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Rachael E. Kroening

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**TEACHING WOMEN WITH HIGH BODY CONCERNS TO BECOME THE
TEACHERS: A TWO-PRONGED COGNITIVE DISSONANCE INTERVENTION**

A Masters Thesis

Presented to

The Graduate College of

Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Psychology

By

Rachael E. Kroening

May 2009

TEACHING WOMEN WITH HIGH BODY CONCERNS TO BECOME THE TEACHERS: A TWO-PRONGED COGNITIVE DISSONANCE INTERVENTION

Psychology

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Master of Science

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ABSTRACT

Women with high levels of body dissatisfaction have repeatedly demonstrated significant improvements in body image following cognitive dissonance-based interventions. The current research project consisted of a two-pronged intervention. One intervention closely replicated previous studies by using the process of cognitive dissonance to improve body image among female college students. The second aspect of the study required the women to develop and implement a body image intervention with 3rd-4th grade children. The goals of these interventions included improving body image among college women and increasing positive body image in young children through a peer-led intervention. Seven female college participants with high body concerns attended 3 two-hour body image intervention sessions. During the intervention, the participants developed a body image program that they were responsible for implementing for children. A total of 24 male and female 3rd and 4th grade children attended the program. Among the college women, the results demonstrated significant improvements in several body image dimensions. There were no significant improvements in body image perception or thin ideal internalization among the children although body satisfaction improved significantly among female children. The current study demonstrates that having body-concerned college women develop and present an intervention for children can lead to improvements in several body image dimensions.

KEYWORDS: cognitive dissonance, body image, thin ideal internalization, peer led intervention, eating disorders

This abstract is approved as to form and content

Dr. Brooke Whisenhunt
Chairperson, Advisory Committee
Missouri State University

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ACKNOWLEDGEMENTS

I would like to thank all of those who helped me during the process of writing this thesis. Thank you to my thesis committee: Brooke Whisenhunt, Danae Hudson, and Cynthia Wilson. I would especially like to thank Brooke Whisenhunt for her hours and hours of hard work and devotion to this project even while on bed rest! I would like to thank Danae Hudson for stepping in while Brooke was unable and carrying me through the process. I would also like to thank Jennifer Ford, without her I could not have run participants or kept my head on straight! Thanks to my wonderful fiancé who supported me through late nights and weekends of working on this thesis and provided a shoulder to cry on when the stress overwhelmed me. Finally, I would like to thank my friends and family for their love, support, encouragement, and hours of listening to me talk/complain about my thesis. I could not have accomplished this project alone. Thank you all so much!

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INTRODUCTION

The purpose of the current project was to replicate and expand upon Eric Stice and colleagues' (Stice, Trost, & Chase, 2003) cognitive dissonance body image intervention program. Stice has repeatedly demonstrated that women with high levels of body dissatisfaction experienced significant reductions in the thin-ideal internalization, negative affect, and bulimic pathology following an intervention designed to create cognitive dissonance regarding internalization of the thin-ideal (Stice, Mazotti, Weibel, & Agras, 2000; Stice, Chase, Stormer, & Appel, 2001; Stice, Trost, & Chase, 2003). The current research project consisted of a two-pronged intervention. One intervention closely replicated Stice and colleagues' (2003) intervention and was implemented with female college students with body image concerns. The novel aspect of the current study required the college women to implement the intervention with 3rd-4th grade children. The goals of these interventions included improving body image among college women and increasing positive body image in young children through a peer-led intervention.

The term body image is defined as a person's *perception* of what his/her body looks like on the outside (Gabel & Kearney, 1998). Body image typically consists of a person's behaviors, feelings, attitudes, and thoughts about his or her body. Body image is not an objective construct representing the actual size and shape of an individual, but rather the subjective view of how someone *believes* he or she looks (Jade, 1999). Individuals with negative body image often experience symptoms of body dissatisfaction and discontent with appearance. People who have positive body image are content with the way they look and do not feel they need to change their size or shape. Negative body image has been shown to be predictive of eating disorders (Archibald, Graber, & Brooks-Gunn, 1999; Stein & Hedger, 1997) and has been linked to a variety of negative behaviors such as steroid use (Morgan, 2000), depression (Olivardia, Pope, & Hundson,

2000), extreme dieting or restricting behaviors, and extreme exercise behaviors (Harrison, Brennan, & Levine, 2000).

Body dissatisfaction among adolescent girls is becoming extremely common. As a girl's age and height/weight increase, body dissatisfaction may increase as well (Gabel & Kearney, 1998). This is consistent with the finding that the onset of eating disorders is typically around the ages of 14-18 when adolescents begin puberty and their bodies begin to change (APA, 2000). The onset of eating disorders typically occurs in adolescence; however, the onset of body dissatisfaction tends to occur much earlier. This demonstrates the importance of targeting negative body image symptoms starting at a young age and working to prevent the negative outcomes of body dissatisfaction. Kater, Rohwer, and Levine (2000) suggest starting interventions prior to in the onset of puberty when children have not yet internalized the thin ideal and have not yet experienced the challenges of puberty which can increase the risk for body dissatisfaction.

Unhealthy ideals are already established and difficult to retract by the time children are in middle school (Thelen, Powell, Lawrence, & Kunert, 1992). In a study conducted by Tiggemann and Wilson-Barrett (1998), researchers presented boys and girls ages 7-12 a series of silhouette figures ranging from very thin to obese and asked the participants to choose which one was most like their own body, which one they wished they looked like, and which one they thought was most attractive to the opposite sex. The results revealed that the girls rated their ideal figure as significantly thinner than their own figure, which is suggestive of significant levels of body dissatisfaction among their sample. They also found the ideal figure that was chosen was typically thinner than the figure chosen to be attractive to boys. Researchers suggest that a girl's wish to be thinner

may be due to a fear of being fat or an avoidance of negative stereotyping. The study revealed that both boys and girls showed high levels of negative stereotyping of fat children saying they were less friendly, happy, popular, and attractive, and they were lazier. It was also found that although self-esteem did not significantly correlate with body dissatisfaction for girls, these variables were correlated among boys. Tiggemann and Wilson-Barrett (1998) suggest this may be due to the high prevalence of body dissatisfaction among females where it has become normal to be unhappy with one's size and shape. This phenomenon is known as a "normative discontent" (Rodin, Silberstein, & Streigel-Moore, 1984).

Media Influence on Body Image in Children

Media images have been implicated as one of the primary factors breeding discontent with appearance and promoting negative body image. The media has played a major role in defining the ideal body type and influencing individuals' perceptions of their body by using thinner-than-average models to imply a strong connection between being thin, using beauty products, and being happy (Jade, 1999). These ideals are continually reinforced by magazine articles, advertisements, books, models, and television. Females tend to be more dissatisfied with their bodies than men which may be partly due to the greater cultural emphasis on physical attractiveness for females as opposed to achievements or other positive qualities (Drogosz & Levy, 1996). Girls are often socialized to focus on external aspects of their body which can cause them to internalize how they feel about their body when they do not meet society's standards. Boys are often socialized to focus on athletic ability which can also have negative effects on their body image if they are not athletically built (Jade, 1999). The media creates ideal

figures for both men and women that are seen as socially desirable and these images become a standard by which individuals determine their own worth (Jade, 1999).

Children and adolescents are the most vulnerable to these images and internalize these ideals more readily, often comparing themselves to models and celebrities in the media for physical characteristics (Jung & Peterson, 2007).

