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Chapter I
Review of the Literature

By the end of this decade, 12 times as many girls and young women will have died as a result of eating disorders than from all other causes of death combined (NIMH, 2001). For those who do survive, the emotional, social, financial, and physical toll of these disorders will be staggering. Clearly, intervention is needed to help prevent society’s girls and women from falling victim to these disorders.

Researchers have demonstrated that every day, women in our society face pressure to be thin. These pressures come in the form of both subtle and overt messages that have contributed to the creation of an unrealistic cultural standard of beauty that has become progressively more unattainable over time (Cash & Henry, 1995). Garner (1997) conducted a large-scale study and found that body dissatisfaction was increasing at a faster rate than ever before, with 89% of the 3,452 female respondents indicating a desire to lose weight.

Being dissatisfied with one’s body has become normative in western culture, and this dissatisfaction influences women of all ages, including adolescents and children who suffer from the western culture of thinness as well (Cash & Henry, 1995; Collins, 1991; Lowes & Tiggemann, 2003; Maloney, McGuire, Daniels, & Specker, 1989). Mellin, Scully, and Irwin (1986) found that 81% of 10-year-old girls reported having dieted at least once in their lives. It is not surprising that dieting is so prevalent; a study of high school students revealed that two-thirds of girls believed being thinner would have a significantly positive impact on their lives (Paxton et al., 1991).
The present study will attempt to address a factor that contributes to this culture of thinness by implementing and evaluating a media literacy program addressing body image for adolescent girls.

**Body Dissatisfaction**

A number of risk factors have been associated with adolescent girls’ dissatisfaction with their bodies. Barker and Galambos (2003) conducted a three-year longitudinal study to identify factors associated with greater risk for low body satisfaction among 12 to 15 year olds. In line with Bronfenbrenner’s (1977) ecological system of development, which claims that human development is based on a number of interrelated micro- and macro-systems, Barker and Galambos found that risk factors existed across various dimensions of the adolescents’ lives. Weight, puberty, and maturational timing were established as individual risk factors, whereas teasing and the quality of peer relationships were categorized as social factors. Barker and Galambos also implicated family factors in the development of negative body image, specifically poor parental acceptance. At the sociocultural level, other researchers have examined sociocultural ideals, gender-role socialization, and the mass media and their role in increasing risk for body dissatisfaction (Duquin, 1989; Forbes, Adams-Curtis, Rade, & Jaberg, 2001; Rudman & Verdi, 1993; Wiseman, Gray, Mosimann, & Ahrens, 1992).

**Physiological Factors of Body Dissatisfaction**

A great deal of research has examined how physiological factors, predominantly the process of puberty, are related to increased body dissatisfaction, as well as disordered eating and depression. Puberty creates a number of considerable changes in a young woman’s body, including an increase in the ratio of body fat to body mass, which can be
a distressing change for many girls. Specifically, girls experience an increase in adipose
tissue at their hips, thighs, and waists, in order to prepare them to carry children (Dubas
& Petersen, 1993).

In addition to physical changes, the onset of puberty is related to psychological
changes. Research with women ages 18 to 48 demonstrated that women who experienced
an earlier onset of puberty tended to have a greater drive for thinness, asceticism, impulse
regulation, and social insecurity, as well as a preference for a more slender body than
those who had a later onset (Ackard & Peterson, 2001). In addition, participants who
perceived themselves as being overweight prior to puberty demonstrated greater levels of
disordered eating, body dissatisfaction, and perfectionism and perceived themselves as
being currently larger than those who did not perceive themselves as overweight prior to
puberty.

The onset of menstruation also promotes feelings of body dissatisfaction. Despite
a greater acceptance and a lower level of discomfort with menstruation, western culture
still tends to view the process as unclean and even embarrassing, which may increase
women’s experience of shame in regard to their bodies and its mechanisms (Beausang &
Razor, 2000). In addition, Paikoff, Brooks-Gunn, and Warren (1991) conducted a year­
long study of the endocrinological status of adolescent girls (i.e. levels of estradiol,
luteinizing hormone, etc.), as well as self and maternal reports of the girls’ affect and
behavior. The study revealed that relationships do exist between hormones, affect and
behavior. These authors found that the hormonal changes that accompany the onset of
menstruation are associated with an increase in both depressive affect and aggressive
behaviors among adolescents.
Other physical features such as weight and body shape are also related to body satisfaction for both males and females. Frederick, Peplau, and Lever (2005) examined 52,677 adults and found that body mass index was negatively correlated with body satisfaction for women. Wilson, Tripp, and Boland (2005) examined college students’ body shape, which was operationalized as participants’ waist to hip ratios (WHR), and found that, along with body weight, these factors contributed to ratings of female attractiveness. However, body weight played a greater role than body shape in determining perceptions of attractiveness, which is consistent with current theories of western cultural standards of beauty.

Psychological Factors of Body Dissatisfaction

Other individual-level factors associated with body dissatisfaction include perceptions of acceptance among others and depressive affect. Research demonstrates that those individuals who perceive themselves as being less accepted and appreciated by peers and family are less likely to have positive feelings about their bodies (Swarr & Richards, 1996). Conversely, high perceived social support may be a resiliency factor against certain media messages (Stice, Spangler, & Agras, 2001).

Negative affect has also been associated with decreased body satisfaction. Individuals experiencing a negative mood tend to overestimate their body size, supporting the notion that affect plays an important role in perceptions of our bodies (Taylor & Cooper, 1992). Orbing, Graber, and Brooks-Gunn (2002) found that, in their sample of adolescent girls enrolled in private schools, poor emotional control, in addition to depressive or negative affect, was predictive of lower body satisfaction.
The negative correlation between self-esteem and body dissatisfaction has also been well-established, although self-esteem’s specific role as a risk factor has been less clearly defined (Bardone, Vohs, Abramson, Heatherton, & Joiner, 2000; Frost & McKelvie, 2004). However, Paxton, Eisenberg, and Neumark-Sztainer (2006) longitudinal study of 2516 children over a five year period established self-esteem to be a prospective risk factor for body dissatisfaction.

**Cognitive Factors of Body Dissatisfaction**

Cognitions may also play a part in the development of body dissatisfaction. Obsessive thoughts, for example, are especially prevalent in those individuals with poor body image and eating disorders (Gleaves, Lowe, Snow, Green, Murphy, & Eberenz, 2000). Of surveyed eating disorder patients, 74% reported spending more than three hours per day engaging in these obsessional thoughts, with 42% spending eight or more hours per day engaged in obsessional thoughts (Sunday, Halmi, & Einhorn, 1995). Participants reported that these thoughts included matters related to food, eating, weight, and shape. Many of these individuals considered these thoughts comforting and denied wanting to be free of them.

Other cognitions related to body dissatisfaction include perfectionism and selective processing. Perfectionism, although not a criteria for diagnosis, is one of the most common characteristics found in anorexic patients, so much so that the Eating Disorder Inventory (Garner, 1983) includes a scale to measure perfectionism. Many studies have found elevated levels of perfectionism in patients with eating disorders (Forbush, Heatherton, & Keel, 2007; Halmi et al., 2005; Wonderlich, Lilenfeld, Riso, Engel, & Mitchell, 2005) and some consider it one of the most important factors in the
development of anorexia (Bastiani, Rao, Weltzin, & Kaye, 1995; Bruch, 1973; Casper, 1983).

Selective processing occurs when an individual selectively attends to one construct or idea while not attending to others. Specific research examining how selective processing occurs in populations with eating disorders has been conducted over the past several years. In one study, Cooper and Todd (1997) administered a modified Stroop task using eating-, weight-, and shape-related words to male and female patients with both anorexia and bulimia, as well as a control group. Those with eating disorders demonstrated selective processing of eating- and weight-related words, and those with anorexia also demonstrated selective processing of information related to shape.

In a similar study, Hermans, Pieters, and Eelen (1998) administered 64 words that were anorexia-related, positive, negative, or neutral to patients with anorexia and control participants. Patients with anorexia demonstrated a significant explicit memory bias, and hence greater recall, for anorexia-related words compared to control participants. Hermans et al. argued that self-related memory schemata are a central part of the disorder of anorexia, and that patients with anorexia organize their cognitive structures around weight and other anorexia-related issues. Many believe it is these schemata biases that produce cognitive errors, such as overgeneralizations (i.e. "I will never get any better and my eating will never improve."), magnifications (i.e. "Gaining any weight will be more than I can take!") and attentional biases in these patients, which in turn impairs reasoning and the ability to make healthy choices with regards to eating.

*Family Factors of Body Dissatisfaction*
Family factors are also commonly implicated in the development and maintenance of body dissatisfaction. Vincent and McCabe (2000) found that, rather than the quality of the relationships, family members' verbalizations in the form of teasing and statements about weight predicted body image disturbance in a sample of over 600 male and female adolescents. Examination of the self-report data indicated that girls' body dissatisfaction and disordered eating were predicted by having parents who discussed or encouraged weight loss. For boys, encouragement of weight loss by mothers predicted binge eating and weight loss attempts.

Not only do family members' direct communications influence adolescent body image, but family members' own body image does so as well. Ruther and Richman (1993) administered eating restraint questionnaires to fourth grade girls and their mothers, as well as self-esteem and locus of control scales. The eating restraint of mothers was positively related to the eating restraint and internal control of their daughters. Ruther and Richman suggest that modeling may be a factor, and, specifically, same sex identification.

On a more general level, family dysfunction has been associated with disturbed eating behavior as well. "Dysfunctional" parents have long been blamed in the popular literature for the eating problems of their daughters. Although much of this blame is unfounded, research has demonstrated that families with daughters with eating problems are often very different from families with healthy daughters. Hill and Franklin (1998) compared a cross-section of girls with low and high levels of dietary restraint and their mothers and asked them to provide a rating of their sense of family cohesion. They found that mothers of high-restraint daughters reported less family cohesion, organization, and
moral-religious emphasis than mothers of low restraint daughters. Also of note, mothers of high restraint girls rated their daughters’ attractiveness as significantly lower than did other mothers.

Teasing in families has also been associated with greater body dissatisfaction among adolescent girls. Levine, Smolak, and Hayden (1994) had 385 girls, ages 10 to 15, complete two measures concerning their perceptions of their parents’ attitudes and behaviors with regard to shape and weight. Perceptions of weight and shape-related teasing by family members were strongly correlated with the participants’ disturbed eating patterns and a drive for thinness.

Family teasing has also been associated with a greater frequency of comparison of one’s body to others’, thin-ideal internalization, restriction, bulimic behaviors, self-esteem, and depression, even after controlling for the body mass index of the child (Keery, Boutelle, van den Beg, Thompson & 2005). Self-reported higher frequencies of teasing were positively associated with higher levels of the negative outcomes. In addition, maternal, paternal, and sibling teasing were all significantly correlated with negative attitudinal and behavioral outcomes in this study, indicating that the source of the harmful effects of teasing is not limited to certain members in the family.

**Peer Factors of Body Dissatisfaction**

Much like family members, peers play an important role in the lives of children and adolescents, and relationships with peers also contribute to the development of body image. Specifically, teasing by peers has been well-established as a risk factor for eating disorders since an early study by Fabian and Thompson (1989) examined the body image of 121 10- to 15-year-old girls and determined that a history of teasing by peers was
positively related to current body dissatisfaction and eating disturbance. Several other studies have also found a relationship between appearance-related teasing by peers and impaired psychological functioning, poor body image, and eating problems (Halvarsson, Lunner, Westerberg, Anteson, & Sjoden, 2002; Tantleff-Dunn & Thompson, 1998; Thompson et al, 1995).

In addition to teasing, Lunde, Frisen, and Hwang (2005) extended peer victimization to include social exclusion and bullying as risk factors for body image problems. The authors found that, among 10-year-old Swedish boys and girls, social exclusion was related to the children's negative evaluations of their general appearance and their weight. In addition, social exclusion was related to children's perceptions of others' negative views of their appearance. Also, girls' perceived popularity with peers is negatively correlated with intentions to lose weight (McCabe, Ricciardelli, & Finemore, 2002). Both McCabe et al.'s and Lunde et al.'s studies indicate that not only teasing, but even more subtle forms of victimization are related to negative body image.

Shared peer norms for thinness also contribute to body dissatisfaction in this population. Dohnt and Tiggemann (2005) individually interviewed 81 girls and assessed body dissatisfaction through figure rating and brief scenarios. The authors learned that the girls' perceptions of peers' body dissatisfaction were the strongest predictor of their own body dissatisfaction.

**Sociocultural Factors of Body Dissatisfaction**

The relationship between sociocultural factors and eating disorders has been widely researched with regards to eating disorders. It has been observed that women with eating disorders report endorsing strong stereotypically feminine characteristics and
attitudes. In addition, a well-established relationship exists between sex-role orientation and body dissatisfaction in which individuals with stronger orientation with their sex tend to be less satisfied with their bodies (Boskind-Lodahl, 1976; Jackson, Sullivan, & Rostker, 1988; Lancelot & Kaslow, 1994; Van Strien, 1989).

