articulate their positions stating how the chosen media sample either supports the empowerment of girls and/or undermines healthy psychological development. Presentations should be 3-5 minutes long and should allow for questions and thoughts from classmates. Please submit A 1-2 page summary of your presentation.

Course Final (choose A or B)

This will be an opportunity for students to explore a subject in more depth, to survey current research, and develop a thesis around a girlhood subject that is personally meaningful. Whether you choose option A or B, your work must present a thesis and should make a statement or conclusion about your chosen topic. You should develop your own opinion or thoughts and use at least one researched journal article or book *and* two additional sources to help you discuss or present your thesis. The final should draw on the readings for the course and use those concepts to build an analysis. Please do not simply summarize your sources. Instead, use the sources to support your point of view. Please choose option A or B below. Note that you are required to decide on the paper or the project and submit a thesis and project proposal with an annotated bibliography a few weeks before the final is due (see schedule of readings for date).

Final Paper (Option A)

Final papers should be 6-8 pages.

Final Creative Project and Presentation (Option B)

Projects should be a creative, artistic work of your own. Various mediums are acceptable - visual art, poetry, monologues, songs, etc. You will be required to discuss your artistic approach as well as the embedded message of your piece. This information should also be summarized in a 3-4 page written essay. After your presentation you will be required to discuss your piece with the class and answer questions.

Grading

Students will be evaluated on the assignments and participation. Level of preparedness to facilitate sessions with the girls at the middle school and level of enthusiasm, interest, and engagement with the girls will be factored into the participation portion of the grade. The breakdown of grading is established as follows:

Grade Scale: 92–100% A (A-, A) 82–91% B (B-, B, B+) 72–81% C (C-, C, C+) 62–71% D (D-, D, D+) 61% or less E	Site Work and Class Attendance/Participation	40%
	Reading Presentation/Facilitation	10%
	Journal 1	10%
	Journal 2	10%
	Media Review Projects	10%
	Final Papers/Creative Projects	20%
	Total	100%

Absences

Student grades are extremely dependent on attendance and participation. Therefore, more than one unexcused absence from the class, the training, or the sessions at the program site will be considered excessive. Some type of communication will, ideally, precede absences. If you are unable to give advance notification of an absence follow-up notification should be made as soon as possible. Notification and follow-up should be with the course instructor if you miss class, with the Site Director for the school if you miss a session in the school, and with the lead trainer if you miss a training. Acceptable excuses include a written note from your doctor, a funeral announcement, or a letter from an academic department explaining your obligation to participate in academic activities. Absence policies apply to the course as a whole – the class, the training, and the site work.

Classroom Behavior

As this class works to model the free discussion format of the program, please know that inquiry, and expression are encouraged in this class. However, classroom behavior that interferes with either the instructor’s ability to conduct the class or the ability of students to benefit from the instruction is not acceptable. Examples include routinely entering class late or departing early; use of pagers, cellular telephones, or other

electronic devices; monopolizing class discussion; talking while others are speaking; or arguing in a way that is perceived as attacking another student. Please refrain from eating in class. Beverages are acceptable.

Academic Integrity Please note that any form of academic dishonesty may result in an “E” in the course and referral to Student Judicial Services for disciplinary action.

Access Services The University is committed to ensuring that students with disabilities - physical, learning, or psychological - receive the accommodations they need to participate in all university programs, services, and activities. All disability information is strictly confidential, and students are encouraged to contact the Access Services Office (734-487-2470) to discuss their individual needs. Please let me know if you need additional help obtaining these services.

Schedule of Readings

- Jan 12 No reading assigned
- Jan 19 Punished By Rewards – Chapter 12: *Good Kids Without Goodies*
Empowering Adolescent Girls – Chapter 1: *A Framework for Understanding Girls*
Chapter 10: *Working with Adolescent Girls*
- Jan 26 Empowering Adolescent Girls – Chapter 2: *Being a Girl in Today’s Society*
Reviving Ophelia – Chapter 13: *What I’ve Learned from Listening*
Urban Girls Revisited – *Introduction*
- Feb 2 Reviving Ophelia – Chapter 3: *Developmental Issues: I’m Not Waving, I’m Drowning*
Girl in the Mirror – Chapter 1: *Sea Changes*
Urban Girls Revisited – *The Many Faces of Urban Girls*
- Feb 9 *Understanding Girls’ Circle as An Intervention*
Between Voice and Silence – Chapter 5: *Developing ties: Girls and Women*
Urban Girls Revisited – From Urban Girls to Resilient Women
- Feb 16 **Due today: Journal 1**
Schoolgirls – Chapter 3: *Fear of Falling*

- New York Times article – *A rite of Hazing, Now Out in the Open* (available online)
 Urban Girls Revisited – To Stay or to Leave
- Feb 23 Girls' Studies – Chapter 3: *Mean Girls and Good Girls*
 Triple Bind – Chapter 5: *When Virtue is it's Own Punishment*
 Branded – Chapter 5: *The Golden Marbles: Inside a Marketing Conference*
- March 2 **Break**
- Mar 9 **Media review presentations**
 Urban Girls Revisited - *Changes in African American Mother Daughter Relationships*
 Urban Girls Revisited – *Don't Die with your Work Balled Up in Your Fists*
- Mar 16 **Guest presenter Alejandro Baldwin**
 Bad Boys – Chapter 2: *The Punishing Room*
 Theory Into Practice – Schools, Prisons, and Social Implications of Punishment
- Mar 23 **Due today: Proposal and bibliography for final papers and projects**
Note: You must indicate your choice of paper or project in your proposal
 Newsweek Article – *Pink Brain, Blue Brain: Claims of Sex Differences Fall Apart* (online)
 Dude, You're a Fag – Chapter 5: *Look at My Masculinity*
- Mar 30 **Due today: Journal 2**
From Mentor to Muse
Doing Desire
- April 6 Feminism, Inc. – Chapter 5: *I don't know what I'm going to do when it happens*
- April 13 **Due today: final papers and all creative projects**
 Final presentations
- April 20 Final presentations