Durkin, Paxton, and Sorbello (2007) developed a study to examine the effects of media images on young women. They had adolescent girls complete questionnaires assessing body satisfaction, and days later were shown images of very thin, attractive female models in magazine advertisements. The girls were assessed again to determine if they had internalized the thin ideal. Results of this study revealed that body satisfaction among the girls significantly changed after viewing the images. The researchers suggest that body comparisons led to a decrease in body satisfaction. Jung and Peterson (2007) examined both girls and boys ages 8-11 regarding the effects of the media on body image. The children completed assessments of media consumption and were then provided a silhouette figure rating scale and asked to pick which picture looked the most like them, which picture they wish they looked like, and which picture the opposite sex would prefer. This scale uses silhouette figures as reference points. There are 27 figures to choose from, each representing one BMI unit from 14-40. The results showed that boys desired to have a heavier body figure and girls desired a much thinner body figure. Boys perceived themselves to be at their ideal even when their BMI suggested otherwise. On the other hand, on average, girls desired to be 3 BMI units less than how they saw themselves, which was almost exactly their actual BMI. Girls' perceptions of their own bodies seem to be distorted because they saw themselves as heavier than they actually

were and were selecting their actual weight as their ideal weight. Media preferences for girls were found to be related to beauty, looks, and relationships. Boys' preferences were for a muscular appearance and athletic ability.

Peer Influences on Body Image in Children and Adolescents

Body image among children and adolescents is also impacted by peers. As children get older, peer acceptance becomes more important (McVey, Lieberman, Voorberg, Wardrobe, & Blackmore, 2003). McVey and colleagues (2003) suggested that peers create a subculture that may either emphasize the thin-ideal or reduce the importance of being thin. Several studies have found that peer relationships have a significant influence on body image. In a study conducted by Dohnt and Tiggemann (2006), researchers explored both peer and media influences on body image among young girls ages 5-8. Through interviewing a sample of 128 girls from four different private schools, researchers found that girls ages 5-8 who looked at magazines with adult women in them had greater body dissatisfaction. They also found that girls who watched music videos on television as opposed to more kid-friendly television shows had greater dieting awareness. In regard to peer influences, researchers found that by age 6, 42% of the girls desired to be thinner. This age corresponds to the first year of schooling. Researchers also found that girls' perception of their peers' body dissatisfaction predicted their own body dissatisfaction. In other words, when girls perceived their peers to have high levels of body dissatisfaction, their own body dissatisfaction was rated as high, further demonstrating the significance of peer influence on body image. Results were similar in another study conducted by Clark and Tiggemann (2006). Researchers also examined media and peer influences and found that nearly half (49%) of the girls ages 9-

12 selected an ideal size that was thinner than their own size. Peer influences were found to be stronger than media influences on internalization of the thin ideal and body dissatisfaction. Watching and reading appearance-laden media material including television shows and magazines that were rated as having a large emphasis on thin ideal promotion was found to influence conversations among peers which predicted appearance norms. Peer conversations related to appearance were related to internalization of the thin ideal and body dissatisfaction. Researchers suggest that the combination of media and peer influences regarding body image have developed and maintained an “appearance culture” among girls as young as nine years old (Clark and Tiggemann, 2006).

Huon, Piira, Hayne, & Strong (2002) suggested that competitiveness with peers concerning one’s appearance and dieting behaviors may have negative consequences related to serious levels of dieting behaviors. Young children are expected to conform to what is “normal” and desirable according to their peers. This conformity may also bring about competition to be the best-looking or the thinnest child. Researchers found that competitiveness among peers concerning body, appearance, and eating were related to serious dieting behaviors among girls ages 12-17 (Huon, et al., 2002).

In a study conducted by Mooney, Farley, & Strugnell (2004), researchers interviewed 15-16 year old girls and asked several questions concerning dieting, the media, celebrities, and boys. Girls in the study reported their motives to be thin included attention gained from boys, approval from girlfriends, and self-confidence. Some of the young women reported that other girls will comment on each other’s weight and tease girls who are overweight. Many of the girls believed boys are more attracted to thin girls

and that personality is not as important as physical attractiveness. Additionally, many of the girls reported wanting figures similar to celebrities and models even though they admitted that those women are not representative of females in general. These responses clearly demonstrate the impact of the media on young women and the influence of same-sex and opposite-sex peers on body image.

Thin Ideal Internalization

With children and adolescents spending a great deal of time with their peers during and after school and other time spent watching television or looking at magazines, (Roberts, Foehr, & Rideout, 2005), it is no wonder children and adolescents begin to internalize the thin ideal. Thin ideal internalization is a person's cognitive acceptance of society's standard of attractiveness as one's own standard (Thompson, Heinberg, Altabe, & Tanleff-Dunn, 1999). Often, a female who has a high degree of thin ideal internalization will ultimately engage in behaviors (e.g. restricting caloric intake, purging, etc.) to meet and maintain those standards. Historically, the ideal body type of women was curvaceous and shapely. In the 1960s, the ideal body shape changed to very thin and waif-like as models such as Twiggy were being idolized for their thin figures. Since then, millions of women have tried to achieve the waif-like, super model look and have internalized this figure to be the ideal (Gabel & Kearney, 1998). However, the thin ideal is often unattainable and unrealistic and may cause females to take extreme measures to attempt to achieve the ideal shape (Thompson & Heinberg, 1999).

Peer-Led Interventions

With the growing pervasiveness of body dissatisfaction, several types of interventions have been developed in an attempt to lower body dissatisfaction and

prevent the onset of eating disorders. Peer-led interventions have been shown to be an effective method of preventing and lowering body dissatisfaction (McVey et al., 2003; Becker, Bull, Schaumberg, Cauble, & Franco, 2008). Peer support groups create friendships between members and allow for the opportunity for students to work together and discuss the importance of a healthy body image. These groups also allow adolescents to develop a support system for one another (McVey et al., 2003). Several recent studies have used peer-led interventions to prevent negative behaviors. McVey and colleagues (2003) implemented the Every BODY is a Somebody intervention with 7th and 8th grade female students. The support groups were encouraged to discuss pressures by the media and peers to look a certain way, ways to promote a healthy body image, genetic influences on body shape, healthy eating lifestyle, stress management techniques, and ways to promote healthy relationships. Researchers found that peer-led support groups within schools positively influenced body esteem, eating attitudes, and reduced dieting behaviors. These results were maintained at three month follow-up. They also found that students became involved in leadership roles and began to promote a change in the school environment through positive body image messages and health promoting materials. The support groups also led members to report feeling a sense of belonging.

Cognitive Dissonance

Not only do peer-led interventions benefit the students but they also can benefit the leaders through of the process of creating cognitive dissonance. Cognitive dissonance theory was first defined by Leon Festinger (1957). He stated that a person will experience negative emotional arousal when two cognitions are inconsistent with each other and that person will therefore attempt to relieve this negative feeling by changing one's beliefs.

Stice and colleagues (Stice et al., 2000; Stice et al., 2001; Stice, Trost, & Chase, 2003) conducted a series of studies examining the effects of cognitive dissonance among women with body image concerns. These women were asked to become peer-leaders and develop ways to promote healthy body image and critique the thin-ideal. He believed that if women who subscribe voluntarily to the thin ideal are forced to take a stand against it, they will be conflicted and therefore change their cognitions to reduce discomfort. Each of the studies demonstrated a significant reduction in thin ideal internalization, body dissatisfaction, dieting, negative affect, and bulimic symptoms over time among the young women (Stice et al., 2000; Stice et al., 2001; Stice, Trost, & Chase, 2003).

