Effects of a Media Intervention Program on Body Image and Eating Attitudes Among Children

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ABSTRACT

Our society is suffering from an epidemic of body image dissatisfaction and unhealthy eating behaviors. A false belief that anyone who tries hard enough can diet themselves into the desired lean look has been generated due to pervasive media reinforcing the thin standard of beauty (Kater, Rohwer, & Londre, 2002). Irving and Berel (2001) call this epidemic the "thinning" of Western beauty ideals. Until recently, research has neglected the effects of these factors on children. Present research shows that children's body image and eating behaviors are in fact being negatively affected by sociocultural influences, specifically media (McCabe & Ricciardelli, 2003). Researchers have begun to develop intervention programs in an effort to reduce the negative effects of these sociocultural factors on children by teaching them about the biology of body size, critical media analysis skills, and healthy lifestyle behaviors (Kater, Rohwer, & Londre, 2002). The current research explored the effects of a media intervention program on the body esteem and eating attitudes of school age children. Findings indicate that the children of this particular sample had relatively healthy body image and eating attitudes. However, scores on the Body Esteem Scale (BES) and the Children's Version of the Eating Attitudes Test (ChEAT) did increase from pre-intervention administration to post-intervention administration. Girls in the media group showed a significant increase in body-esteem from pre to post test.

INTRODUCTION

The mass marketing of body image through print media and television advertising has been well documented as a powerful force in creating the perception of the tall, thin and toned ideal for women and the medium sized, muscular ideal for men in the twentieth and twenty-first century (Rabak-Wagener & Eickhoff-Shemek, 1998). Irving and Berel (2001) call this epidemic the "thinning" of Western beauty ideals. This current slender beauty standard depicted in media has been documented as having an affect on body image dysphoria. Body image dysphoria is defined as dissatisfaction and anxiety about one's body, ranging from mild to severe (Rabak-Wagener & Eickoff-Shemek, 1998). Body image dissatisfaction and dysphoria have also been linked to poor self-esteem as well as the onset of eating disorders and disordered eating habits.

The prevalence of eating disorders and problems related to eating disorders such as low self-esteem, body dysphoria, low body image satisfaction, and disordered eating has increased dramatically over the past thirty years and continues to increase. Eating disorders are estimated to occur in 1 in 100 women or 20 in 100 when anorexia and bulimia are combined (Rabak-Wagener & Eickoff-Shemek, 1998). Eating disorders occur approximately 10 times more often in women than in men, and the prevalence of body image dissatisfaction among young women and men is much higher than statistics for eating disorders indicate (Rabak-Wagener & Eickoff-Shemek, 1998). The general consensus among clinicians is that the incidence of disordered eating has risen steadily over the past 30 years, and disordered eating has begun to change from a disease of young, white, middle class girls and women to a more "equal-opportunity" affliction, especially in Westernized societies (Harrison, 1997). The growing prevalence of eating disorders in the United States and other industrialized societies, coupled with the prevalence of conspicuously thin models and actors featured in the media, have become cause for alarm among those concerned with how children, adolescents, and young adults use social information to build a healthy self-image and develop healthy eating habits (Harrison, 1997).

Body Image and Eating Behaviors among Children

Until fairly recently research concerning these alarming trends of body image dissatisfaction and eating disorders has neglected children. Recent studies, however, show that these disturbing trends are indeed reaching youngsters as well. Mendelson and White (1982) found body esteem to be correlated with self-esteem and relative weight among elementary school aged children. Studies regarding body image dissatisfaction and dieting behaviors among children include Davies & Furnham (1986) and Furnham, Badmin & Sneade (2002). All age groups, from 12 to 18 years of age tended to rate themselves as overweight. In Davies and Furnham's study, only 4% of the subjects were actually overweight (1986). Furnham et al. (2002) assessed body dissatisfaction using the Contour Drawings Rating Scale (CDRS) (Thompson & Gray, 1991). This is a series of seven male and female figures. From these drawings participants are asked to choose their actual body type (what they think they look like) as well as their ideal body type (what they wish they look like). Results indicated that 79.9% of males and 81.7% of females selected an ideal figure different from their current perceived figure (Furnham et al., 2002).

Tools to more accurately assess children's body image have just recently begun to be developed. Maloney, McGuire, and Daniels (1988) developed the Children's Eating Attitudes Test (ChEAT), which is a shortened simplified version of the original Eating Attitudes Test (EAT) developed by Garner and Garfinkel (1979). Truby and Paxton (2002) developed a new Children's Body Image Scale. It is a modified version of the Contour Drawings Rating Scale originally developed by Thompson and Gray (1991) that uses more childlike figures.