Forbes, Adams-Curtis, Rade, and Jaberg (2001) classified 589 college students using the Personal Attributes Questionnaire and found that those college students, both male and female, classified as feminine-typed had greater body dissatisfaction that those classified as masculine-typed or androgynous. These authors proposed that the differences in global self-esteem may be responsible, in part, for the greater body dissatisfaction experienced by feminine-typed individuals.

In addition to gender-roles, another aspect of the sociocultural perspective of body dissatisfaction is the “body as object” orientation. This orientation views women’s bodies not as functional or instrumental, but as ornamental in nature, serving only a decorative purpose (Rudman & Verdi, 1993). By surveying advertisements in a random sample of publications, Rudman and Verdi found that those advertisements that included female models more often depicted only “parts” of the female form rather than its entirety, thereby emphasizing the woman’s aesthetically pleasing features rather than the woman as an instrumental person. Women in advertisements are also much less likely than men to be engaged in activity. Rather, they are usually sitting, laying, or standing (Duquin, 1989). According to Duquin, these depictions of women in “parts”, rather than a “whole human”, and as being non-active convey an ornamental image of women, and thereby serve to make the body a target of aesthetic judgment.
The sociocultural theory suggests that, as a target of this aesthetic judgment, the female body is expected to conform to what has been called the “thin body ideal” (Garner, Garfinkle, & Schwartz, 1980). However, studies confirm that as average women are getting larger over time, media images are becoming increasingly thinner, creating a growing discrepancy between the “real” and “ideal” each year (Silverstein, Perdue, Peterson, & Kelly, 1986; Sypeck, Grey, & Ahrens, 2004; Wiseman, Gray, Mosimann, & Ahrens, 1992).

Operationalizing Playboy centerfolds and Miss America contestants as being representative of the ideal body type, Wiseman et al. (1992) demonstrated that idealized media images are decreasing in weight as “real” women under 30 years old are increasing in size. Women in the media are also much more likely to be classified as thin in comparison to men, with 69.1% of women and 17.5% of men in the media classified as thin, respectively (Silverstein et al., 1986).

A final component of the sociocultural perspective is the cultural stereotype that “thin is good”. This notion relates to the well-known adage, “what is beautiful is good”, (Dion, Berscheid, & Walster, 1972). Men and women alike ascribe certain positive attributes to those whom the culture considers beautiful, whether or not the person possesses those attributes (Feingold, 1992). Feingold’s meta-analysis indicated that some of these attributes include sociability, poise, interestingness, ability to perform tasks, and responsibility for positive outcomes.

*The Sociocultural Perspective and the Mass Media*

Although there are many sources of influence that promote the thin ideal, such as peers, family, schools, businesses, and even health care workers, the mass media is often
considered to be the most powerful in its promotion of this ideal (Smolak & Levine, 1996). A great deal of research, which will be presented below, has demonstrated the media’s role in perpetuating dangerous physical ideals among women.

Correlational studies have demonstrated a relationship between media consumption and body dissatisfaction among adolescents. In one study, Harrison (2001) examined the media consumed by 366 adolescents. She found that exposure to television and magazines which depicted thin individuals as being rewarded, and overweight individuals as being punished, was predictive of negative affect among participants, as well as eating disorder symptomology, especially for older adolescent girls.

In a similar study, Anderson, Huston, Schmitt, Linebarger, and Wright (2001) telephoned 570 adolescents to assess how television use and content related to adolescents’ beliefs and behaviors. Participants were asked about their media use, academic performance, leisure reading, creativity, aggression, participation in extracurricular activities, use of alcohol and cigarettes, and self-image (including body satisfaction). The results indicated that program content is a more important predictor of adolescent behavior and attitudes than the amount of television watched. However, greater television consumption, in terms of the amount of hours watched, was associated with greater body dissatisfaction.

While these correlational studies have established a consistently negative relationship between media consumption and body image, experimental studies can provide evidence of a causal relationship between media consumption and body image. Stice and Shaw (1994) exposed 157 undergraduate women to magazine images of female models of either thin or average size, or to no models at all. They found that rates of self-
reported depression, shame, guilt, body dissatisfaction, insecurity, and stress were significantly greater following exposure to thin models than following exposure to the other images.

To evaluate how boys, in addition to girls, might be impacted by television, Hargreaves and Tiggemann (2003) presented 397 adolescents with televised commercials demonstrating the thin ideal for women or no body images. Both before and after viewing the commercials, participants, who thought they were participating in an advertising and personality study, indicated their weight dissatisfaction and overall appearance dissatisfaction, as well as completed a word-stem completion task to measure their level of schema activation as related to appearance. Their results supported the hypothesis that viewing attractive female televised images leads to increased body dissatisfaction and appearance-related schema activation for girls, but not for boys. However, both girls and boys reported increased appearance-related schema activation following exposure to attractive models.

It is also important to note that some studies have produced mixed results about the relationship between media exposure and body dissatisfaction. For example, Irving (1990) hypothesized that women who viewed slides of thin models would report greater body dissatisfaction than those who viewed either images unrelated to the body or images of overweight models. A significant difference was found, but only between the body dissatisfaction of women viewing pictures of thin models and that of women viewing overweight models; viewing thin models was associated with lower self-evaluations of their bodies. However, there was no difference between those women viewing thin models and those viewing images unrelated to the body.
Cash, Cash, and Butters’ (1983) research was inconsistent with studies demonstrating significant effects of media images on body image. Participants in their study were 51 undergraduate women who were asked to view either physically attractive or unattractive models and then rate their own physical attractiveness and their satisfaction with parts of their bodies. After viewing the models, participants did not demonstrate a significant difference in satisfaction with parts of their bodies, but did indicate that they felt a decreased level of “physical attractiveness”.

Due to the inconsistencies across the studies, Groesz, Murnen, and Levine (2002) conducted a meta-analysis of 25 experimental studies in order to examine the overall effect of media exposure on body image. Inclusion in the meta-analysis required that the studies’ participants be exposed to media images that depicted the thin ideal and that the study assess potential psychological impacts of the exposure. The authors found that exposure to thin media images was associated with greater negative body image than exposure to average models, plus size models, or inanimate objects. Also of note was their finding that the effects were strongest for those participants younger than 19 years old, indicating the importance of preventing these effects in adolescent populations.

Not only are these images impacting women’s body image, as is demonstrated by Groesz et al.’s (2002) meta-analysis, but the problem is worsening. This is evidenced in part by increasing rates of body dissatisfaction (Garner, 1997). The media’s standard of beauty has become thinner over time, and this has been found to be related to increased weight preoccupation and eating disturbance in women (Berel & Irving, 1998; Garner, 1997; Stice, Ziemba, Margolis, & Flick, 1996).
Factors Contributing to Adolescents Girls' Media Vulnerability

As Groesz et al.'s (2002) meta-analysis indicated, the media's influence is unfortunately not confined to adult women. In fact, research has demonstrated that the emergence of a desire to be thin occurs in girls as young as six years old (Lowes & Tiggemann, 2003). Further, dieting behavior was found in up to 40% of a sample of children 7 to 12 years old (Maloney, McGuire, Daniels, & Specker, 1989). It is clear that western culture's emphasis on thinness has impacted youth.

Adolescent girls are especially vulnerable victims of media messages. Adolescents are at a developmental stage in which the media is especially influential in helping to shape their identities and standards (Pliner, Chaiken, & Flett, 1990; Thornburg & Aras, 1986). Giles and Maltby (2004) investigated interest in celebrities among adolescents 11 to 16 years old using the Celebrity Attitude Scale. They hypothesized that the increasing importance of celebrities and the attachments that adolescents form with celebrities would serve occupational, social, and emotional functions. The authors believed that the transition from parents as role models to celebrities as role models mirrors the transition from parental to peer attachments that also occurs at this developmental stage. As participants' emotional autonomy increased, parental attachment decreased and peer attachment increased. The authors speculated that celebrity interest reflects a pseudo-relationship during a time of increasing distance from parents.

As celebrity attachment increases and the media becomes more salient in the lives of girls during adolescence, this period is also the time when they are experiencing the most drastic decreases in body satisfaction. Wright (1988) used a self-report questionnaire to assess the body image of 90 adolescents over a period of seven years.
The study revealed that although body satisfaction declines throughout girls’ teenage years, the most significant decrease in body satisfaction occurs between the ages of 12 and 13.

Gender, in addition to age, contributes to adolescent girls’ vulnerability to media messages with respect to body image. Collins (1991) used figure selection to examine body preferences among 1,118 pre-adolescents. Both African American and Caucasian girls selected thinner ideal body shapes for themselves than boys did for themselves. The girls also selected thinner ideal bodies for themselves than boys selected for the girls. Additionally, these preferences for thin bodies for themselves were identified in girls as young as six years old.

Not only do girls have overall thinner body preferences than boys, the immediate impact of media images has also been found to be greater for girls compared to boys (Hargreaves & Tiggemann, 2004). In their experimental study of 595 adolescents, the authors presented television commercials containing either images of the thin ideal for women to the female participants, images of the muscular ideal for men to the male participants, or nonappearance television commercials to male and female participants. They found that thin ideal television images produced decreases in body dissatisfaction for adolescent girls but not boys, indicating that girls are the ones especially vulnerable to these images.

Adolescents and Body Dissatisfaction

Body dissatisfaction has been found to be related to a plethora of negative outcomes, including dieting, low self-esteem, anxiety and depression. Heatherton and Polivy (1992) proposed a spiral model in which body dissatisfaction leads to dieting (or
self-starvation), which in turn often results in overeating. Overeating then leads to a decrease in self-esteem and further body dissatisfaction.

Facing unrealistic ideals on a daily basis can encourage girls to engage in behaviors (i.e. dieting) in an attempt to conform to desired images. Research has found weight concern, and subsequent dieting, are reliable predictors of eating disorders. Dieting has been consistently associated with eating disorders, with some researchers speculating that dieting is a possible cause of binge eating, a common symptom of bulimia (Polivy & Herman, 1985). Binge eating is thought to occur because dieters replace physiological controls with cognitive controls, making them susceptible to disinhibition, and consequently, overeating. In their article exploring the differences between “normal dieters” and individuals with eating disorders, Polivy and Herman (1987) noted that dieting has gotten to such a point in western society that a “normal dieter” may eat in much the same way that an individual with a full-syndrome eating disorder would do so.

With dieting, including pathological dieting, becoming normative in western culture, adolescents have difficulty comprehending what constitutes healthy eating. It is not surprising, therefore, that rates of dieting among youth are so high. As was previously stated, Mellin et al. (1986) found that 81% of 10-year-old girls reported having dieted at least once in their lives.

Self-esteem, which has been connected with dieting, has also been considered both a result and a cause of body image disturbance and eating disorder symptomology. Interestingly, those with low self-esteem who perceive themselves as being overweight will often engage in bulimic symptoms, while those who are overweight but have high
self-esteem are less likely to do so (Bardone, Vohs, Abramson, Heatherton, & Joiner, 2000).

Body dissatisfaction has also been closely connected with the affective states of anxiety and depression, which are also part of the symptom picture of eating disorders. Stice, Hayward, Cameron, Killen, and Taylor (2000) examined a four-year longitudinal data set compiled by a school and found that body dissatisfaction, dietary restraint and bulimic symptoms were predictors of depression for previously non-depressed students. The authors suggested that these results might indicate that the body dissatisfaction that occurs as girls reach puberty may be in part responsible for increases in rates of depression in this population. High levels of body dissatisfaction have also been found to be related to elevated levels of anxiety in both nonclinical and clinical populations (Philips, 2000; Rohricht, Priebe, & Privat-Dozent, 2000; Sands, 2000).

Adolescents and Eating Disorders

Body dissatisfaction has also been found to be related to the most lethal of all mental illnesses, eating disorders (Cattarin & Thompson, 1994; Polivy & Herman, 2002; Stice & Shaw, 1994). In fact, researchers often assign body dissatisfaction a fundamental causal role in multidimensional models of eating disorders (Stice et al., 2001). One way in which researchers conceptualize the relationship between body dissatisfaction and eating disorders is to think that in those individuals with eating disorders, the negative affect, previously discussed, is channeled specifically into negative feelings about one’s body.

Although it is not a sufficient factor, body image disturbance appears to be a necessary factor in the development of eating disorders (Polivy & Herman, 2002). How
much significance is assigned to one’s body and the ways in which young women
manage their body dissatisfaction may also be factors in who develops an eating disorder
and who does not. Those who consider the body a means of fulfillment, and who engage
in dietary restraint or other activities as a means of controlling or managing their body
dissatisfaction, may be at highest risk.