Becker and colleagues (2008) found similar results when researchers implemented a peer-led intervention among college sorority members, having the older members lead an eating disorder prevention intervention for new sorority members. This study revealed that the cognitive dissonance intervention demonstrated reductions in eating disorder risk factors at 8 month follow-up. Researchers also found that there were no differences among women at low or high risk for eating disorders as both groups significantly improved. Roehrig, Thompson, Brannick, and van den Berg (2006) examined the series of studies that Eric Stice and colleagues conducted to ensure that counterattitudinal advocacy was what was causing the change in the participants' body image and not purely psychoeducation. Researchers in this study replicated Eric Stice's studies, which included both psychoeducation combined with counterattitudinal advocacy. Counterattitudinal advocacy occurs when participants are asked to publicly state an attitude that runs counter to their own attitudes and beliefs, therefore causing some degree of cognitive dissonance (i.e. role playing, writing down positive features of

one's body, and listing the drawbacks of internalizing the thin ideal). They compared that group to a purely counterattitudinal advocacy group with no psychoeducation. No significant differences were found between the two groups. Both were equally effective at reducing thin-ideal internalization, body dissatisfaction, dieting, negative affect, and bulimic symptoms. Results were maintained at one month follow-up except for negative affect scores. This demonstrates that a cognitive dissonance intervention is sufficient in reducing negative body image alone and psychoeducation neither increases nor decreases the effectiveness.

Another recent study examined Stice's cognitive dissonance-based intervention and compared it to a yoga and meditation intervention and a control group (Mitchell, Mazzeo, Rausch, & Cooke, 2007). The authors used a yoga and meditation program based on a recent research finding suggesting yoga increases body awareness and satisfaction (Daubenmier, 2005). Participants included 93 undergraduate psychology students at a large university. Researchers found significant decreases in disordered eating symptomatology, drive for thinness, body dissatisfaction, and alexithymia among women in the cognitive dissonance group (Mitchell et al., 2007). No significant differences were found among the yoga and meditation intervention in pre and posttest results. There were also no differences between the control group and the yoga group suggesting that the yoga intervention was ineffective (Mitchell, et al., 2007).

Other studies replicated Stice's cognitive dissonance-based interventions and have shown similar results indicating that cognitive dissonance-based interventions have consistently been shown to be effective in reducing the thin-ideal internalization and body image disturbance among young women (Green, Scott, Diyankova, Gasser, &

Pederson, 2005; Wiseman, Sunday, Bortolotti, & Halmi, 2004; Matussek, Wendt, & Wiseman, 2004).

Due to the negative impact of having high levels of body dissatisfaction, research in the area of reducing thin ideal internalization is extremely important. The current study expanded on Stice's work by having college women with high body dissatisfaction actually develop and implement an intervention to encourage healthy body image among 3rd and 4th grade children. Additionally, the current study aimed to evaluate the effectiveness of a peer-led intervention for young children in reducing body dissatisfaction and thin-ideal internalization.

It was hypothesized that the cognitive dissonance intervention would significantly reduce eating disorder risk factors (i.e., eating disorder symptoms, dieting behaviors, body dissatisfaction, thin ideal internalization, body checking behaviors, and negative affect) among college women with high body dissatisfaction. It was also hypothesized that the peer-led intervention developed for children would significantly reduce levels of body dissatisfaction and thin ideal internalization in the children.

METHODS

Part 1

Participants. The participants in Part 1 of this study included seven female college students. Participants qualified for the study by receiving a score of 109 or higher on the Body Shape Questionnaire (BSQ), indicating high body dissatisfaction.

Participants also had to be available for five specific meeting times during a period of two weeks. Approximately 336 female college students completed the BSQ online and a total of 56 women indicated they would like to participate in the program. Of the 56, 30 women had qualifying BSQ scores of 109 and above. However, after contacting the 30 qualifying women, only seven were available to participate during the allocated times.

The participants were between the ages of 18 and 20 ($M = 18.7$) and they were all Caucasian (Table 1). When screened, the participants' average BSQ score was 140.14 and their average BMI was 24.18 at pretest (Table 1). See Table 1 for a summary of demographics information.

The women received course credit for their participation as well as a \$25 gas gift card to compensate for driving to and from elementary schools. The time commitment for the college women was approximately eight hours. This experiment was reviewed and approved by the Institutional Review Board at Missouri State University (see Appendix).

Table 1. College Women Participant Demographics

	Mean (SD)
Age	18.43 (1.27)
BMI	24.18 (3.39)

		Percentage of Sample
Race	Caucasian	100%
Year in College	Freshmen	71.43%
	Sophomore	28.57%
Marital Status	Never Married	100%
Currently on a Diet	Yes	42.86%
	No	57.14%
		Percentage of Sample
Self-Reported Weight Status	Extremely Underweight	0%
	Underweight	0%
	Normal Weight	57.14%
	Overweight	42.86%
	Obese	0%

Procedures. The participants were contacted by phone and/or email to notify them of the time and place for the three sessions. The women attended 3 two-hour body image intervention sessions in a classroom at Missouri State University. The sessions were led by two master's students in clinical psychology.

Session 1. At the beginning of the first session, the participants completed a pretest questionnaire packet including several assessments regarding body satisfaction, thin ideal internalization, and dieting behaviors. The content of the each of the three

sessions followed the format suggested by Stice and Presnell's (2007) workbook "The Body Project." Some components were removed to allow time for the college women to create and plan their intervention for the children such as a verbal challenge exercise, a behavioral challenge exercise, and a self-affirmation activity. After the pretest questionnaire packets were completed, participants were asked to examine magazine clippings of women and choose the one that appealed most to them. They were then asked several questions about the picture and the messages the pictures provided about the "perfect" woman. Origins of the thin ideal were discussed and a brief power point presentation was shown consisting of pictures of women who were considered beautiful throughout different centuries. The ways in which the thin ideal is promoted to women and the costs of pursuing the thin ideal were discussed. At the end of the first session, the participants were asked to complete a homework assignment by writing a short letter to a young child who is struggling with body image concerns and inform them of the costs of pursuing the thin ideal.

Session 2. A brief review of the first session was conducted. Participants were then asked to share their letters to a young child and discuss how they felt while writing them. A role-playing exercise was presented where participants tried to dissuade a child from pursuing the thin ideal. Participants were then asked to list the most important things children could do to resist the thin ideal. These items were condensed to the top ten items deemed most important by the group. As a homework assignment, the participants were asked to stand in front of a full-length mirror and write down all the positive qualities they could think of including physical, emotional, intellectual, and social qualities. They were instructed to bring the lists to the next meeting for discussion.

Session 3. The previous session was reviewed and the homework assignment was discussed. Participants were asked to discuss some of the positive qualities they wrote down and asked to discuss how they felt during the exercise. Participants were then asked to discuss the kinds of difficulties children may face when trying to resist the thin ideal. They were also asked to share the difficulties they face in their own lives. The participants were asked to brainstorm ideas for the program that they were going to develop for 3rd and 4th grade boys and girls. Ideas were shared and recorded. The group leaders also shared some ideas from Kathy Kater's Healthy Body Image curriculum (1998). The program for the children was then outlined and organized. The group leaders were later provided with an outline of the interventions to use while implementing the program.

College women assessment measures. The college women participants completed a pretest and posttest questionnaire packet. The measures included are described below. A one-way repeated measures analyses of variance (ANOVA) was calculated comparing pretest scores to posttest scores for the college women on each of the assessment measures.

Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987).

Female college participants were screened using the 34-item BSQ. Participants indicated on a scale from 1-6 (1 = never, 6 = always) how they had been feeling about their appearance over the last four weeks. Cooper et al. (1987) found a mean BSQ score of 109 in women identified as concerned about weight and shape. Therefore, a BSQ score of 109 was used as the cutoff to identify women as having high levels of body dissatisfaction in this study. This measure was used for the pretest and posttest. Items were totaled for

analyses. This scale has been shown to have acceptable reliability and validity (Cooper et al., 1987).