With these new instruments, researchers were able to more effectively study body image issues among children. In their validation study of the ChEAT, Maloney, McGuire, and Daniels (1988) found that girls scored higher, indicating more disordered eating, than did boys. Seven percent of the children scored in the anorectic range. Truby and Paxton (2002) found that 48% of girls and 36% of boys aged 7-12 desire a smaller body size than their perceived body figure. A high frequency of body dissatisfaction was also indicated in the children's responses to verbal items, with 42% of girls and 31% of boys saying they would like to be thinner, and 11% of girls and 15% of boys saying they would like to be fatter (Truby & Paxton, 2002). Truby and Paxton's Children's Body Image Scale (CBIS) includes seven male and female figures from which the children are to choose their percieved body type and their ideal body type. A unique feature of the CBIS is that the Body Mass Index (BMI) of each figure is known by the researchers. An alarming finding of Truby and Paxton's study was that 55% of girls and 45% of boys wished for an ideal BMI figure below the 10^{th} percentile (2002). This is an unhealthy and unattainable level of body fatness for the majority of children when considered in relation to the reported secular trend of increasing average body size of children (Chinn, Hughes & Rona, 1998; Harlan, Landis, Flegal, Davis & Miller, 1988). Truby and Paxton also tested the young subjects using the Body Esteem Scale (BES). Findings suggest that being larger than one's ideal body size is a dominant factor in lower body esteem in girls. In boys, being larger or smaller than one's ideal body size is associated with lower body esteem (2002).

Clifford (1971) suggested that body dissatisfaction develops because of pubertal body changes during adolescence. However, these findings suggest that children develop environmentally influenced concepts of desirable physical attributes, particularly related to thinness, well before puberty. Other research supporting the social learning theory as an explanation for body dissatisfaction among children is that of Flannery-Schroeder & Chrisler (1996). This study surveyed children in grades one, three, and five using the BES, ChEAT, and Children's Sex Stereotypes Measure. Findings indicated an obvious dissatisfaction with body image as well as disordered eating habits across all ages and genders. These findings suggest that social benefits of thinness and negative affect toward fatness are evident in children as young as 6 years old.

Sociocultural Influences

So what exactly in our environment is causing these alarming trends in children of such young ages? This is the next question research still attempts to clarify. There have been many studies investigating the effects of environmental factors such as peers, parents, and media (Cusumano & Thompson, 1997; McCabe & Ricciardelli, 2001, 2003). In McCabe and Ricciardelli's 2001 study, all of the adolescent male and female participants completed the Body Image and Body Change Inventory and the Sociocultural Influences on Body Image and Body Change Questionnaire, which asked them questions concerning eating habits, body change strategies, and feedback from different sociocultural factors. Their data indicated that feedback from parents, friends and media had a greater influence on females' perception of their weight and bodies than it did on males. McCabe and Ricciardelli continued to investigate these sociocultural influences and in a 2003 study found reaffirming evidence that adolescent girls were more effected by media. Media pressure to increase weight predicted both body image importance and the use of food supplements. Media pressure to decrease weight predicted body image satisfaction and strategies to decrease weight (McCabe & Ricciardelli, 2003). These findings are consistent with the findings of

Cusumano and Thompson (1997) that media pressures uniquely predicted body image, strategies to decrease weight, and use of food supplements. In a study by Harrison (2000), exposure to fat-character television content was found to be a significant positive predictor of bulimia for females in 6th, 9th, and 12 grades and of body dissatisfaction for males in 6th grade. The full extent to which media messages impact male body image and behaviors directed at weight gain and increased muscles has yet to be determined in depth (McCabe & Ricciardelli, 2001).