The last few decades have seen an increase in eating disorder incidence, with the
most common being anorexia nervosa and bulimia nervosa. The cause of this apparent
rise may be in part related to greater awareness of these disorders and more
knowledgeable reporting (Wakeling, 1996). Although rates vary widely as a result of
differences in willingness to report, the prevalence of eating disorders symptoms in the
adolescent population has been found to be as high as 11.3%, with many more classified
as being at high-risk. While the prevalence of anorexia in adolescents is thought to be at
around .5% and bulimia nearly 5.8%, these numbers may still grossly underestimate the
number of eating disorders in the population, especially due to the fact that girls with
bulimia are often of a normal weight and go unnoticed easily (Shisslak, Crago, & Estes,
1995).

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-
IV-TR; APA, 2000), anorexia nervosa is characterized by a refusal to achieve or
maintain a normal body weight. Anorexia is diagnosed in those who, despite significant
weight loss, have an intense fear of being “fat” and gaining weight, have extreme concern
with body weight and shape, and have amenorrhea. Bulimia is characterized by a
continuous cycle of binging and purging, in which the victim consumes large amounts of
calories and then rids him or herself of them through fasting, vomiting, diuretics.
laxatives, or exercise (APA, 2000). Both of these disorders have enormous physical, emotional, social, and financial consequences.

Physically, the irreparable consequences of eating disorders can be devastating. Experiencing amenorrhea, thyroid problems, growth hormone level disturbances, osteoporosis, estrogen deficiency, renal problems, blood dysfunctions, and cardiac abnormalities are common among individuals with eating disorders (Gandour, 1984; Herzog & Copeland, 1985; Mitchell & Crow, 2006). Even recovered bulimics may experience serious medical complications, such as electrolyte imbalance, menstrual irregularities, gastric rupture, parotid gland enlargement, enamel erosion, liver dysfunction, esophagitis, disturbed serum amylase levels, and hypokalemia (Herzog & Copeland, 1985; Mitchell & Crow, 2006; Mitchell & Pyle, 1982).

Also of note is the fact that partial syndromes, in which individuals demonstrate many of the symptoms of an eating disorder, but not a sufficient number to be diagnosed with one, are thought to be twice as common as full syndrome eating disorders and can have many of the same consequences as full syndrome eating disorders. Shisslak, Crago, and Estes (1995) note that longitudinal studies often demonstrate a progression in illness severity with pathological dieters developing partial- and then full-syndrome eating disorders.

Eating disorders in adolescence are especially dangerous. The onset is becoming younger, with the most common ages of onset for girls now being between 11 and 13 years old. One reason that eating disorders are particularly harmful in this age group is that prepubertal girls with eating disorders lose significantly more weight and delay treatment longer than older individuals (Jacobs & Issacs, 1986). Russel (1985) found that
prepubertal girls with anorexia experienced a prolonged delay of puberty and permanent effects in terms of breast development and growth in stature. The effects of these disorders also occur more quickly in this population, and these individuals also become at risk for many future complications, such as infertility and cardiac problems (Lask & Bryant-Waugh, 1997).

Preventing youth from developing eating disorders is also imperative because these disorders become more resistant to intervention over time (Shisslak, Crago, Neal, & Swain, 1987). Those who have been through treatment frequently experience relapses. Norring and Sohlberg (1993) followed 48 female patients with anorexia through treatment and beyond. Six years post-treatment, 48% of the sample had experienced a relapse. The relapse was most likely to occur during the first few years following treatment, with 47% of the sample relapsing in the first three years.

Fortunately, researchers have been able to identify factors associated with risk for relapse. Keel, Dorer, Franko, Jackson, and Herzog (2005) interviewed 246 women biannually for nine years to examine post-remission factors associated with relapse. Participants completed the Psychiatric Status Rating Scale to determine whether relapse had occurred and a modified version of the Longitudinal Interval Follow-Up Evaluation to assess current body image. The authors determined that elevated body image disturbance contributed to relapse. Keel et al. suggested that explicitly working on improving body image during treatment could be important for relapse prevention.

With a large percentage of women relapsing into the disorder multiple times over many years, many patients die before they are able to fully recover (Stice & Shaw, 1994). Specifically, is important to note that this difficulty in escaping the disorder has made
anorexia nervosa the most lethal of all mental illnesses. Among females between 15 and 24 years old, the annual death rate associated with anorexia is more than 12 times higher than the annual death rate due to all other causes combined (Cavanaugh, 1999). Death in this population can be attributed to complications of malnutrition, impaired organ functioning, or suicide (Crisp et al., 2006).

Prevention Programs

Prevention efforts have traditionally been classified into three categories: primary, secondary, and tertiary. Primary prevention focuses on efforts to reduce the occurrence of a disorder. Through early diagnoses and successful treatments, secondary prevention efforts attempt to reduce the duration of a given disorder. Tertiary prevention aims to reduce the negative impacts that a diagnosis may have created (Kessler & Albee, 1975).

Caplan and Caplan (2000) further defined primary prevention as an elimination or reduction of risk factors leading to a given disorder. Research has consistently demonstrated that primary prevention can be an effective and cost-efficient means of thwarting the development of many types of disorders, be they alcohol dependency, depression, or otherwise (Albee, 1982; Austin & Johnson, 1997). Durlak and Wells’ (1997) review of the literature found that the empirical studies indicate that primary prevention is effective.

Eating Disorder Prevention

Research has indicated that the prevention, rather than treatment, of eating disorders is valuable on a number of levels. First of all, eating disorders take an enormous emotional, physical, and financial toll on victims, loved ones, and even society (Smolak & Levine, 1994; Steiner-Adair, 1994). The amount of time, effort, and financial resources
needed to treat these disorders can be staggering, and by the time this treatment is effective, the individual has often suffered tremendously. Also, as was mentioned previously, these disorders also become more resistant to intervention, making early prevention, rather than treatment, valuable.

In addition, it is important to implement prevention interventions in order to benefit those individuals who, despite experiencing many symptoms and risk factors of eating disorders, do not meet diagnostic criteria for the disorder. Partial syndrome disorders occur even more frequently than full disorders, and can quickly increase in severity (Attie & Brooks-Gunn, 1989). The symptoms of eating disorders are dangerous, with or without a full diagnosis, and should be a focus of prevention and treatment efforts.

An increasing number of interventions have been implemented over the last 25 years to prevent eating disorders and to stave off the cognitions and behaviors associated with them. These interventions have been diverse in their agendas and have had varying degrees of success in improving body image and preventing eating problems.

As a prevention strategy, many programs have focused on educating adolescents about the nature of eating disorders (Piran, 1995; Shisslak, Crago, & Neal, 1990). Shisslak, et al.'s (1990) pilot study was designed to educate high school students about the symptoms and effects of eating disorders. After completing the educational program, students' awareness was measured by their ability to answer questions related to eating disorders correctly, and the authors found that the program did increase awareness among the students. While these programs are frequently effective in increasing awareness and knowledge about eating disorders, meta-analysis has indicated they have had less success...
in altering attitudes and behaviors among this population (Fingeret, Warren, Cepeda-Benito, & Gleaves, 2006).

Other programs, however, have failed to affect awareness or attitudes and behaviors. Paxton (1993) evaluated a prevention program that was aimed at reducing weight loss behaviors and body dissatisfaction. The researchers engaged five classes of ninth grade students in a discussion of media images of women, determinants of body size, healthy and unhealthy weight control methods, and emotional eating. Unfortunately, disordered eating and extreme weight loss methods did not significantly decrease for the 136 participants.

Stice and Shaw’s (2004) meta-analytic review of 53 separate, controlled trials of 38 eating disorder prevention programs, similar to Paxton’s, indicated that programs that focus on psychoeducational content are generally ineffective in promoting changes in behavior. In addition, efforts at decreasing the stigma of eating disorders have the potential to normalize and even glamorize eating disorders, thereby producing iatrogenic effects. Mann, Nolen-Hoeksema, Huang, and Burgard (1997) evaluated a prevention program in which female college freshmen who had recovered from eating disorders described their experiences to the participants. The authors found that participants in the intervention group had more eating disorder symptoms at follow-up than the control group, and that by attempting to reduce the stigma, they may have inadvertently normalized eating disorders.

In addition to psychoeducation, cognitive approaches have been incorporated in prevention programs with some success (Green, Scott, Diyankova, Gasser, & Pederson, 2005; Matussek, 2004; Stice, Spangler, & Agras, 2001). Cognitive-based prevention
programs often attempt to illicit cognitive dissonance, which can be defined as the discomfort that results from a perception of incongruence between two cognitions, whether these are thoughts, attitudes, or behaviors (Festinger, 1957). This discomfort is then thought to produce attitudinal and/or behavioral changes.

Becker, Smith and Ciao (2006) implemented a peer-facilitated program that focused on creating cognitive dissonance among its sample of 90 sorority women. In the study, the participants were asked to complete activities that emphasized that costs of the thin ideal, in essence contradicting the participants’ positive attitudes toward thinness and thus creating a state of cognitive dissonance. First, participants wrote about the costs of pursuing the thin idea, and then were asked to go home and stand in front of a mirror nude, noting positive attributes about themselves. Role playing exercises were also used in which the participants attempted to convince the facilitator to give up the pursuit of the thin ideal. Participants had significantly lower levels of eating disorder risk factors at an eight-month follow-up.

Roehrig, Thompson, Brannick, and van den Berg (2006) also investigated the effects of a dissonance-based program on an adolescent and young adult population. The participants were assigned to small groups in which they were first asked to help define the thin ideal for women. They were then asked to help create a body acceptance program for adolescent girls, and spent the remainder of that session, as well as another session, writing a counter-attitudinal essay describing the costs associated with pursuing the thin idea. The authors found this intervention to be effective in reducing both risk factors for eating pathology, as well as bulimic symptoms, immediately following the intervention and one month later.
Results of dissonance-based prevention programs have not been consistently positive. Green et al. (2005) compared two dissonance-based eating disorder prevention programs with a no-treatment condition. The participants were randomly assigned to high-level dissonance group, low-level dissonance group, or no-treatment control group. The authors found that the levels of eating disordered attitudes and behaviors were not significantly lower for the dissonance intervention participants than the no-treatment group participants following the intervention.

Researchers have also found that participants’ risk level for eating disorders is an important factor in determining effectiveness of prevention programs. Because differences between low- and high-risk participants have been infrequently studied, Weiss and Wertheim (2005) addressed the significance of risk level in their prevention program targeting adolescent girls. The authors found that while the intervention did not change low-risk girls’ reported body dissatisfaction, drive for thinness, and interoceptive awareness following the intervention, those participants at high-risk reported significant increases in interoceptive awareness and decreases in drive for thinness and body dissatisfaction, post-intervention. The differential effects of a program based on the participants’ risk levels appear to be an important, although frequently overlooked, factor.

Despite their importance, prevention programs can be somewhat difficult to design and implement (Fingeret et al., 2006). A few of these problems relate simply to the number and variety of risk factors, and the number and variety of outside influences that affect the efficacy of programs. These influences are prevalent and powerful and in many cases can easily damage the prevention efforts in place. Smead (1985) noted that
that the media, fashion, diet, and physical fitness industries are influential opponents to prevention efforts and could be harmed if the status quo is not maintained.

**Media Literacy Prevention Programs**

Since the media has been established to be a major factor in the development of body dissatisfaction, and subsequently eating disorders, it would seem wise to focus attention on this area. With the average American spending nearly a year and a half of his or her life watching commercials on television, it is clear that the media is major player in individuals' lives (Kilbourne, 1994). Television, movies, magazines, billboards, the internet, and even music lyrics are all constant and pervasive sources of the thin-ideal (Low et al., 2006; Tiggemann, 2006).

Media literacy has been established as an effective method of reducing the impact that the media has in many areas, such as alcohol consumption and eating disorders (Austin & Johnson, 1997; Wilksch, Tiggemann, & Wade, 2006; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005). Sometimes referred to as “media education”, media literacy focuses on the critical evaluation of media messages. It thus encourages and enables consumers of the media to become more conscious of and less impacted by media messages.

In an early study of the potential of media literacy training, Austin and Johnson (1994) utilized a cross-sectional survey of 154 pre-adolescents in a sports program to test a model which hypothesized that children utilize information presented in the media when making decisions about alcohol use. They found that children's intentions to drink were predicted by their interpretation of television messages, by their desire to be like the television characters who drank, and by their expectancies that drinking brings rewards.
The authors suggested that helping children develop skepticism toward the media may be an effective means of reducing alcohol use. Three years later, the authors found that students receiving alcohol-specific media literacy training did demonstrate a reduction in the impact of alcohol-related advertisements. The students who participated in the media literacy program had significant increases in their understanding of persuasive intent of the media and significant decreases in their perceptions of perceived realism, desirability, identification, and positive expectancies for alcohol (Austin & Johnson, 1997).