Ideal-Body Stereotype Scale-Revised (IBSS-R; Stice, Ziemba, Margolis, & Flick, 1996). The IBSS-R assesses thin-ideal internalization and risk factors for eating disorders and consists of a total of 6 items. Participants were asked to respond using a 5-point response format ranging from 1 (strongly disagree) to 5 (strongly agree). Internal consistency, reliability, and validity have been found to be acceptable (Stice et al., 2001; Stice et al., 1996). Items were averaged for analysis.

Dutch Restrained Eating Scale (DRES; van Strien, Frijters, van Staveren, Defares, & Deurenberg, 1986). The DRES consists of 10 items and is used to assess dieting behaviors. Participants indicated frequency of dieting behaviors on a 5-point scale ranging from 1 (never) to 5 (always). Items were averaged for analysis. This measure has been found to have acceptable predictive validity and test-retest reliability (Van Strien et al., 1986).

Eating Disorder Examination-Questionnaire (EDE-Q; Fairburn & Beglin, 1994). The EDEQ is used to assess eating disorder symptoms and was derived from the Eating Disorder Examination interview (EDE; Fairburn & Cooper, 1993). This measure assesses the behavioral features of eating disorders. The questionnaire consists of 38 questions. Items were averaged for analyses and separate averages for subscales were calculated. The subscales measure restraint, eating concerns, shape concerns, and weight concerns. These subscales were compared at time 1 and time 2 for analysis.

Body Esteem Scale (BES; Franzoi & Shields, 1984). The BES measures global body satisfaction. Participants are asked to rate how they feel about each body part or

function on a 5-pt. Likert scale (1 = have strong negative feelings, 5 = have strong positive feelings). Only the Weight Control subscale was used for the purpose of this study that consisted of 10 body parts for participants to rate. The Weight Concerns subscale includes body parts that can be physically altered through exercise or food intake control such as waist, thighs, legs, hips, weight, etc. Items were totaled for analyses. Discriminate validity was found to be adequate for the Weight Concerns subscale (Franzoi & Shields, 1984).

Positive Affect and Negative Affect Scale-Revised (PANAS-X; Watson, Clark, McIntyre, & Haymaker, 1992). The PANAS-X measures positive and negative affect. It was used to assess negative affect using the sadness, guilt, and fear/anxiety subscales. Participants rated the extent to which they have had a negative emotional state on a 5 pt. Likert scale (1 = very slightly or not at all, 5 = extremely). Items were averaged for analyses.

Body Checking Questionnaire (BCQ; Reas, Whisenhunt, Netemeyer, & Williamson, 2002). The 23 item BCQ measures body checking behaviors with three factors assessing checking in regard to overall appearance, checking specific body parts, and idiosyncratic checking rituals. Participants are asked to rate how often they engaged in certain checking behaviors on a 5 point scale ranging from 1 (never) to 5 (very often). Items were totaled for analyses and separate totals were obtained for the three subscales (Specific Body Parts scale, Overall Appearance scale, and the Idiosyncratic Checking scale). This scale was found to have good test-retest reliability (.94) and the subfactors demonstrated good internal consistency (Reas et al., 2002).

Demographics Questionnaire. A demographics questionnaire was developed for this study and consisted of 12 questions regarding age, year in school, marital status, race, dieting behavior, current height and weight, and weight history.

Part 2

Participants. A total of 34 3rd and 4th grade students were recruited through the YMCA's Prime Time afterschool program in Springfield, MO at Wanda Gray Elementary School and McBride Elementary School. Parental consent was obtained by having the parents read and sign the consent form at the school when they picked up their child from the program. Children were also given an assent form to read with their parent and sign. The time commitment for the middle school children was a total of three hours. Children were asked to participate on three separate days for one hour on each day. Ten participants were excluded from data analyses due to not being present on all three days. The final sample size was comprised of 24 students; 11 were male, (46%) and 13 were female (54%) participants ages 8 to 10 ($M = 9.00$) (see Table 2). The racial/ethnic background of the sample was 75% Caucasian, 8% American Indian, 4% Hispanic, and 8% not identified (see Table 2). See Table 2 for a summary of demographics information. This experiment was reviewed and approved by the Institutional Review Board at Missouri State University (see Appendix).

Table 2. Child Participant Demographics

	Mean (SD)
Age	9.00 (0.72)
Girls' BMI	16.51 (3.19)

Boys' BMI	14.82 (2.05)	
		Percentage of Sample
Grade in School	3 rd Grade	58.33%
	4 th Grade	41.67%
		Percentage of Sample
Race	Caucasian	79.17%
	American Indian	8.33%
	Hispanic	4.17%
	Not Identified	8.33%

Procedures. The participants attended 2 one-hour body image intervention sessions developed and presented by the college women in Part 1 of this study. Four women were randomly assigned to McBride Elementary school and 3 women were randomly assigned to Wanda Gray Elementary school. A total of 7 child participants were at Wanda Gray Elementary and 17 participants were at McBride Elementary school. The college women led the intervention and one graduate student supervised at each elementary school.

Prior to the intervention program, height and weight of each child was measured. The children also completed a pretest questionnaire packet regarding body satisfaction, ideal internalization, and dieting behaviors.

Session 1. At the beginning of the first session, the college women introduced themselves and explained that they would be introducing activities to help the children

feel better about themselves and teach them to love their bodies without changing them. The college women then read aloud a story from Kathy Kater's "Healthy Body Image" program (1998) that described a society where everyone was content with their bodies and looks until advertisers and photographers started only using models who looked a certain way to advertise their products. The story concluded with the characters feeling unhappy and realizing that they cannot force themselves to look a certain way and they should go back to loving their bodies like they used to. Afterward, the children were asked to draw a portrait of their families and they were asked several questions about the story. The point of the story was to help children to understand how the thin ideal was developed and how it is perpetuated (i.e. through the media and advertising industries). The story was also intended to help them to understand it is unhealthy to starve yourself or force yourself to look a certain way, and they will likely be unsuccessful in attempting to do so. The children are encouraged to be content with the way they look and love others the way they are as well.

Session 2. At the beginning of the session, the college women asked a few questions about the last session to review what the children had learned from the story. The children were then asked to close their eyes and raise their hand if they have ever been teased before and if they had ever seen someone else being teased. They were then asked to share how they felt when they were being teased or when they saw someone else being teased. The college women next explained that they were going to play the "compliment game," which is a game the women developed for the children to teach them how to give compliments to others instead of teasing others or saying something hurtful. The children were given a ball and asked to throw it to another child and give that

child a compliment. They also had to avoid repeating any compliments and they had to take a step back each time someone was complimented so that the circle would get bigger. Children who missed the ball or dropped it were considered “out” and the game ended with one child remaining. After the game, the children were asked to do a role-playing activity similar to the college women’s role playing activity. Two children would stand and one would read a problem about internalizing the thin ideal. The other child was asked to help the first child feel better about the situation. Each child was given a chance to be the reader and the helper. At the end of the session, the children and the college women were asked to complete their posttest assessment packets. The women then received their gift cards for participating.

Children’s Measures. The children completed a pretest and posttest questionnaire packet. The measures included are described below. A one-way repeated measures analyses of variance (ANOVA) was calculated comparing pretest scores to posttest scores for the children on each of the assessment measures.

Body Esteem Scale (BES; Franzoi & Shields, 1984). The BES measures global body satisfaction. Participants were asked to rate how they feel about each body part or function on a 5-pt. Likert scale (1 = have strong negative feelings, 5 = have strong positive feelings). Only the Weight Control subscale was used for the purpose of this study, which consisted of 10 body parts for female participants to rate. Items were totaled for analyses. Reliability and validity were found to be acceptable (Franzoi & Shields, 1984). Internal consistency and reliability were found for female children and adolescents in grades 5-12 (Cecil & Stanley, 1997).

Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ; Heinberg, Thompson, & Stormer, 1995). This measure consists of 14 questions rated on a 5-point scale. There are separate questionnaires for both girls and boys with similar questions. This questionnaire measures thin ideal internalization. Acceptable validity was found for the boys' and girls' versions of the test and the subscales (Awareness, Internalization, and Muscular Look) were found to have acceptable concurrent validity (Smolak, Levine, & Thompson, 2001).

The BMI-Based-Silhouette Matching Test (BMI-SMT; Peterson et al., 2003). The BMI-SMT measures body image perception. It uses silhouette figures as reference points within a scale with 27 choices (each choice increasing by one BMI unit – 14-40). Children are asked which figure represents his/her current figure and which figure represents the figure they would like to have. Both reliability (Peterson et al., 2003) and validity (Peterson, Orsega-Smith, & Tholstrup, 2004) were established for this scale.

Demographics Questionnaire. A demographics questionnaire was developed for this study consisting of 7 questions. Participants were asked their age, birthday, grade in school, school they attend, race, height, and weight. Research assistants measured height and weight and the children were prevented from seeing that information. Each child's Body Mass Index was calculated using the following formula: $BMI = (\text{Weight (lbs)}/\text{Height (in)}^2) \times 703$.

RESULTS

College Women

Levels of body satisfaction were measured using the Body Shape Questionnaire (BSQ) and the Body Esteem Scale (BES). Items were totaled for both analyses. Mean pretest scores on the BSQ were 131.86 ($SD = 18.09$) (see Table 3) which were well over the cut-off of 109 for demonstrating high levels of body dissatisfaction. Following the intervention, the women had a mean BSQ score of 109.5 ($SD = 16.64$), barely reaching the cutoff for demonstrating high levels of body concerns (see Figure 1). This change in BSQ scores was significant from pretest to posttest ($F(1,6) = 7.77, p < 0.05$) indicating that body dissatisfaction decreased overall. The Body Esteem Scale also measures global body satisfaction but instead of asking questions about how one feels about one's appearance, this questionnaire requires participants to rate their feelings about specific body features. Results from this assessment revealed significant increases in satisfaction across a variety of specific body parts ($F(1,6) = 18.0, p < 0.01$) (see Figure 2).

Table 3. Mean Pretest and Posttest Scores for College Women

Measure	Pretest Mean Score (SD)	Posttest Mean Score (SD)	F-Value
BSQ	131.86 (18.09)	109.50(16.64)*	7.77
BES	23.43 (3.50)	29.43 (3.95)**	18.00
DRES	3.53 (0.59)	3.26 (0.48)**	15.48
BCQ Total	73.71 (16.52)	57.43 (11.70)*	10.26
BCQ - Overall Appearance	34.57 (7.96)	27.29 (7.93)*	9.16

BCQ – Specific Body Parts	27.43 (5.41)	21.86 (5.79)	3.51
BCQ - Idiosyncratic Checking	11.71 (5.82)	8.29 (3.73)*	7.51
EDE-Q Total	3.60 (0.54)	2.24 (1.03)**	16.17
EDE-Q – Restraint	3.09 (0.82)	1.77 (1.10)*	13.36
EDE-Q – Eating Concerns	2.69 (0.83)	1.64 (1.41)	5.60
EDE-Q – Shape Concerns	4.48 (0.69)	2.93 (1.06)**	19.80
EDE-Q – Weight Concerns	4.14 (0.98)	2.60 (1.11)*	11.82
PANAS-X	2.46 (0.50)	1.91 (0.75)	4.68
IBSS-R	3.71 (0.72)	3.52 (0.68)	1.08

* $p < 0.05$

** $p < 0.01$

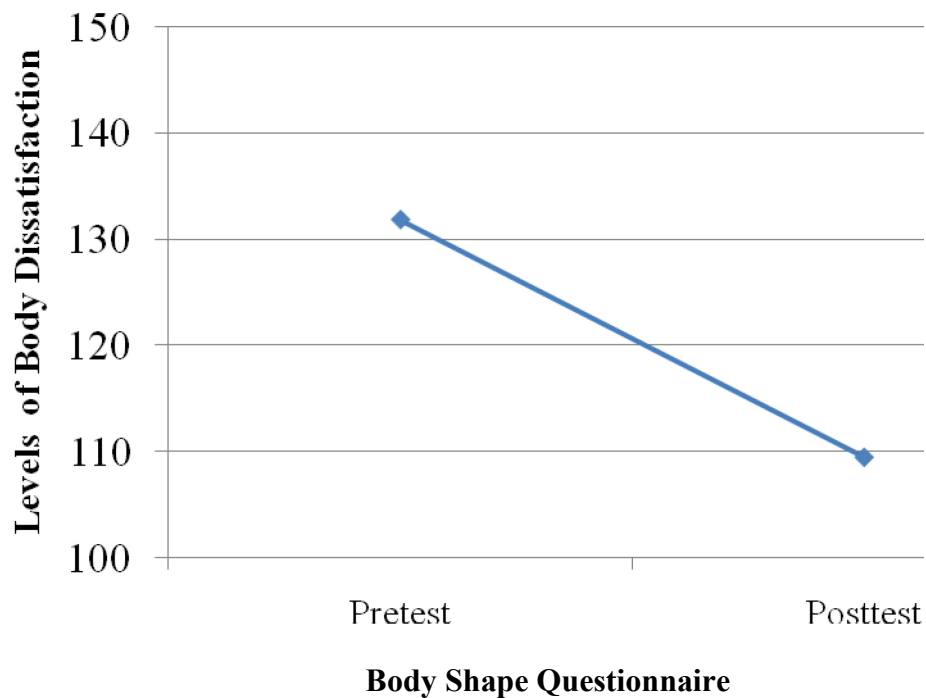


Figure 1. Mean BSQ Pretest and Posttest Scores for College Women.

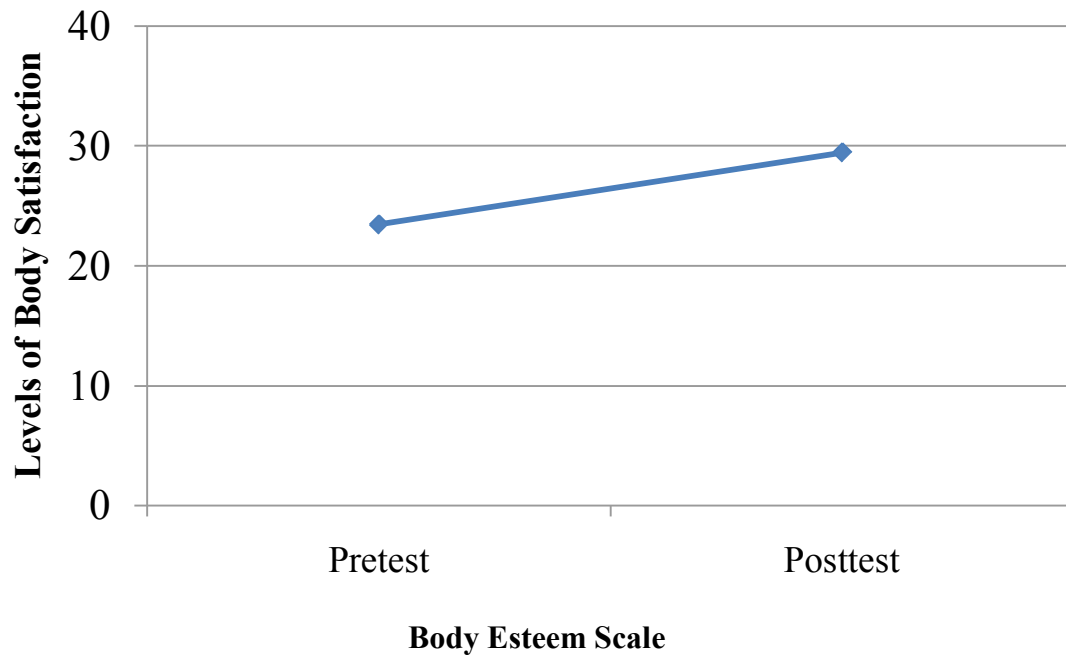


Figure 2. Mean BES Pretest and Posttest Scores for College Women.