Intervention

With evidence that children's body image is being influenced by sociocultural factors such as media, the next question is what is being done to help the problem. A study by Kater, Rohwer, and Londre (2002) evaluated an elementary school program designed to prevent body image, eating, and weight concerns. The program was an 11 lesson curriculum called "Healthy Body Image: Teaching Kids to Eat and Love Their Bodies Too!" (HBI). This curriculum was designed based on this notion:

> While pervasive media glorifying a thin standard of beauty cultivated preference for a slim physique, the diet mentality elevated this preference into a sociocultural mandate through the false belief that the "right" (fat-free) appearance can be achieved by anyone with "willpower." Thus, it is assumed that those who do not conform to the desired lean look are not "doing what it takes," and, therefore, deserve negative judgment and discrimination. Though this prejudicial notion conflicts sharply with the biology of size diversity and internal hunger regulation, public education about this point until recently has been virtually nonexistent and has remained ineffective (Kater et al., 2002, 199)

The HBI program was designed to educate children about 1) genetic influence and acceptance of height, weight, and body fat; 2) developmental changes that can be expected with puberty; 3)counter-productive and unhealthy effects of weight loss dieting; 4) the importance of choosing wholesome foods; 5) value of physical activity; 6) critical thinking and skepticism regarding mass media messages that contribute to body dissatisfaction; 7) and protective factors such as self-acceptance, life skills, and healthy coping strategies (Kater et al., 2002). Upon comparing pretest and posttest scores in these areas, girls and boys receiving the intervention showed significant positive changes in five of the six scales. Results indicate that the intervention had a significant positive effect on the children's knowledge and ability to think critically about media, while positively influencing self-image, reducing body size prejudice, and improving lifestyle choices (Kater et al., 2002).

Other research involving intervention programs very similar to the one described above are Levine (1999), Levine and Smolak (1999), Smolak & Levine (1998), and Smolak, Levine, & Shermer (2001). The findings of Levine and Smolak showed that two years after the initial intervention children were not only more knowledgeable, but had higher body esteem and used fewer unhealthy weight management techniques than children in the control group. The findings of Smolak and Levine's extensive research in this area suggest that "interventions introduced at the upper elementary level promoting increased knowledge, critical thinking skills, and realistic attitudes may counteract unhealthy pressures about appearance, weight, and eating during the vulnerable middle school years" (1998, 200).

METHODS

Participants

Participants were twenty-four male and twenty-seven female children, ranging from five to eleven years of age, with the mean age at 7.22. The sample of children was 96.1% Caucasian and 3.9% African American. We solicited their participation from Surround Care; a day care for school aged children at the LaCrosse Family YMCA. The parents of the children signed an informed consent for their child's participation in the study.

Procedure and Measures

Before meeting, the children were randomly assigned to either a treatment group (media intervention) or a control group (drug intervention). The treatment group consisted of twenty-two children, while the control group consisted of nineteen children. All participants were asked to complete a survey consisting of questions pertaining to body-esteem, body image, eating attitudes and behaviors, and media attitudes. The questionnaire was read aloud by the experimenter to control for reading speed and ability of the participants. The participants followed along and recorded their responses on their own copy of the questionnaire. Body-esteem was measured using the 12-item Body-Esteem Scale (BES; Mendelson & White, 1982). Items on the BES include, "I really like what I weigh," and

"I often feel ashamed of how I look". Eating attitudes and behaviors was measured using a version of the Eating Attitudes Test modified for children, called the Children's Version of the Eating Attitudes Test (ChEAT; Maloney, McGuire & Daniels, 1988). Items on the ChEAT include, "I am scared about being fat" and "I throw up on purpose after I eat". Media attitudes were measured using questions devised by the authors concerning amount and type of television and magazines the children have been exposed to. Completion of the entire survey took approximately thirty to forty-five minutes. After completion of the survey the children were led in their respective activities.

The treatment group was presented with pictures of adult and child models from popular magazines. The experimenter explained the use of technology to enhance and change photographs. The children were taught about the unrealistic and negative nature of media images. The experimenter also explained the meaning of body image and about the importance of a healthy body image.

The control group was led in a game designed to teach children about peer pressure. Several children were given candy and instructed *not* to eat it. Other children were instructed to attempt to persuade their peers to eat their candy. After the game the children discussed their feelings about saying no and standing up to their peers. They also talked about personal experiences with peer pressure and how they have dealt with it in the past.

Two weeks after the initial intervention and testing, the participants completed the same survey for a second time.

Data Analysis

The scores on the scales from the questionnaire completed directly after the intervention (Q1) and two weeks after the intervention (Q2) were analyzed using 2x2x2 mixed factorial analysis of variance (ANOVAS). Our independent variables are gender (male/female), group (media intervention/no media intervention), and testing time (pre-test/post-test). The dependent variables are body-esteem and eating attitudes. Boys and girls scores from the treatment and control groups changed from pre to post test. For the ChEAT, analysis revealed a main effect of time. Scores for all groups increased from pre to post test [F (1, 33) = 5.37, p = .03]. For the BES, the ANOVA revealed a three-way interaction [F (1, 37) = 5.74, p = .03] between gender, testing time, and group. Girls in the media group showed a significant increase in body-esteem from pre to post test [t (11) = -3.39, p = .01]. No other groups showed a significant change. No significant findings were revealed in relation to media exposure.