In addition to its efficacy with regards to alcohol, media literacy has demonstrated potential for reducing the negative impact of the media on adult female body image (Berel & Irving, 1998). Previous studies have demonstrated the effectiveness of media literacy programs in decreasing weight-related anxiety and the internalization of the thin-ideal and increasing media skepticism for adult women (Coughlin & Kalodner, 2006; Irving & Berel, 2001).

Research has demonstrated that more than one type of media literacy program can achieve positive outcomes. Irving and Berel (2001) compared a single session externally-oriented feminist media literacy intervention, internally-oriented cognitive media literacy intervention, and media literacy video intervention. They found that all of these interventions were successful in increasing levels of media skepticism in the participants' beliefs related to realism, similarity, and desirability of characters in the media. Unfortunately, none of the interventions was successful in decreasing negative attitudes about one's body, which the authors attributed to the brevity of the intervention.

Lengthening the program to two sessions, Coughlin and Kalodner (2006) presented a media literacy program, ARMED, to 45 college women enrolled in a
women's studies course. Following the intervention, the authors compared these
women's risk factors for eating disorders to those of 47 other women in a control group.
The researchers found that eight weeks after the intervention, women at high-risk for
eating disorders experienced significant decreases in body dissatisfaction, drive for
thinness, feelings of ineffectiveness, and thin-ideal internalization. Contrary to the
hypotheses, the participants failed to demonstrate decreases in perfectionism, frequency
of making physical comparisons, and thin-ideal awareness. In addition, there were no
significant changes on the eating disorder risk factors from pre- to post-treatment for low-
risk participants. The authors of this study believe that their assessment of risk level prior
to the intervention allowed this study to detect intervention effects that may have been
present, but gone undetected, in previous studies utilizing media literacy programs.

Research addressing media literacy's effectiveness with adolescents and body
dissatisfaction has been more limited. However, a few studies utilizing these younger
populations have demonstrated potential for the efficacy of media literacy (Irving, DuPen
& Berel, 1998; Wade, Davidson, & O'Dea, 2002; Wilksch, Tiggemann, & Wade, 2006).
Irving et al. (1998) conducted a peer-administered media literacy program for female
high school students. The 24 participants watched and discussed Jean Kilbourne's film,
*Slim Hopes: Advertising and the Obsession with Thinness*, and learned skills for
challenging the media. Participants in their intervention group reported less thin-ideal
internalization and a lower perception of the realism of media images than 17 participants
who did not receive media literacy training.

In further examining whether single media literacy sessions could reduce thin-
ideal internalization, Wilksch et al. (2006) conducted a media literacy program for eleven
classes of 237 students, which included 100 girls and 137 boys. The authors assessed eating disorder risk factors and media internalization both pre- and post-intervention. Results of their research indicated that internalization did in fact decrease following the interventions, although boys in their study experienced greater decreases in media internalization than girls. The authors of this study believe that higher pre-intervention rates of depression among the girls in their sample resulted in them benefiting less from the intervention, indicating that pre-intervention levels of pathology may play a role in the effectiveness of media literacy interventions (Berel & Irving, 1998).

Another study by Wade et al. (2003) compared a program focusing on self-esteem to a media literacy intervention, specifically examining these programs’ effects on reducing risk factors for eating disorders for 86 eighth grade students, 53 boys and 33 girls. Despite the previously discussed negative relationship between self-esteem and eating disorder risk, the participants in the media literacy intervention reported lower weight concern following the program than those in the self-esteem intervention. Reductions in dietary restraint were also found across conditions, although they did not reach clinically significant levels. While this study does not refute the importance of self-esteem, it does highlight how focusing on media literacy can positively impact body image.

The Message Interpretation Process Model

Media literacy interventions have developed from a number of sources and theories. One of these models from which media literacy programs evolved is that of Austin, Roberts, and Nass (1990). These authors developed the Message Interpretation Process (MIP) model which describes the manner in which the media influences
individuals' decisions to participate in particular behaviors. Although not utilized specifically with eating disorders, this model has been used to explain media's effects on decisions such as consuming alcohol or engaging in violent activities. The MIP model is different from other models because it recognizes children and adolescents as active, rather than passive, consumers of the media. This model recognizes that children also do not absorb the media in isolation from other factors in their lives (Atkin, 1984; Austin, 1994, Van Evra, 1990). The MIP also claims that viewers will imitate behaviors or images that are frequent and consistent (Austin & Johnson, 1996; Bandura, 1986).

Empirically supported in studies of third graders to college students, the MIP model includes these and other factors in explaining the complex process by which individuals consume media and then make decisions (Austin, 1994; Austin & Johnson, 1997; Austin, et al. 1990). According to the MIP, children slowly begin to internalize images and scenarios from the media and use logical and emotional approaches in making decisions about whether and how they will mimic media behavior. The model proposes a number of important factors that make the connection between exposure and later behavior more likely. The model posits that perceived realism, perceived social norms, desirability (attractiveness), perceived similarity, and identification (wanting to be like images/characters) all help predict the whether an individual will emulate characters or models in the media.

The MIP model suggests that an individual will first assess the perceived realism and frequency of the media message. If the message is frequent and perceived as realistic, the individual will then evaluate how the message compares to his or her own experience, which could be quite different from the norms of society. If the individual perceives
similarity, the child is more likely to maintain perceptions, expectancies, and behaviors that are consistent with the message.

Austin and Johnson (1997) examined how two different media literacy treatments, grounded in the premises of the MIP, related to children's perceptions of alcohol advertising, alcohol norms, expectancies for drinking, and behaviors toward alcohol. The authors used a 2 x 2 design to test the effects of advertising type: specific versus general advertising, and discussion content: and specific (alcohol related) versus general discussion about advertising. Advertising type was manipulated by having some children watch a videotape about advertising and video clips of alcohol ads, while others watched the same media literacy video and video clips of non-alcohol advertising. This was followed by either a discussion specifically about alcohol advertising or by a discussion of advertising in general. Following all of the interventions, the children demonstrated an increased understanding of persuasive intent and they saw the characters in the ads as less similar to themselves and the products as less desirable, suggesting that the media literacy interventions were effective. The authors also found a decrease in the children’s expectations of positive consequences from drinking alcohol and a decrease in the likelihood to choose an alcohol-related product. These results support the efficacy of interventions grounded in the theory of the MIP model.

Social Comparison Theory

The MIP model is partly based on the assumption that individuals, and even children, make constant comparisons of themselves to others (including those in the media) in order to assess their own opinions and behaviors. Festinger first discussed this
idea in his theory of social comparison (1954), which states that individuals evaluate themselves by comparing themselves to similar others.

Individuals engage in social comparison in many contexts, including in those contexts in which they are making judgments about their own appearances, such as while clothes shopping or swimming with friends. Wheeler and Miyake (1992) have suggested that comparisons related to one's appearance usually occur in an upward fashion (comparing the self to someone perceived to be more attractive) and, subsequently, evaluations of one's own appearance tend to become more negative. Since attractive individuals are often featured in the media, it is likely that comparing one's self to these individuals would result in highly negative evaluations of one's own appearance (Bessenoff, 2006).

Heinberg and Thompson (1992) found that the anxiety and distress are even more pronounced after comparing one's self to a particularistic group (i.e. "ideal" fashion models in the media) than to a universalistic group (i.e. "average" U.S. women). Further, the extent to which one engages in social comparison processes has been found to be a predictor of self-esteem, body dissatisfaction, and dieting behavior for females (Morrison, Kalin, & Morrison, 2004).

However, these comparisons of self to others do not negatively affect all females. This variance has been attributed to the fact that individuals have different levels of internalization of the thin-ideal (Durkin & Paxton, 2002; Sands & Wardle, 2003; Thompson & Stice, 2001). Cusumano and Thompson (1997) found that while awareness of societal pressures did predict body image disturbance, internalization of these pressures was an even better predictor. Therefore, reducing the internalization of these
pressures would seem to be an important part an intervention aimed at reducing the media’s impact on female body image.

Internet Usage in Prevention Interventions

While some of the previously researched interventions have been effective, many of the outcomes were short-lived, or, in the case of many studies, longer-term effects were not even evaluated. For example, Wade et al. (2003) implemented a media literacy and self-esteem program for eighth grade students and found that, while the program initially decreased weight concern among the students, none of the effects were maintained at a three-month follow-up.

When attempting to prolong intervention effects, one avenue to consider is the internet. As the internet has become more prevalent in all areas of our lives, it has also become more widely used in psychological interventions (Ritterband et al., 2003). The usefulness of the internet in the implementation of intervention efforts has been well established in recent literature, specifically with regard to smoking cessation, weight loss, and body image (Winzelberg, Dev, & Taylor, 2002; Schneider, Walter, & O’Donnell, 1990; Tate, Wing, & Winett, 2001). According to Childress and Asamen (1998), these behavioral medicine issues tend to more amenable to these internet interventions. They believe that this is because behavioral medicine issues tend to be very responsive to highly structured approaches to treatment, which the internet can help provide.

With respect specifically to eating disorders, the internet is emerging as a valuable tool. Celio et al. (2002) evaluated several variations of a computer assisted health education program designed to prevent eating disorders in 116 undergraduate women. The authors tested four iterations of the same program, the first of which was CD-ROM-
based and anonymous. The second model was web-based and had recommended assignments with telephone reminders, while the third model employed a more structured approach to assignments. The fourth model added an academic component and utilized e-mail reminders. Compliance increased from the early to the later models, with the authors finding significant increases in compliance in the iteration that included e-mails. Due to the manipulations of multiple independent variables, however, it is impossible to determine if and the extent to which the e-mails impacted compliance.

To date, no studies have examined the use of e-mail (without other internet technology components) in aiding intervention efforts. The present study hopes to extend the current research on internet utility by examining e-mail as a tool in increasing the retention and extension of intervention effects. This study will also examine the differential impact of a media literacy intervention on adolescent girls at low- and high-risk for eating disorders.
Chapter II
Rationale and Hypotheses

Dissatisfaction with one’s body has become normative in our culture, and this is unfortunately not confined to adult women; adolescents and children are suffering from our culture of thinness as well (Cash & Henry, 1995; Collins, 1991; Lowes & Tiggemann, 2003; Maloney et al., 1989). In fact, Mellin et al. (1986) found that 81% of 10-year-old girls reported having dieted at least once, which is not surprising considering a study of high school students revealed that two-thirds of respondents believed being thinner would have a significantly positive impact on their lives (Paxton et al., 1991).

Although there are many sources of influence that promote dieting and the thin ideal, the mass media is often considered the most influential in the promotion of this ideal (Smolak & Levine, 1996). Both correlational and experimental studies have demonstrated relationships between media consumption and body dissatisfaction among adolescent girls. Groesz et al.’s (2002) meta-analysis of 25 experimental studies revealed that exposure to thin media images was associated with a more negative body image than exposure to average models, plus size models, or inanimate objects. These negative effects were strongest for those participants younger than 19 years old, confirming the importance of addressing these effects in adolescent populations.

Body dissatisfaction has been found to be related to a number of negative states, including low self-esteem, anxiety and depression. It has also been related to the most lethal of all mental illnesses, eating disorders (Cattarin & Thompson, 1994; Polivy &
Herman, 2002; Stice & Shaw, 1994). Although rates vary widely, the prevalence of eating disorders symptomology among adolescent girls has been found to be as high as 11.3%, with many more at high-risk (Shisslak et al., 1995).

A focus on the prevention, rather than solely the treatment, of eating disorders and eating disorder symptomology is valuable because the amount of time, effort, and financial resources needed to treat these disorders can be staggering, and these disorders also become more resistant to intervention over time. In addition, many girls demonstrate symptomology that does not meet diagnostic criteria for an eating disorder, yet is equally as dangerous and frequently unaddressed.

Since the media is a major contributor to the development of body dissatisfaction, and subsequently eating disorders, it would seem wise to focus attention on the effects of the media (Groesz et al., 2001; Harrison, 2001; Stice & Shaw, 1994). One way to interpret the impact of the media on body dissatisfaction and eating disorder risk factors is through Austin et al.’s (1990) Message Interpretation Process (MIP), a model of the media’s influence on decisions to participate in particular behaviors. This model suggests that an individual first assesses the perceived realism and frequency of the exposure to the media message. If the message is frequent and perceived as realistic, the individual evaluates how the message compares to his or her own experience. If the individual perceives similarity, he or she is more likely to maintain the perceptions, expectancies, and behaviors that are consistent with the message.

Addressing many of these factors, media literacy has been established as effective method of reducing the impact that the media has in many areas (Austin & Johnson, 1997; Wilksch et al., 2006; Yamamiya et al., 2005). It focuses on the critical evaluation
of media messages from an informed standpoint, thereby encouraging consumers of the media to be more conscious of and less impacted by messages.

Although this is still a relatively new area of research, this approach has shown potential for reducing the negative impact of the media on female body image (Berel & Irving, 1998). Previous studies have shown that media literacy programs are effective in decreasing weight-related anxiety and the internalization of the thin-ideal and increasing media skepticism among adult women (Coughlin & Kalodner, 2006; Irving & Berel, 2001).