Dieting Behaviors were measured using the Dutch Restrained Eating Scale (DRES). Items were averaged for analyses. The results demonstrated that the intervention resulted in significant decreases in dieting behaviors ($F(1,6) = 15.48, p < 0.01$) such as restricting food intake and monitoring what one eats (see Figure 3).

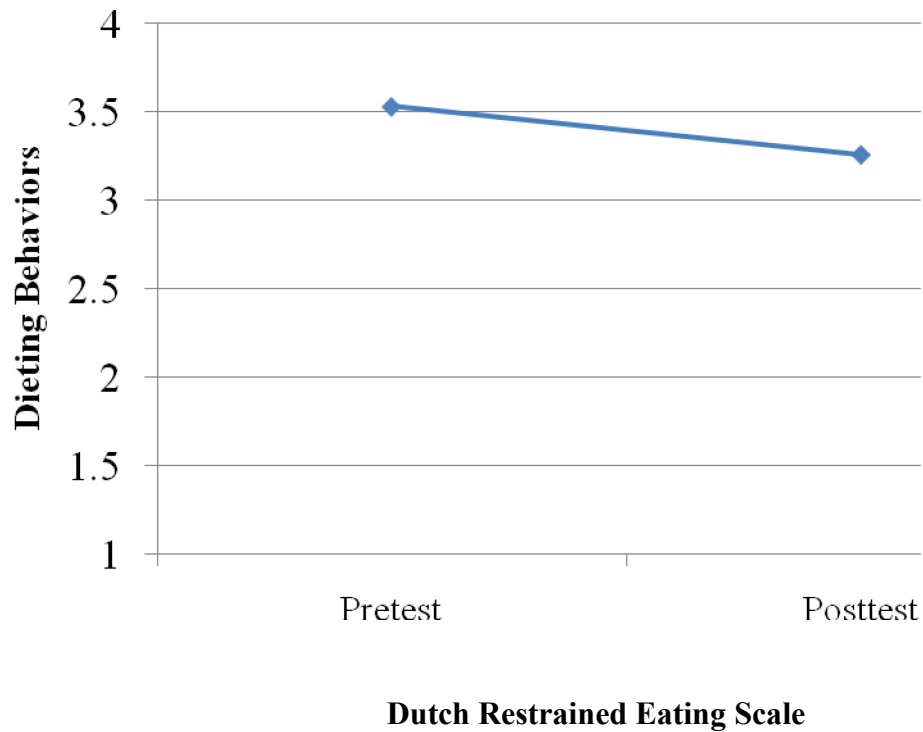


Figure 3. Mean DRES Pretest and Posttest Scores for College Women.

Body checking behaviors were measured using the Body Checking Questionnaire (BCQ). Scores were totaled for analyses. Significant decreases in body checking behaviors were found from pretest to posttest ($F(1,6) = 10.26, p < 0.05$) (see Figure 4). Subscale scores were analyzed as well to see what specific types of behaviors were impacted by the intervention. Significant decreases were found in The Overall Appearance subscale ($F(1,6) = 9.16, p < 0.05$), which measures checking behaviors related to overall appearance. Differences in the Specific Body Parts subscale were found to be approaching significance ($F(1,6) = 3.51, p = 0.11$), which asks questions related to checking specific parts of one's body. Significant decreases were found in The

Idiosyncratic Checking subscale ($F(1,6) = 7.51, p < 0.05$), which assesses checking behaviors that are typically considered unusual or idiosyncratic.

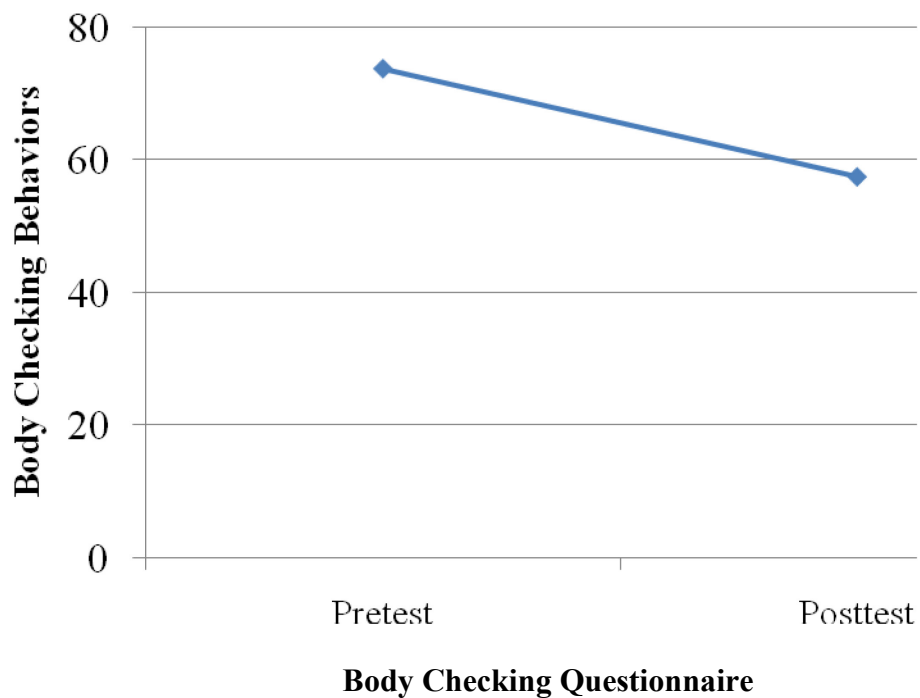


Figure 4. Mean BCQ Pretest and Posttest Scores for College Women.

Eating disorder symptoms were measured using the Eating Disorder Examination-Questionnaire (EDE-Q). Items were averaged for analyses. Significant decreases in eating disorder symptoms were found overall ($F(1,6) = 16.17, p < 0.01$) (see Figure 5). Subscale scores were analyzed as well to identify specific eating disorder symptom changes from pretest to posttest. Significant decreases in restraint symptoms were found in the Restraint subscale ($F(1,6) = 13.36, p < 0.05$) and changes in scores on the Eating Concerns subscale were found to be approaching significance ($F(1,6) = 5.60, p = 0.056$).

Significant decreases in negative body shape beliefs were found by significant score reductions on the Shape Concerns subscale ($F(1,6) = 19.80, p < 0.01$). Significant decreases in negative weight concerns were found in the Weight Concerns subscale ($F(1,6) = 11.82, p < 0.05$). These findings suggest that the intervention led to improvements in several domains of eating disorder pathology.