DISCUSSION

On average boys' and girls' scores on the BES and the ChEAT were relatively high. Encouragingly, this indicates that they have healthy body-esteem and eating attitudes, and are not engaging in disordered eating habits.

Demand characteristics may account for the change in girls' and boys' scores from pre to post-test. Because the time between the first and second testing was only two weeks, it is possible that children remembered how they answered certain items on the first testing. It is also very possible that after the intervention program, children learned what the survey was testing and determined what the keyed response was on the surveys. Another possible explanation for these changes is that any sort of attention increases children's scores. Whether it was attention in the form of a drug intervention or a media intervention, children benefited from it in a way that was reflected in their survey scores.

The findings that girls' scores in the treatment group increased significantly from pre to post-test are in accordance with previous research. Most research shows that, although girls have lower overall body-esteem, they are also more impacted by media interventions than boys are (Kater, Rohwer, and Londre (2002; Levine, 1999; Levine & Smolak, 1999; Smolak & Levine, 1998; and Smolak, Levine, & Shermer, 2001). However, contradictory to most research, the boys' scores on the BES were lower than the girls' scores. One theory to be tested in the future is that boys engage in teasing their peers about their appearance earlier than girls do.

Limitations

Research designs should ideally have twenty participants for each independent variable. Because we explored the relationship of gender, testing time, and group, an ideal sample size would have been sixty children. We experienced much difficulty in getting parents to return informed consent forms for their children. At first we sent informed consent forms home with the children to give to their parents. We had very low return, getting twelve forms back of two hundred that we distributed. As a second measure, we talked with each parent as he/she came to pick up his/her child from Surround Care. In doing so, we got more parents to sign up. However, many parents were still reluctant to have their children participate, thus our inadequate sample size of only fifty-one children.

While children were filling out their surveys they were instructed to keep their answers to themselves and not to look at one another's papers. However, some children still voiced their responses aloud, perhaps affecting the

responses of other children. In the future, children should fill out the survey in isolation from their peers in order to receive unbiased responses.

The children signed up to participate in our study were pulled from activity and/or game time at their after school care program. We observed that many children simply went through the survey circling either all "yes" or all "no" responses, disregarding the questions, in order to finish quickly and be allowed to return to their activity or game. Some children became bored with the survey and skipped certain items or stopped half-way through the survey. Future experimenters should ensure that the children are not missing out on some desirable activity. This will prevent the children from being distracted and/or rushing through the survey.

Some items on the survey were confusing to the children, especially the younger participants. Although the scales we used were designed for children, some of the vocabulary and wording was foreign to the five and six year olds. If this study should be repeated using five and six years olds, the measures should be simplified even more, using extremely simple vocabulary and wording.

Future Research

Based on observations throughout the programs, the older children in this sample were more aware of the issues being presented. They were familiar with the concept of body image. They had even begun to display negative affect concerning their own bodies. Most of the younger children however, were not at all familiar with these issues. They had not yet begun to feel the pressures of our society and were not concerned with their own physical appearance. This study should be repeated using a smaller age range. Our sample ranged from five to eleven year olds. The experiences as well as the cognitive functioning between these two extremes are very different. Examination of smaller age ranges, for example six to eight year olds, may help to reveal the exact time in a child's life that media really starts affecting his or her own body image.

The media sends negative and unrealistic messages about standards of beauty for our society. Body image dissatisfaction is showing up in children as young as six years old, implying that these problems are not simply a result of developmental changes due to puberty. Rather, there is much research indicating that children's body image and eating attitudes are being affected negatively by sociocultural factors such as parents, peers and media. Fortunately, there is much new evidence, both completed and still in progress, that shows optimistic implications for intervention programs on children's body image, body-esteem and eating behaviors. The most successful of these intervention programs for children involve knowledge and acceptance of genetic influences on body type, knowledge of the dangerous effects of weight loss dieting, importance of physical activity and eating healthy, and skepticism and critical analysis of mass media messages (Kanter et al., 2002). With further research, these programs could be implemented into school curricula and used to head off body image and eating behavior problems among children as early in their lives as possible. When healthy habits are taught early in life, they are more likely to stay with a child as they grow and make their own lifestyle decisions.

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