Research addressing media literacy’s effectiveness with adolescents has been more limited. However, there have been a few studies utilizing these younger populations that have shown promise (Irving et al., 1998; Wade et al., 2002; Wilksch et al., 2006). Evaluations of these programs have demonstrated relationships between participation in the programs and decreased thin-ideal internalization and decreased perceptions of the realism of media images.

It is also important to examine the differential impacts that prevention programs have upon those who are at varying risk levels for an eating disorder. With regard to eating disorders, many prevention efforts have been aimed at those at high-risk, although the programs are presented in the context of an educational setting which includes students at low risk as well. Whether media literacy programs aimed at adolescents are more effective in reducing risky behaviors (in high-risk participants) or preventing the onset of these behaviors (in low-risk participants) has yet to be clearly defined. While this study’s examination of both high- and low-risk participants will not be able give a definitive answer to this question, it may help to clarify these issues.
The present study aims to develop a media literacy intervention for high school girls in order to evaluate if the program is effective in producing outcomes related to lowered risk for eating disorders and increased media skepticism and how these outcomes might differ based on the participants level of risk (high vs. low). In addition, this study will examine whether the presence of e-mail reminders will be related to a greater retention of intervention effects three months after the intervention.

Two predictor variables will be examined in regards to the evaluation of the intervention. The first independent variable is the intervention: Intervention Group and Control Group. The second variable, a participant variable, is the level of risk for an eating disorder: High-Risk and Low-Risk. The dependent measures will be the following: sociocultural information and internalization, media skepticism, body dissatisfaction, and drive for thinness. An additional independent variable will be manipulated when evaluating the prolonged effects of the intervention. Specifically, the independent variable will be the presence of additional e-mails to promote critical thinking: E-mail Group and No-E-mail Group.

Hypotheses for Pre-Intervention (Time 1)

Research over the past several years has demonstrated relationships between eating disorders (and eating disorder risk) and several variables. Those girls and women who are at high-risk for an eating disorder, are more likely than others (at lower risk for an eating disorder) to feel more negatively about their bodies and to feel driven to engage in certain behaviors to alter their bodies and their weight. These girls and women are also more likely to internalize society’s version of the ideal woman to a greater extent.

Research has also demonstrated that these girls and women at high-risk tend to place
more value on the media and may attempt to be like the models they see. Thus, the researcher hypothesizes:

$$H_1$$: Those participants found to be at high-risk for an eating disorder, as determined by the Eating Attitudes Test (EAT-26), will demonstrate higher levels of internalization of the thin ideal (as measured by the Sociocultural Attitudes Toward Appearance Questionnaire-3; SATAQ-3), body dissatisfaction and drive for thinness (as measured by the Eating Disorders Inventory; EDI) than those participants found to be at low risk for an eating disorder. In addition, it is hypothesized that these high-risk girls will demonstrate less media skepticism (as measured by the Media Attitudes Questionnaire; MAQ) than the low-risk girls.

**Hypotheses for Post-intervention (Times 2 & 3)**

Over the past several years, media literacy has demonstrated potential for helping to reduce the risk factors associated with many social issues, such as child and adolescent alcohol use (Austin & Johnson, 1997). However, the number of studies that have evaluated media literacy with respect to body image and eating disorders is limited. The small number of studies conducted indicated that media literacy is related to positive outcomes for participants (Weiss & Wertheim, 2005; Yamamiya et al., 2005). Based on the previous literature, the researcher hypothesizes interaction effects between the intervention and time variables both immediately following the intervention (Time 2) and at three month follow-up (Time 3):

$$H_2$$: Those participants engaged in a media literacy intervention will experience a greater reduction in those risk factors associated with eating disorders than those participants in a control group. Specifically:
H2a: Participants engaged in a media literacy intervention will have a greater reduction in internalization of societal standards (as measured by the SATAQ-3) than those participants in a control group.

H2b: Scores of participants engaged in a media literacy intervention on the subscales of the EDI will decrease significantly more than those participants in a control group, indicating a greater reduction in body dissatisfaction and drive for thinness.

H2c: Participants engaged in a media literacy intervention will have a greater decrease in their total MAQ score than those participants in a control group, indicating a greater increase in media skepticism.

It is important to implement prevention interventions, including media literacy interventions, in order to thwart the development of future symptoms and risk factors of eating disorders, as well as to prevent current risk factors from increasing in severity. While prevention interventions have been able to serve both of these purposes, it appears that those participants already at high-risk may benefit more from these interventions (Weiss & Wertheim, 2005). However, the differential effect of a program based on the participants’ risk level appears to be a frequently overlooked factor. Based on a study by Weiss and Wertheim (2005), the researcher hypothesizes interaction effects between the participants’ level of risk and time variables that both immediately following the intervention (Time 2) and at three month follow-up (Time 3):

H3: The researcher hypothesizes that those participants at high-risk for an eating
disorder will experience a greater reduction in those risk factors associated with eating disorders than those participants at low-risk following the media literacy intervention. Specifically:

$H_a$: Participants at high-risk for eating disorders will have a greater decrease in their score on the SATAQ-3 than participants at low-risk following the intervention, indicating a greater reduction in internalization of societal standards.

$H_b$: Participants at high-risk for eating disorders will have a significantly greater decrease on their scores on the subscales of the EDI than participants at low-risk, indicating a greater reduction in body dissatisfaction and drive for thinness.

$H_c$: Participants at high-risk for eating disorders will have a greater decrease in their score on the MAQ than participants at low-risk, indicating a greater increase in media skepticism.

**Hypothesis for E-mail Intervention**

Recent literature has established the usefulness of the internet in the implementation of intervention programs, specifically with regards to smoking cessation, weight loss, and body image (Schneider et al., 1990; Tate et al., 2001). Research directly assessing the usefulness of the internet with regards to body image has been more limited, however. While Celio et al. (2002) examined how adding internet components could improve compliance in an eating disorder prevention program, no studies to date have examined the use of e-mail, specifically, in aiding intervention efforts. The present study will explore if e-mail may be an effective tool in helping participants to retain and
extend intervention effects. The researcher hypothesizes an interaction effect between the
e-mail condition and time variables. Specifically that:

\[ H_4: \text{Those participants in the e-mail group will demonstrate less change} \]

(prolonged intervention effectiveness) from Time 2 to Time 3 than those in the
control group. This applies to all dependent variables.
Chapter III

Method

Overview

The present study aims to develop and evaluate a media literacy intervention for adolescent girls who are at both low- and high-risk for eating disorders. After assessing the girls’ risk level for eating disorders, as well as their feelings toward their bodies and the media, the researcher will present a media literacy intervention, based on the principles of the MIP model, to half of the 125 female high school students. A substance abuse curriculum will be presented to the rest of the participants, comprising the control group. The researcher will then evaluate the effectiveness of the media literacy intervention at reducing body dissatisfaction and increasing media skepticism. The media literacy intervention will be evaluated immediately following the intervention and three months later. An e-mail intervention will also be implemented and evaluated for its potential in increasing retention of the intervention gains and extending the primary intervention’s effects.

Participants

Examining previous studies in this area, a conservative average effect size of .10 was determined. Based on this, 26 participants will be required for each group (high-risk intervention group, low-risk intervention group, high-risk control group, low-risk control group) in order to obtain a power of .80 (Jaccard & Becker, 1990). The participants for this study will be female sophomores enrolled at a local single-sex Catholic high school (approximately 125). The participants will be predominantly European-American with
lower to middle class socioeconomic status. African American students will be included in the study if no significant differences are found to exist between these students and the European American students at pre-intervention.

At the time of the intervention, the participants (ages 14-16) will be enrolled in a general health class, which is required of all sophomores. The data will be collected from unique samples over two semesters with half of the participants being recruited from three health classes in the fall, and the other half being students in the three spring health classes. During the fall, two of the sections will receive the media literacy training, while the other section will serve as a control group. During the spring, one section of the course will receive the media literacy training while two sections of the course will serve as the control group. If no significant differences are found to exist between the participants responses pre-intervention, the data from the two semesters will be collapsed for analysis.

Measures

*Eating Attitudes Test* (Garner, Olmsted, Bohr, & Garfinkel, 1983). The Eating Attitudes Test (EAT-26) is the most widely used standardized measure of eating disorder concerns and symptoms. For example, the EAT-26 was the instrument of choice in the 1998 National Eating Disorders Screening Program, which was the first national screening and educational program for eating disorders. Based on an original version with 40 items (Garner & Garfinkel, 1979), the EAT-26 is a shorter version of the original that has been found to be both valid and reliable among a variety of settings and cultures (Al-Subaie et. al, 1996; Garner, et al., 1983; Nasser, 1994; Shimura, Horie, Kumano, Sakano, & Suematsu, 2003).
The EAT-26 is a self-report measure that asks respondents to indicate how frequently they feel or behave in certain ways that are consistent with eating disorder symptomology on a six-item scale from never (1) to always (6). The instrument is comprised of three subscales: dieting, bulimia and preoccupation with food, and oral control, with higher scores on these scales indicating that participants engage in the behaviors more often. A sum of the items of these subscales is calculated to determine the overall total, with higher totals indicating greater risk for an eating disorder.

The dieting subscale asks respondents to rate how often they engage in weight management behaviors, with statements such as, “I particularly avoid food with a high carbohydrate content (bread, rice, potatoes, etc.).” The bulimia and preoccupation with food subscale asks how often participants engage in binging and purging behaviors. The subscale asks participants to respond to statements such as, “I have gone on eating binges where I feel I may not be able to stop.” The oral control subscale assesses the degree of self-control exerted by participants around food, such as how often respondents “cut food into small pieces.”

In addition, the EAT-26 includes four behavioral questions in which respondents are asked to respond yes or no to indicate whether or not they have ever engaged in certain behaviors that put them at risk for an eating disorder. Respondents indicate if, in the past six months, they have gone on eating binges where they felt unable to stop, vomited to control weight or shape, used laxatives, diet pills or diuretics to control weight or shape, or been treated for an eating disorder.

Although the EAT-26, like all other self-report measures, cannot be used as the sole diagnostic tool, it has been established as a reliable clinical and research tool. The
questionnaire is recommended to be used as part of a two-part diagnostic process, where those individuals scoring 20 or more on the instrument are referred for interviewing by a qualified professional to determine if there is a diagnosis of an eating disorder. Used alone, the instrument can provide a risk level for respondents, and has been used to assess "eating disorder risk" among high school and college-aged females in multiple research studies (Anstine & Grinenko, 2000; Garner, et al., 1998).

*Sociocultural Attitudes Toward Appearance Questionnaire-3* (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). Awareness and internalization of societal standards of attractiveness will be assessed using the Sociocultural Attitudes Toward Appearance Questionnaire-3 (SATAQ-3), which has established reliability for use with adolescent girls and with eating disorder patients, with Cronbach’s alphas ranging from .77 to .97 (Calogero, Davis, & Thompson, 2004).

The SATAQ-3 is comprised of four subscales: the internalization-general, internalization-athlete, pressures, and information subscales. Participants are asked to indicate agreement with 30 statements on a five-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). Items assessing the internalization-general subscale ask participants to indicate their agreement with statements such as: "I compare my body to the bodies of people who are on TV." Items assessing the internalization-athlete subscale include, "I compare my body to that of people in good shape." Items addressing the participant's perception of pressure include, "I wish I looked like the models in music videos" and "I've felt pressure from TV or magazines to lose weight." Items assessing information include, "TV programs are an important source of information about fashion"
and "being attractive." High scores on this overall measure indicate that participants have more internalization of society’s standards and feel more pressure to conform.

The SATAQ-3 was normed on and internal reliability of the subscales was established using data collected from female undergraduate students. The Cronbach’s alpha levels for the overall scale is high (.96) (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). The SATAQ-3 overall score explained a significant amount of variance in body image and eating dysfunction above and beyond body size and self-esteem, which are commonly considered to contribute significantly to body image and eating dysfunction.

*Eating Disorders Inventory* (Garner, Olmsted, & Polivy, 1983). The EDI is one of the most frequently used measures of behavioral and psychological characteristics common in eating disorders with well-established criterion-related validity, and it has been normed for use with respondents ages 11 to 18 (Shore & Porter, 1988). In addition, these authors found that the EDI’s subscales, specifically the Body Dissatisfaction and Drive for Thinness subscales, are suitable for use in screening for eating disorders and research on an adolescent population.

Based on self-report data, the EDI evaluates both behavioral and psychological eating disorder symptoms and is divided into eight scales, with reliability estimates ranging from .82 to .93 for these subscales (Espelage, Mazzeo, Aggen, Quittner, Sherman, & Thompson, 2003). Although participants will complete the entire EDI, only two of the subscales will be analyzed in this study: the body dissatisfaction subscale and drive for thinness subscale. Participants will be asked to rate items on a 6-point scale ranging from *never* (1) to *always* (6).
The body dissatisfaction subscale includes nine items and assesses the belief that certain parts of the body are too large. The internal consistency of this subscale ranges from .90-.92 and the reliability coefficient was found to be .91 for a non-eating disordered population (Garner et al., 1983). This scale consists of statements such as, “I think my hips are too big,” to which respondents respond with how often they engage in these thoughts.