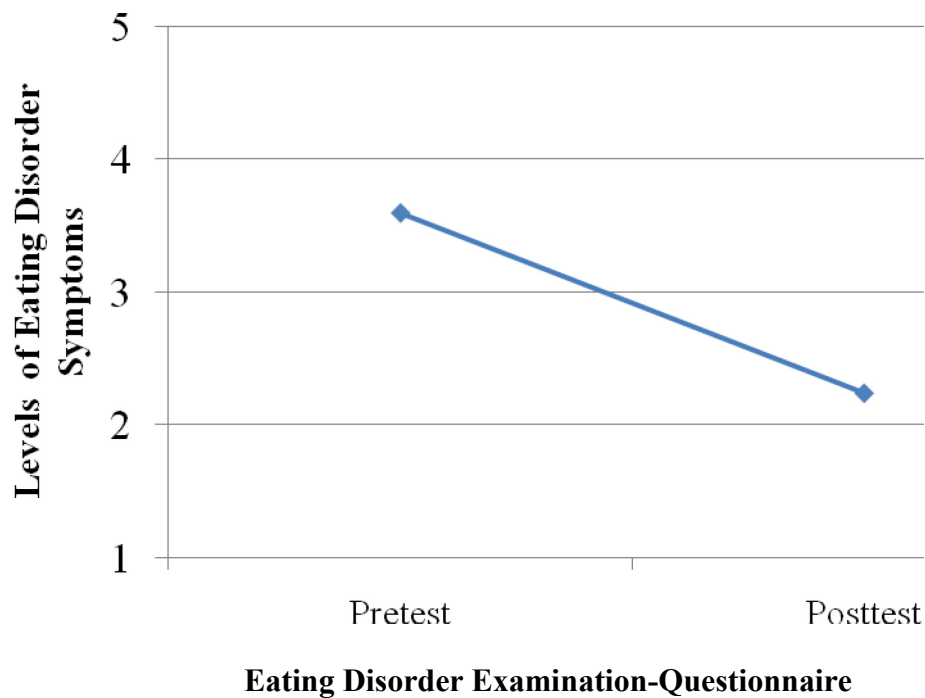


Figure 5. Mean EDE-Q Pretest and Posttest Scores for College Women.

Negative affect was measured using the Positive Affect and Negative Affect Scale-Revised (PANAS-X). Items were averaged for analyses. Decreases in negative mood were found to be approaching significance ($F(1,6) = 4.68, p = 0.07$). The non significant findings may be due to the participants' mood on that day, which may or may

not be influenced by outside factors. The PANAS-X is comprised of several subscales and for the purposes of this study, researchers used the sadness, guilt, and fear/anxiety subscales to be consistent with Stice's (2003) measures. The fact that the final exam testing period was starting the day after the intervention may have caused some levels of anxiety or fear that may have led to a lesser improvement in affect.

Thin-ideal internalization was measured using the Ideal-Body Stereotype Scale-Revised (IBSS-R) developed by Stice and colleagues (1996). Items were averaged for analyses. No significant differences were found in level of thin-ideal internalization ($F(1,6) = 1.08, p > 0.05$). This may be due to the fact that some activities that target thin ideal internalization from Stice and Presnell's (2007) workbook were left out due to time constraints.

Children

Thin-ideal internalization was measured using the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ). Boys and girls were given gender-specific versions of the test; therefore, their scores were analyzed separately. Items were totaled for analyses. See Table 4 for a summary of means and standard deviations. Results were not found to be significant in reducing thin-ideal internalization among girls ($F(1,12) = 0.27, p > 0.05$) despite the fact that mean thin ideal internalization scores were consistent with means of other children from previous research studies (Smolak, Levine, & Thompson, 2001) and even slightly higher. Additionally, subscale scores were also analyzed. Among girls, no significant differences were found for the Internalization subscale (specifically measuring levels of thin ideal internalization) ($F(1,12) = 2.67, p > 0.05$) or the Awareness subscale (measuring familiarity with the thinness ideal) ($F(1,12)$

= .53, $p > 0.05$) . Likewise, the intervention appears to have been ineffective in reducing levels of thin ideal internalization among the male participants ($F(1,10) = 0.57, p > 0.05$) this also may be due to low scores on thin ideal internalization to begin with, having an average response score of 2.33 signifying that boys mostly disagreed with thin ideal internalization statements. No significant differences were found for the Internalization subscale ($F(1,10) = 1.87, p > 0.05$), the Awareness subscale ($F(1,10) = 0.09, p > 0.05$), or the Muscular Look subscale (measuring the level of importance of muscularity) ($F(1,10) = 0.04, p > 0.05$) for male participants.

Table 4. Mean Pretest and Posttest Scores for Children

Measure	Pretest Mean Score (SD)	Posttest Mean Score (SD)	F-Value
SATAQ			
Girls' Total	35.36 (13.66)	33.69 (19.68)	0.27
Girls' Internalization	21.08 (10.34)	18.15 (13.30)	2.67
Girls' Awareness	14.28 (4.79)	15.54 (8.09)	0.53
Boys' Total	32.66 (12.39)	35.36 (10.81)	0.57
Boys' Internalization	15.36 (6.00)	17.73 (6.12)	1.87
Boys' Awareness	10.30 (4.64)	10.82 (4.70)	0.09
Boys' Muscular Look	7.00 (3.44)	6.82 (2.52)	0.04
BES Girls	40.54 (5.61)	45.62 (3.64)**	14.63
BMI-SMT			
Perceived v. Ideal Discrepancy	0.54 (3.87)	-0.25 (3.98)	1.30

* $p < 0.05$

** $p < 0.01$

Body satisfaction was measured among girls using the Weight Control subscale of the Body Esteem Scale which was the same subscale used for the college women. Items were totaled for analyses. See Table 4 for a summary of means and standard deviations. Significant increases in levels of body esteem were found among female participants ($F(1, 12) = 14.63, p < 0.01$). Girls rated certain features of their body higher at pretest than at posttest (see Figure 6). Body satisfaction was not reported for male participants due to researchers mistakenly giving them the same subscale as the female participants only to find afterward that the Weight Control subscale used was found to be reliable and valid for girls only, not boys. The Upper Body Strength subscale of the BES is a valid and reliable subscale for boys that should have been given to the male participants instead.

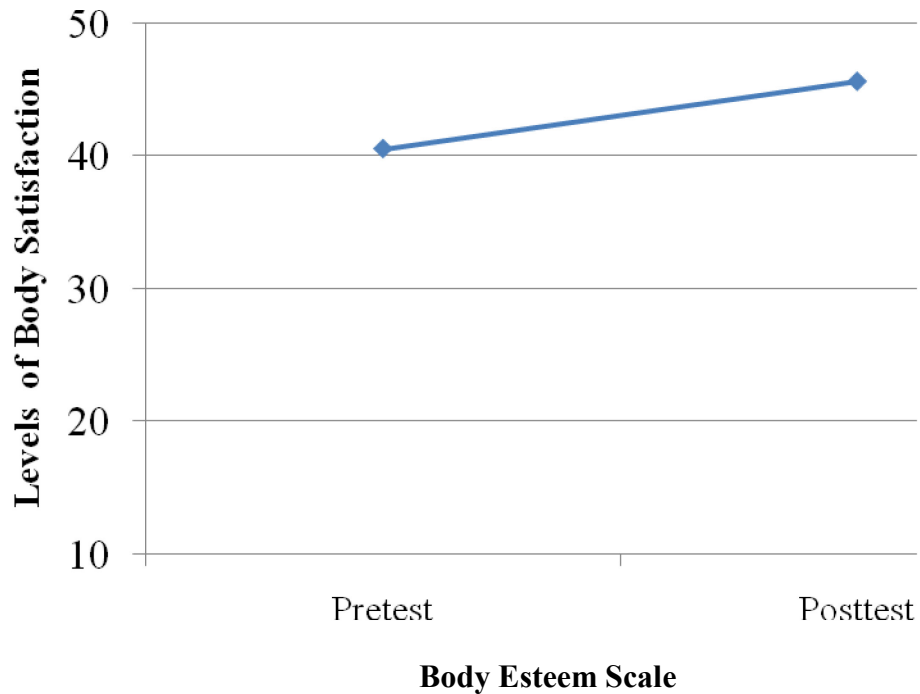


Figure 6. Mean BES Pretest and Posttest Scores for Female Child Participants.