The drive for thinness subscale contains seven items and measures the presence of extreme concern with thinness. This concern can be manifested by dieting or a preoccupation with weight, and is a fundamental feature of many eating disorders. This subscale includes statements like, “If I gain a pound, I worry that I will keep gaining.” The reliability coefficient of the drive for thinness subscale was found to be .85 for a non-eating disordered population (Garner et al., 1983).

Media Attitudes Questionnaire (Irving, DuPen, & Berel, 1998). The MAQ (total score) will also be utilized to evaluate the participants’ media skepticism. Irving, et al. modified items originally used by Austin and Johnson (1997) to assess children’s perceptions of the media and its realism. Good reliability was established, with the Cronbach’s alpha level at .84.

The scale asks participants to rate their level of agreement with 22 statements on a Likert-type scale from completely disagree (1) to completely agree (5). The responses for each item are summed to generate a total score. Lower total scores indicate greater skepticism of the media. The scale includes six subscales that measure the following constructs: the perceived realism of the media, desirability of looking like models, identification with media models, perceived similarity to media models, expectancies...
about the media, and behavioral intentions. These constructs are assessed through such statements as, “Most women could be as thin as the models in ads by exercising and/or dieting” (similarities), “The models in advertisements are real people” (perceived realism), and “I would like to have a body like the models in ads,” (identification).

Internal consistency for the realism (.56), desirability (.77), identification (.62), similarity (.88), expectancies (.84), and behavioral intentions (.70) subscales are respectable.

Demographic Questionnaire (see Appendix A). A demographic questionnaire will be distributed in order to obtain background information from participants, specifically age and ethnicity.

E-mail Follow-up Survey (see Appendix B). In order to supplement the primary intervention, some of the participants will receive e-mails, which will be described later, for 12 weeks following the classroom sessions as a supplement to the more traditional intervention. Following the delivery of these e-mails, participants in this group will receive the four-question E-mail Follow-up Survey to assess whether the participants read the e-mails, considered the critical thinking questions posed, and perceived the e-mails to be useful.

Procedure

Pre-intervention. Prior to the initial meeting with the participants, the researcher will obtain parent consent for each participant in the study (see Appendix C). The researcher will also obtain consent from each participant prior to the initial classroom session (see Appendix D). Those students who do not provide consent to participate will be excused from the study without penalty and will given a private study period in which they will do other work provided by the teacher. Next, each participant will be given a
packet of measures for completion. Included in this initial packet will be the EAT-26, SATAQ-3, EDI, MAQ, and Demographic Questionnaire in order to establish baseline data.

The EAT-26 will be used to establish risk level for the participants. Participants will be assigned to the high-risk group if they score equal to or greater than 20 on the EAT-26. Additionally, participants will be considered at high-risk if they endorse any of the “yes” or “no” questions on the EAT-26 indicating that they have engaged in eating disorder behaviors. Those scoring under 20 on the EAT-26 will be considered, for the purpose of this study, low-risk. For the high-risk group to be large enough for appropriate power to be gained, a high-risk group of at least 30% of the participants will be required.

Theoretical Basis of the Intervention. This media literacy intervention was developed based on a cognitive approach. According to Potter (2004), the aim of media literacy cannot be to solely increase knowledge of media messages, but must be to challenge the cognitions embedded by years of mass media socialization. While individuals may have some awareness of media influences, behavior change can only result from challenging and restructuring cognitions concerning the media.

In order for program developers to understand how change occurs as well as develop effective media literacy interventions, it is important to understand the cognitive mechanisms by which the media exerts its influence on individuals’ cognitions. Potter proposes four principle ideas which comprise his cognitive theory of the media’s

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1 Parents or guardians will be notified if a participant is found to be at high-risk based on this criteria (scoring 20 or higher on the EAT-26).
2 In the event 30% of the participants do not meet criteria for being high-risk (≥ 20 on the EAT-26 or a “Yes” response), the researcher will then take the median score on the EAT-26, and those who score above that score will be considered high-risk and those scoring below will be considered low-risk for the purpose of this study. In this case, parents will only be notified if their daughter meets original high-risk criteria (scoring 20 or higher on the EAT-26).
influence. He first discusses what factors enable the media to be so powerful. He states that individuals' interactions with the media are in a state of automaticity due to the immense amount and prevalence of media messages in daily life, meaning that messages presented by the media are consumed and accepted without critical analysis. Next, the media helps to create schemata, or representations of the world, that define constructs, and promote certain values. For example, the media often portrays the mentally ill as morally reprehensible individuals who commit crimes, thereby promoting fear towards this population (Stuart, 2006). An individual might have little or no experience with the mentally ill, and thus use a media representation to form his or her own representation of the mentally ill. Because these images of the mentally ill appear so often in the media, the individual's schema is continually confirmed. Not only does the individual then begin view the mentally ill as criminals, but he or she also begins to view the media as an accurate and reliable source of information. These schemata, constructs, and values then allow the consumption and acceptance of media to occur more quickly and automatically by providing a framework into which the media's messages fit.

Third, Potter proposes that each individual has a personal center of power (or locus, as Potter calls it) which has the potential to enable that person to override these automatic routines. Potter believes, however, that individuals rarely utilized their personal centers of power. In order to form and strengthen this center of power, Potter believes that one must be informed about the media, as well as experience emotions (i.e. anger) about the media that would prevent an automatic acceptance of its messages. Thus, both information and emotions must be addressed in an intervention in order to produce lasting change. Last, Potter states that media literacy must address information
processing tasks such as meaning construction. The media literacy program utilized in the current study will therefore address the process of constructing meaning in order to facilitate change according to Potter's principals.

Overview of the Intervention. The media literacy program (see Appendices H - K) will be presented in four sessions, with each session lasting approximately one hour. The content of the program will be based primarily on two sources, with supplemental content created by the researcher in accordance with Potter's principles. The first of these sources is the Media Literacy portion of the QuEST program, a toolkit developed in 2001 by Sheena's Place, an organization dedicated to eating disorder treatment and prevention. Activities from the Media Education Foundation's study guide for Jean Kilbourne's Slim Hopes: Advertising and the Obsession with Thinness, a film routinely used by both educators and researchers, will also be incorporated. The curriculum in the QuEST toolkit addresses Potter's principles of restructuring cognitions. Specifically, the curriculum addresses ways in which participants can utilize information and critical thinking skills, such as filtering and meaning construction, to override the automatic routines.

Homework, created and/or modified by the researcher, will also be assigned following each session to expand upon and require the participant to apply the principles of the work done in the classroom. Homework assignments are included based on the extensive research (Cooper & Valentine, 2001), which indicates that homework leads to greater amounts of critical thinking and more information processing. The homework assigned will not be turned in to the researcher or graded for quality, but will be discussed in the session following the one in which the homework was assigned. In addition, participants will be asked to take a brief quiz consisting of true-false and short answer questions at the
end of each session in order to evaluate the participants’ attention to and understanding of the material. In following recommendations based on a meta-analysis of eating disorder prevention programs (Stice & Shaw, 2004), the intervention will be interactive which will require a great deal of discussion and activity by the participants.

**Intervention Sessions.** The first session (see Appendix E) will focus on the topic of “Consciousness Raising” and will encourage discussion of the issue of the media’s impact on female body image. The goal of this session will be to reduce the frequency of the automatic acceptance of media messages by teaching participants to think more critically (Potter, 2004). This will begin with several critical thinking questions taken from the QuEST program posed to the participants for discussion (i.e. “Do you think you are influenced by the media? How?”), and will be followed by an examination of actual media images, an activity used in the QuEST program. Participants will be asked to locate images in print media (popular teen and women’s magazines) that they believe have the potential to impact female body image. Then, consistent with Potter’s goals, participants will be asked to critically examine these in small groups by discussing how these images might make girls and women feel. Prior to the next session, participants are assigned to seek out examples of song lyrics involving women’s bodies that might make other girls and women feel uncomfortable. In line with the first day’s theme of “Consciousness Raising”, the goal of this assignment will be to generate awareness of the prevalence of these types of images, and to stimulate consideration of their potential impact.

The second session (see Appendix F) will begin with a review of the homework examples obtained independently by participants. This session will focus on
“Competence”, specifically, acquiring the skills necessary to address the issue of the portrayal of females in the media. The goal of this session will be to arm the participants with the critical thinking skills needed to consider the schemas created by and the values promoted by the media (Potter, 2004). Participants will engage in a discussion about questions, taken from the QuEST program, which should be asked of and about the media, such as “Who owns and profits from this message?” and “What is omitted from this message?” The participants will then be asked to apply these critical questions to different types of images in the media, an activity modified from one used in the QuEST program (using more recent media images). Homework for this session, created by the researcher, will be to find and apply the questions from the QuEST program to a television commercial. The goal will be to increase critical thinking and to practice using these questions outside the classroom, specifically in one’s own home (Cooper & Valentine, 2001).

The third session (see Appendix G) will focus on Potter’s premise of “Connection”, understanding the world and the roles issues of girls and women in the media play in it. This session will be based on Potter’s premise that an individual’s center of power, which is needed to overcome the influence of the media, depends on both information and emotion. Thus, the researcher will provide factual knowledge about the media so that the participants are better informed about the realities of this entity. The researcher will also facilitate a discussion about the emotional states generated by the media. First, the homework assignment from the previous day will be reviewed and discussed. Then, to provide factual information, participants will watch a segment of Jean Kilbourne’s Slim Hopes: Advertising and the Obsession with Thinness (Kilbourne, 1995),
which is frequently used in classroom settings and interventions to increase awareness about the dangers of advertising (Coughlin & Koladner, 2006; Irving & Berel, 2001; Irving et al., 1998). In the segment, Jean Kilbourne presents and analyzes a series of advertisements which depict women as body parts, in sexualized positions, and as victims of violence, and demonstrates how the media’s portrayal of women impacts not only consumer choices, but feelings about one’s own body as well. Participants will then watch a segment of a show that appeared on television called Joan Lunden’s Behind Closed Doors (Jopson, 2000), which expands upon ideas presented in the previous film. The segment is entitled “Manipulation of the body” and demonstrates how the media alters images to create false representations of perfection. It presents a series of advertisements in which models’ bodies have been altered by media technology (i.e. airbrushing to make hips appear more slender) and asks the viewers to think more critically about whether these images are truly representative of real women. This will be followed by both small and large group discussion, based on questions in the Slim Hopes study guide.

Next, the researcher will assign participants homework to review a website dedicated to combating negative images of women in the media, as well as to find an ad that serves as an example of the day’s discussion. In doing so, the goal for the participants will be to make connections between the information they are receiving and their emotional responses, as well as connections between the goals of the media and the impact on their lives.

In the final session (see Appendix H), the focus will be on “Change”, specifically developing initiatives to change the environment at a more global level. Prior to
addressing the specific issue of change, this session will take a more cognitive-behavioral approach to media literacy and will attempt to create a state of cognitive dissonance in participants (Festinger, 1957). The participants’ will be asked to challenge the media presented in previous sessions, which will create a state of dissonance between their previous beliefs about the validity of the media and their new knowledge about its intentions and dangers. Directly addressing the goal of “change”, participants will review the ads found for homework and then construct a letter to the company responsible for the “found” ad, which is an activity borrowed from the QuEST program. The content of the letter will include participants’ thoughts in regards to how the ad may be impacting females in our society and suggestions for how the media might portray women’s bodies in a healthier and positive light. Next, participants will be put into groups to develop a layout for a website dedicated to teaching younger girls how to avoid the negative consequences of media stereotyping. This activity is based on advocacy activities outlined in the Slim Hopes study guide. By engaging in these activities, the participants will note the potential they have within themselves to impact the environment by challenging the major media corporations.

**Immediate Post-Intervention.** Following the last session, participants will be given another packet of measures to complete. This second packet will include the SATAQ-3, EDI, and MAQ.

**E-mail Intervention.** After collecting the post-intervention data, the participants in the intervention group will then be randomly assigned to an e-mail or no-e-mail group. Once a week for a total of twelve weeks, participants in the e-mail group will receive an e-mail asking them to reflect on empirically based information related to media literacy
and critically think about a question. The purpose of these e-mails will be to extend the media literacy curriculum taught through the intervention and to promote the use of critical thinking outside of the classroom via the internet. These e-mails will serve as a brief supplement to the intervention and help evaluate the potential of minimally time-demanding interventions (see Appendix I).

Control Group. The participants in the control group of this study will receive the same questionnaires as those participants in the media literacy intervention group, and will be similarly classified as being at high- or low-risk for an eating disorder using the EAT-26. Instead of a media literacy curriculum, the participants in the control group will be assessed pre-intervention, and then will be presented with four days of curriculum concerning substance abuse. This curriculum was created in consultation with the participants’ health teacher and was based primarily on content from The National Youth Anti-Drug Media Campaign website.

Prolonged Post-Intervention and Post-E-mail Follow-up. Twelve weeks after the completion of the media literacy intervention, the participants will receive another packet containing the SATAQ-3, EDI, and MAQ. Those participants who received the e-mail intervention will also receive the E-mail Follow-up Survey. Participants will be fully debriefed at this point, as well (see Appendix J).
Chapter IV

Proposed Analysis

Differences between groups prior to intervention

Because data will be collected over the course of two semesters, a multivariate analysis of variance (MANOVA) will be conducted on the dependent variables at pre-intervention in order to establish that no differences are present for the participants across the different semesters. If no differences are found, the data from the two semesters will be collapsed for all future analyses. Additionally, a MANOVA will be conducted at pre-intervention to establish that there are no differences present for participants based on race/ethnicity. If no differences are found, European American and African American participants’ data will be combined for future analyses.

Media literacy intervention effects

Mixed-design MANOVAs will be conducted as the main analyses in order to examine the effects of the intervention (control versus intervention), participant risk level (high- versus low-risk), and time (pre-intervention versus immediate post-intervention versus prolonged post-intervention) on the dependent variables. Two MANOVAs will be conducted to examine the effects of these independent variables; one will examine the effects of the independent variables on the dependent variables directly related eating disorder risk factors (body dissatisfaction and drive for thinness), while the other will examine the effects of the independent variables on the dependent variables related to media perception (internalization of the thin ideal and media skepticism). An alpha level of .05 will be used to denote statistical significance of the overall MANOVAs. The
MANOVAs will be used to determine if there are significant differences between those assigned to the control group and those assigned to the intervention group, differences based on time, differences between high- and low-risk participants as well as interactions between these variables (Hypothesis 1 - 3).

In the event of significant interaction effects, individual ANOVAs will determine the source of the effect. In order to reduce the risk of Type I error, a Bonferroni adjustment will be used in which the normal alpha value (.05) will be divided by the number of statistical tests run for the main effects and interactions (Pallant, 2005). Therefore, in evaluating the effects on the two eating disorder risk factors and the two media variables, the significance levels will be .025 for each MANOVA. The interaction between time and intervention will confirm that the intervention was effective (Hypothesis 2). Whereas, the three-way interaction will indicate whether high-risk participants experienced significantly greater benefits from participating in the intervention than low-risk participants (Hypothesis 3).

**E-mail intervention effects**

In order to establish if there was a significant effect of e-mail reminders on the retention of intervention effects (thus the analysis will exclude participants in the control condition), two MANOVAs will be conducted including the email intervention variable (no-e-mail versus e-mail), time variable (pre-intervention versus immediate post-intervention versus prolonged post-intervention), and participant risk level (high- versus low-risk) on all dependent variables for those in the intervention group. Again, each MANOVA will correspond to the category of the dependent variables: eating disorder risk factors and media variables. An alpha level of .05 will be used to denote statistical
significance for the overall MANOVAs. Post hoc analyses will used to determine if the predicted interaction (Hypothesis 4) has been established. Again, alpha levels of .025 will be used for the eating disorder risk factors and media variables.

Because there is no theoretical basis for predicting the interaction between the participants' risk levels and the effects of the email, no specific hypotheses about this variable and potential interactions will be made. However, because risk level has been established as an important individual level variable, this variable will be included in the analysis for exploratory purposes.


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140.


Appendix A

Demographic Form

Please answer the following questions:

Age (in year and months): _______ years _______ months

Race/Ethnicity: (please circle)

White, Non-Hispanic
Black, Non-Hispanic
Hispanic
Asian/Pacific Islander
Native American/Alaskan Native
Other: ______________________
E-mail Follow-up Questions

Please circle the answer that best describes your experience in regards to the follow-up e-mails you received.

1. I feel that the e-mails helped further my knowledge of the presentation material.

<table>
<thead>
<tr>
<th>Completely Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat Agree</th>
<th>Completely Agree</th>
</tr>
</thead>
</table>

2. I read the information presented in the e-mails.

   Never     Rarely     Sometimes     Often     Usually     Always

3. I answered the questions asked in the e-mails.

   Never     Rarely     Sometimes     Often     Usually     Always

4. Of the 12 follow-up emails sent, how many did you read? _____ (0-12)
Appendix C

Consent Form

Dear Parent,

Hello, my name is Ashley Neu and I am currently a graduate student in the clinical psychology doctoral program at Xavier University. I am currently working in conjunction with the principal, Ms. Gibbons, and your daughter’s health teacher, Ms. Gorczyca or Ms. Agricola, in order to implement a very special program for the sophomore class at Seton High School.

This focus of this program will be to help your daughter more critically examine the media and the ways in which it influences girls’ feelings about their bodies and themselves. It is hoped that this program will positively influence your daughter’s self-esteem and body image, and that it will help her to resist the media’s influence. This program will take place during your daughter’s health class over four days during one week. Through a series of presentations, discussions, and group activities, we hope your daughter will learn important skills that she will maintain in the years to come.

In order to ensure that the program is reaching its goals, and to improve it for future years, your daughter will be asked to fill out some questionnaires asking her about her moods, her body image and her weight-loss behaviors before and after the program. If your daughter’s responses to these questionnaires indicate that your daughter may be at risk for an eating disorder, we will contact you following the program and provide you with resources in order to address this risk.

Please sign one copy of this form to indicate your understanding of this program and consent for your daughter to participate and return it with your daughter to school by XX/XX/XXXX. You are also being given a copy of this form to keep and are free to withdraw your daughter from participation at any time.

If you have any questions at any time, you may contact me at (513)260-7551 or Dr. Christian End, advisor, of Xavier University at (513)745-3249.

Sincerely,

Ashley Neu, M.A.

---------------------------------------------------------------------------------------------------------------
I have been given information about this program and study and its risks and benefits and was instructed to contact Ashley Neu should I have any questions or concerns. I freely give my consent for my daughter to participate.

__________________________________________________________________________  _____________________
Signature                              Date
Appendix D

Assent Form

You are being given the opportunity to volunteer to participate in a program conducted through Xavier University and Seton High School. This program’s goal is to help you more critically examine the media and the ways in which it influences teenagers’ feelings about their bodies and themselves. This program will take place during your health class over four days during one week. Through a series of presentations, discussions, and group activities, we hope you will learn some valuable skills and begin to critically examine the media around you.

In order to evaluate the program, and to improve it for future years, you will be asked to fill out some questionnaires asking you about your moods, your body image and your dieting and weight-loss behaviors before and after the program. If we identify that you may be at risk for an eating disorder, we will contact you and your parents following the program and provide you with resources in order to address your risk.

Please sign one copy of this form to indicate your willingness to participate. You will also be given a copy of this form to keep. Please remember you are free to withdraw at any time from the program without any type of penalty.

If you have any questions at any time, you may contact me (Ashley Neu) at (513)260-7551 or Dr. Christian End, advisor, of Xavier University at (513)745-3249.

I have been given information about this program and study and its risks and benefits and have had the opportunity to ask questions and to have my questions answered to my satisfaction. I freely give my consent to participate.

Signature ___________________________ Date ___________________________
Appendix E

**Media Literacy Intervention Schedule – DAY 1: Consciousness Raising** - promoting discussion and increasing awareness of the media and its portrayal of women

**Introduction:**
Hi, my name is ___________ and I will be working with you over the next four days. During that time we are going to do some activities and talk about the media and how it portrays girls and women. The media has the potential to do a lot of good in our society, but it also has the potential to be dangerous as well. We’re going to learn more about the media, its goals and objectives, as well as how we can become better consumers of the media. Since we all are bombarded by media messages each day, it’s important to be able to ask the right questions and critically examine what the media is telling us. First, I’d like everyone to talk a little bit about what you know about the media.

**Activity 1: Discussion (15 min)** (Questions from QuEST program)
- Researcher introduces large group discussion: *I’d like us all to think about and answer some questions:*
  - What is the media? What forms are the most influential today?
    - The Merriam Webster definition is: any of the means of communication, as television or newspapers, that reach very large numbers of people.
    - Possible Forms: television, radio, movies, internet, newspapers, magazines, billboards
  - How many ads do you think a person can be exposed to in one day?
    - According to the Nielsen Report, the average American home had the TV set on for about seven hours a day. The actual viewing was estimated at 4.5 daily hours per adult. To this had to be added radio, which offered 100 words per minute and was listened to an average of two hours a day, mainly in the car. An average daily newspaper offered 150,000 words and it was estimated to take between 18 and 49 minutes of daily reading time. While magazines were browsed over for about 6 to 30 minutes. Media exposure is cumulative. All in all, the average adult American uses 6.43 hours a day in media attention. In the US the average person is exposed to 1,600 advertising messages per day.
    - 70% of U.S. television viewers read the newspaper while they watch TV, and two thirds of them go online while they watch TV
    - What people do as they wait for downloads from the Internet: listen to the radio (52.1%); watch TV (61.8%), read the newspaper (20.2%)
  - Do you think the media is a big part of your life? How might the media influence you?
    - Studies report that an average person (American statistic) spends approximately 3 years watching T.V. commercials over a lifetime.
• The most important thing you can do is question messages in the media. Make a choice. Will you allow the media to affect you?
  o Do you think the media influences what you buy?
    • There is a $200 billion advertising industry.
    • Teens constitute 8.5% of the total US population and today's teens are the most affluent generation of young people to date. Teens will spend $190 billion in 2006 according to a marketing and lifestyle survey.
  o Do you know what media literacy is?
    • Media literacy is the process of accessing, analyzing, evaluating and creating messages in a wide variety of forms. It uses an inquiry-based instructional model that encourages people to ask questions about what they watch, see and read.
    • Media literacy's purpose is to transform the process of media consumption into an active and critical process, helping people gain greater awareness of the potential for misrepresentation and manipulation and to help people understand the role of mass media and participatory media in constructing views of reality.

Transition:
What we're going to be doing today and over the next few days is talking about media literacy. We're going to learn about how we can be more aware of the media's influence and understand the truth behind the messages with which we come in contact on a daily basis. Now we are going to do an activity in small groups. Please get into groups of four.

Activity 2: Magazine Images (25 min)
• Introduce small group activity: I'm going to give each group a set of magazines. I'd like you to look through magazines to find five ads that include a female image that your group believes could have an impact on the way that girls might view their own bodies or the bodies of other people. Then, I'd like your group to discuss possible reasons why and how the image might affect a younger girl. (Groups collaborate while researcher monitors.)
• Reassemble as a large group: Okay. I'd like each group to pick the image you think is the most influential and tell us all why that image might have such an impact. (Groups disseminate findings which are discussed as a class.)

Homework:
For tomorrow, please find two songs with lyrics that describe women's bodies that you feel might make other women have concerns about their own bodies or feel uncomfortable about their bodies. You might want to listen to the radio or go through your own music collection, or just search for lyrics on the internet. If you'd like to find the full lyrics, you might try visiting the www.lyrics.com website. Print out lyrics if you would like or jot down particularly important words in the song. (Pass out homework slip.)

Quiz: Distribute quiz for Day 1.
Day 1 – Quiz

Please briefly respond to the items below. (1 pt. each)

1. What is the media?

2. Name three forms of media (must have three for credit).

Please circle the correct answer. (1 pt. each)

3. In the U.S. the average person is exposed to 250 advertisements per day.

   True          False

4. Media literacy teaches that the media should be avoided and that people should do other things instead of watching television or reading magazines.

   True          False

5. Teens will spend 10 billion dollars this year.

   True          False

Please circle the number you feel best represents your experience of today’s presentation.

6. How much did you enjoy the presentation today?

   Not at all  1  2  3  4  5  Very Much

7. How much do you feel you learned from the presentation today?

   Not at all  1  2  3  4  5  Very Much
Appendix F

**Media Literacy Intervention Schedule - DAY 2: Competence** - cultivating the skills necessary to address the issues of the media and body image; learning to question and practicing critical analysis

**Introduction:**
Hi again! Today we’re again going to be talking about media literacy. We’re going to focus today on building some skills to help us question and think critically about the messages we receive from the media. First though, let’s talk about your homework assignment.

**Activity 1: Homework Review (10 min)**
Ask participants for volunteers to share their songs. Have volunteers read aloud part of their song and ask for feedback from the rest of the class and pose questions:
- What kinds of songs included these lyrics?
- How would they make someone struggling with their body feel?
- What are some reasons the artist might have chosen to include the lyrics?
- Is there a way to write these lyrics differently? How would you rewrite the lyrics?