Body image perception was measured using the BMI-Based-Silhouette Matching Test (BMI-SMT). See Table 4 for a summary of means and standard deviations. Perceived BMI compared to Actual BMI demonstrated significant discrepancies at time 1 ($F(1,23) = 81.61, p < 0.01$). Participants were asked to choose which figure looked the most like them (perceived) and which figure they wished they looked like (ideal). Participants' height and weight were taken to calculate their actual BMI. Perceived BMI mean was found to be 21.46 ($SD = 2.51$) and actual BMI mean was 15.76 ($SD = 2.81$). This discrepancy was most likely due to the fact that although the BMI-SMT has been used for children as young as 8 years of age (Jung & Peterson, 2007), the silhouettes may not accurately represent a child's body shape and size. Child participants in the current

study had BMI's as low as 11.21, whereas the silhouettes on the BMI-SMT start at a BMI of 14. Child and adult BMI's, although calculated the same way, are represented differently. For children and teens, sex and age-specific percentiles are used due to amount that body fat changes with age during formative years and due to the differences between girls' and boys' amounts of fat. With adults, sex and age are not considered when determining percentiles (Center for Disease Control and Prevention, 2009).

Also, using the BMI-SMT, differences between perceived and ideal body size and shape were analyzed at pretest and posttest to determine the degree of body dissatisfaction among the children. No significant differences were found ($F(1,23) = 1.30, p > 0.05$) demonstrating no changes in levels of body satisfaction.

DISCUSSION

The current study demonstrates that having body-concerned college women develop and present an intervention for children aimed at improving body image can lead to improvements in several body image dimensions among college women. The intervention was successful in significantly reducing body dissatisfaction, dieting behaviors, eating disorder symptoms, and body checking behaviors which is consistent with Eric Stice and colleagues' (Stice et al., 2000; Stice et al., 2001; Stice, Trost, & Chase, 2003) findings. Stice also found significant decreases in thin ideal internalization and negative affect that the current study did not find. Decreases in negative affect were found to be closely approaching significance. The lack of change in thin ideal internalization may be because the intervention did not change their beliefs that thinner, taller, leaner, bodies are more attractive. As mentioned earlier, several activities from Stice and Presnell's (2007) workbook were left out of the current study to allow for time for the women to develop the intervention for children. These activities may target the thin ideal internalization and leaving them out could have caused the lack of change. One activity left out was a fat talk list where participants are given a list of statements that are typically encountered such as, "I'm so fat" or "gee you look great, have you lost weight?" Participants are asked to come up with things they can do differently. A self-affirmation exercise was also left out that may have been more effective in reducing thin ideal internalization as well. Future studies should try to include all activities so as not to miss an important part that targets each of the body image dimensions.

Although results were similar to Stice's, we were unable to determine if implementing the intervention with children produced more significant results than

simply having the college women develop such an intervention. One reason for this is that the current study did not include a control group where participants complete the intervention without actually implementing the developed intervention for children. Having a control group would allow researchers to determine if implementing the intervention with children would produce more significant results. One reason we cannot make this comparison to Stice's work is that the current study did not use all of the same assessments Stice used in his studies. It was also difficult to make a comparison due to the small number of participants in this study compared with the much larger samples in Stice's studies. To make such a comparison, future studies should attempt to use the same assessments as Stice, obtain a larger sample size, and more closely replicate the study by using all the exercises from Stice and Presnell's (2007) workbook.

Results obtained from the children's intervention were similar to the adult intervention in that neither program resulted in a significant decrease in thin ideal internalization. For the children, this may have been due to the short amount of time of the intervention which did not allow for an impact on internalization of the thin ideal. Also, appropriate intervention activities were not used that have been studied to lower levels of thin ideal internalization due to the fact that the college women came up with activities on their own that have not been studied to reduce thin ideal internalization among children. Future studies should allocate more time for the intervention so as to allow for time to tap into the internalization of the thin ideal among children. Also, attempts should be made to incorporate activities for the children that have been shown to impact thin ideal internalization if any exist.

Among female participants in the children's intervention, significant increases in body satisfaction were found. Following the intervention, girls rated certain body features more positively than they had before the intervention. These results are similar to those found among the college women. The children also rated their perceived body shape as much larger than their actual body shape. However, after evaluating the assessment measure, there are reasons to be concerned about the validity of the BMI-SMT in children this young. Although the BMI-SMT has been used on children as young as 8 years old (Jung & Peterson, 2007), the silhouette figures did not correctly represent younger children's body shapes. Child participants in the current study had BMI's as low as 11.21, whereas the silhouettes on the BMI-SMT start at a BMI of 14. This most likely explains the discrepancy; the children were not able to accurately mark their perceived body shape and size because there were no figures that represented their current body shape or size. In the future, scales that better represent younger populations should be developed.

In order to succeed in having a further impact in improving body image among the children themselves, the interventions are likely to need to be enhanced. One challenge in the current study was negotiating how to allow the college women to feel that they had some control over the development of the program for children while still implementing an effective intervention for the children. The college women developed one session and a part of Kathy Kater's (1998) healthy body image intervention was used for the second session. Another difficulty was getting enough college women to make the relatively large time commitment that was required for the intervention. Future studies could attempt to lengthen the intervention for children to allow for more time for more

effective intervention activities which could lead to more significant differences in reducing thin ideal internalization and body dissatisfaction.

Limitations/Implications

One of the weaknesses of this study was that the sample size was small and therefore it is difficult to generalize the results to a larger population. Obtaining a larger sample was difficult due to the lengthy time commitment and the specific time frames for the child interventions necessary. Another weakness of this study was the small number of validated assessments available to evaluate the effects of the intervention among the children. Researchers attempted to keep the assessments short due to time constraints and so children would not have difficulty completing the questionnaires on their own. Also, as mentioned previously, boys were not assessed for body satisfaction due to the researcher's mistakenly giving them the Weight Control subscale of the BES that was not found to be valid and reliable among young male populations. In the future, body satisfaction should be evaluated for male participants by using the Upper Body Strength subscale of the BES, which is a valid and reliable subscale for young male populations.

Future Research

Future studies should attempt to compare the effects of simply developing a healthy body image program for children versus developing and implementing a program for children to determine if implementing the program produces more significant results. . Future studies should also attempt to use more effective intervention activities with the children so as to produce significant improvements in body image dimensions among the children as well and to support the efficacy of peer-led interventions.

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APPENDIX

Missouri State University Institutional Review Board

DATE: October 17, 2008

TO: Brooke Whisenhunt
Rachael Kroening; Jennifer Ford; Danae Hudson

FROM: Joseph Hulgus, Ph.D.
Associate Professor of Counseling
Institutional Review Board Chair

HUMAN PARTICIPANTS PROTECTION REVIEW

Your project, "Promoting a Healthy Body Image in Children," was approved by the Missouri State University Protection of Human Participants Institutional Review Board as submitted. Copies of your application and proposal will be on file in the Office of Sponsored Research & Programs. Please note that your project has a starting date of 10/15/2008 and that it was approved until 10/14/2009.

If you find it necessary to extend your project beyond this date, it will be necessary for you to reapply to the Protection of Human Participants Institutional Review Board. The application form for this may be obtained on the Office of Sponsored Research and Programs web page <http://www.srp.missouristate.edu>.

Please feel free to contact your college representative, the Office of Sponsored Research & Programs, or myself if you need additional assistance. This project has been assigned the number #09154. Please reference this number when asking any questions regarding this project.

Institutional Review Board Chair
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