**Activity 2: Learning to Question (5 min) (Questions from QuEST program)**
One of the possible reasons that these artists might include these lyrics is for the same reason that the media portrays women as they do. Sexuality sells, not only products, but movies, internet subscriptions, and music albums. Women are often portrayed as sex objects by the media in order to increase sales and popularity of products. The fact is that the media is a business and so its goal is to make money, not to work for the best interest of consumers. The goal of businesses is to make money. Although not all media are negative, we need to question the messages we receive from them. There are certain questions we can ask when we are confronted with a media message:
- Who created this message and why are they sending it? Who owns and profits from the message?
- What techniques are used to attract and hold attention?
- What lifestyles, values and points of view are represented in this message?
- What is omitted from this message? Why was it left out?
- How might different people interpret this message? How does it make me feel?

**Activity 3: Analyzing Media Images (35 min) (Activity adapted from QuEST program)**
Let’s look at some typical media images and ask ourselves the questions we just talked about as we go through them.
- Present images of women in ads/magazine articles/internet on power point slideshow (see below). Each image presented falls into one of the six categories presented below. As we go through each picture, participants answer series of questions discussed in Activity 2 about the image.
• Images:

1. IDEALS: These images create a narrow message of what is attractive for our culture and these images are associated with being wealthy, happy, and popular. The selling strategy here is: if people feel unattractive, they will buy product to change. The message is: there is only one way to be attractive.

1. What is the danger in creating an ideal image?
2. Let’s analyze the ideal image for males and females.

   Race: Most models on the cover of magazines are Caucasian and if they are of another race e.g. Tyra Banks, they often have Caucasian features, such as lighter skin or are actresses.

   Age: Most models are young. You rarely see ads featuring people of different ages. One study found that of 290 faces identified in one issue of Vogue magazine, only one woman appeared over 50 (Maine, 2000).

   Weight/Shape: Most models have the same body shape (Females = tall, thin, big bust and small waist. Males = tall, muscular, lean, broad shoulders and six pack stomach).

   Gender: Females are often wearing sexy clothing and often portrayed in positions of vulnerability, looking weak and passive.

3. Do you know anyone that looks like this woman? How many?
4. What message is being sent by the media when they use these ideal images instead of presenting realistic images of women?
5. How does this ad make you feel?

2. BODY PARTS: Objectification of women makes us feel like we are parts to look at rather than a whole. We start to focus on our own parts and feel dissatisfied with them. It’s rare that we see a woman using her body for something constructive in an ad. This is a message of objectification — We are parts to be looked at. People may begin to feel self-conscious, dissatisfied, negative about their own body parts or objectified/less human. The selling strategy is: if people feel badly about parts of their bodies they may try harmful products to reshape their bodies; for example, diets, steroids, surgery, and gadgets.

3. MIXED MESSAGES: The media tells us that if we eat, we need to diet. Magazine covers frequently promote both eating and body satisfaction and dieting at the same time. Food is made into a moral issue and people get confused by contradicting messages. People are bombarded with messages that food is either “good” or “bad” or that it is either a “sin” to eat certain foods or that people should “indulge”. This results in women feeling confused, or that they are making the wrong choice no matter what they do. This can then lead to feelings of failure, discouragement, and guilt.
4. SEXUALITY: Images of sex and sexualized women are often used to sell products or turn people on to a show/movie/song. The message is: if you buy this product, you will be attractive and sexually happy.
   - What are some examples of sexuality being used on television or movies to entice viewers?
   - What is the danger of selling sex?
     - Ads often send false ideas, illusions and fantasies about how to be sexy, attractive, happy and popular (e.g. by drinking and smoking, having white teeth, wearing perfume). Males are often portrayed in powerful strong positions and females are often portrayed in vulnerable, child-like and degrading positions.

5. PERFECTION: The truth is, no one is perfect. Advertisers and media executives use many techniques to make models/stars look the way that they do. By promoting an unattainable standard, they sell more products because people still chase after the illusion. Photographers use airbrushing, lighting, and computer retouching to change ANY part of the body (e.g. take away blemishes, make people look taller, thinner or muscular, have higher cheekbones, washboard stomach, whiter teeth, etc.). Before taking a picture, models spend hours on their appearance and their clothes are often pinned to fit them perfectly. Many models have had plastic surgery to change their bodies.

6. DIVERSITY: It isn’t often that we see images of diversity (race, ethnicity, ability, sexuality, etc.) in advertisements, but when we do, it can be inspiring. By having ads that represent a variety of people, the view of what is attractive becomes more broad and inclusive. We should celebrate the unique beauty, talents and characteristics of people of different cultures.
   - What are some forms of diversity that could be included in images?

Homework
Find a television commercial that you feel is directed toward girls and/or women and write down responses to the questions we discussed.

1. Who created the message presented and why? Who owns/profits from the delivery of this message?
2. What techniques are used to attract and hold the viewers’ attention?
3. What lifestyles, values and points of view are represented in this message?
4. What is omitted from this message? Why was it left out?
5. How might different people interpret this message? How does the message make me feel? (Pass out homework slip.)

Quiz: Distribute quiz for Day 2.
Day 2 – Quiz

Please briefly respond to the items below. (1 pt. each)

1. Write down one question we should ask ourselves after being presented with a media message.

2. Identify one group of people that is rarely portrayed on magazine covers or on television?

Please circle the correct answer. (1 pt. each)

3. Media literacy encourages us to ask what a media message includes and what the media message leaves out.
   True  False

4. The models on the covers of magazines are typically 30 to 35 years old.
   True  False

5. Magazines often include articles about dieting while also presenting images of non-nutritious food.
   True  False

Please circle the number you feel best represents your experience of today’s presentation.

6. How much did you enjoy the presentation today?
   Not at all  1  2  3  4  5  Very Much

7. How much do you feel you learned from the presentation today?
   Not at all  1  2  3  4  5  Very Much
Appendix G

**Media Literacy Intervention Schedule - DAY 3: Connection** - understanding the roles media and body image issues play in the world.

**Introduction:**
*Today we’re going to focus further understanding how the media plays a role in our society by creating standards of beauty. Let’s start by talking about your homework assignment.*

**Activity 1: Homework Review (5 min)**
*Would anyone like to volunteer to describe the commercial they chose?*
- Ask for two to three volunteers for examples of commercials and discuss some of the answers to the questions.

**Activity 2: “Behind Closed Doors” & Slim Hopes: Advertising and the Obsession with Thinness (20 min)**
*I want to show you a segment of a movie called “Slim Hopes: Advertising and the Obsession with Thinness.” This was a video created about 20 years ago, so it’s a little dated, but I’d like you to look past its age while you’re watching the video. While watching the film, try to come up with some more recent examples of what Jean Kilbourne is talking about.*
- Watch first 10 minute segment of Slim Hopes: Advertising and the Obsession with Thinness

*Now we’re going to see another segment from a show called “Behind Closed Doors”. Joan Lunden takes you inside the model world to see how advertisements are really made.*
- Watch 8 minute video segment: Joan Lunden’s “Manipulation of the Body”

**Activity 3: Small Group Discussion (10 min)**
*Now we’re going to break into small groups for some discussion. In your groups, talk about what you saw in the videos and what was especially interesting to you. What did you learn that you didn’t know before? What are the potential consequences of these images being presented as reality? Have your group come up with three consequences to present to the class.*

**Activity 4: Large Group Discussion (10 min)**
*I’d like each group to read off their list of consequences. (Go around to each group). One form of media that we haven’t talked about much yet is the internet, but the internet can have a huge impact on how we see ourselves. I’m going to present some questions that I’d like you to think about and then we’ll discuss them.*
- How has the internet evolved to become more important in our lives? Do you use the internet more often today than three years ago? Five years ago?
- What kind of negative influence could the internet have on individuals? How could the internet negatively influence society?
• What kind of positive influence could the internet have? Are there websites you enjoy visiting that might have a positive impact on those who view them?
• What kind of website would you create to encourage positive body image?

**Homework**
1. Before tomorrow, check out the About Face website (www.about-face.org). The website will give you some good ideas for our discussion tomorrow.
2. Find an ad that you think may affect women and girls negatively and bring in a the ad or a description of the ad. Then, find the advertiser’s address. You might do this by searching for the company website on any search engine (such as Google) and then going to that company’s site. Frequently there will be an address under the “Customer Service” or “Contact Us” tabs. You may also try using the About Face website to find an address. Go under “Making Changes”, then “Resources” for “Company Addresses” for a partial listing.) Also, please bring in a postal stamp for mailing the letters.

**Quiz:** Distribute quiz for Day 3.

**Day 3 – Quiz**

Please briefly respond to the items below. (1 pt. each)

1. Name one way the media uses technology to alter models’ looks.

2. Name one way the internet could be harmful to girls’ feelings about their bodies.

Please circle the correct answer. (1 pt. each)

3. Women’s bodies are often depicted in “pieces” or “parts” in the media.
   
   True   False

4. Photographs of models are usually able to be used immediately. Only in special cases will technology be used to alter the image.
   
   True   False

5. The internet can be a source of reliable information if used wisely and responsibly.
   
   True   False
Please circle the number you feel best represents your experience of today’s presentation.

6. How much did you enjoy the presentation today?
   Not at all  1  2  3  4  5 Very Much

7. How much do you feel you learned from the presentation today?
   Not at all  1  2  3  4  5 Very Much
Media Literacy Intervention Schedule – DAY 4: Change - creating community-based initiatives to change the environment

Introduction:
Today we're going to wrap up our program by focusing on how we as consumers can change the world by influencing the media. While the media may be a multi-billion dollar industry, there are ways to impact the media and the executives that make decisions that affect us all. First, let's talk about your homework assignment, which was to find an advertisement that you think may affect women and girls negatively.

Activity 1: Homework Review (5 min)
Who would like to volunteer to explain the advertisement that they chose? (Volunteers explain selections.)

Activity 2: Letter Writing (20 min) (Activity from QuEST program)
Now what we're going to do is write letters to the advertisers and the companies that produced the ads that you found. If you weren't able to find the address, we'll use the internet to find it. I'll pass around an example letter to help you get started. Make sure to let the company know how you feel about the ad, as well as how it may affect others. (Circulate example.)

Activity 3: Web Site (20 min) (Activity from the Slim Hopes guide)
Now we're going to break into small groups of four to develop our own websites. As a group, I'd like you to think about how you might make your own website about media literacy. This should be designed for grade school girls ages six to ten. Decide what you would include and think about colors and pictures you might include to attract girls and keep them interested. (Divide into groups of three or four to begin working on websites. Participants will outline websites on paper, but then have the option of creating them at home). We won't have time today, but if your group would like to really create your website, I can show you how using free internet site providers.

Activity 4: Summary (5 min)
We've finished the program now, and I've really appreciated all of you time, energy, and attention. Does anyone have any more questions, concerns, or comments that we haven't addressed?

Quiz: Distribute quiz for Day 4.

Day 4 – Quiz

Please briefly respond to the items below. (1 pt. each)

1. Identify resources one can use to find a company's address.
2. Identify one component you might include on a website designed to promote positive body image to young girls.

Please circle the correct answer. (1 pt. each)

3. The About-Face is a website dedicated to addressing the advertising industry’s portrayal of women.

   True   False

4. A letter to a major company about an advertisement has never produced any real result.

   True   False

5. Anyone (with the proper skills) is able to design and publish his or her own website.

   True   False

Please circle the number you feel best represents your experience of today’s presentation.

6. How much did you enjoy the presentation today?

   Not at all   1   2   3   4   5   Very Much

7. How much do you feel you learned or gained from the presentation today?

   Not at all   1   2   3   4   5   Very Much
Appendix I

Media Literacy Follow-up E-mail Content

Week 1
All in all, the average adult American is receiving media messages for 6.43 hours a day. In the US the average person is exposed to 1,600 advertising messages per day.

What other things could we be doing with that time? What kind of impact does media consumption have on individuals?

Week 2
One author reports that at age thirteen, 53% of American girls are "unhappy with their bodies." This grows to 78% by the time girls reach age seventeen (Brumberg, 1997).

Why do you think this is? Do you think the media could be impacting these girls’ feelings?

Week 3
In one study (Sobieraj, 1996), three weeks of Saturday morning toy commercials were analyzed. Results found that:

1. 50% of the commercials aimed at girls spoke about physical attractiveness, while none of the commercials aimed at boys referenced appearance.
2. Boys acted aggressively in 50% of the commercials aimed at them, while none of the girls behaved aggressively.
3. With regard to work roles, no boys had unpaid labor roles, and girls were mainly shown in traditional female jobs or roles of unpaid labor.

What do you think of these results? Do you feel like the media supports traditional gender roles?

Week 4
Have you encountered media content this week (a billboard, a song, a magazine ad, a commercial, etc.) that has made you feel angry or frustrated? Think back on all of the media you’ve seen in the past week, and reflect on how it’s made you feel.

Week 5
Major companies focus on the teen and younger market to build brand familiarity. Branding consists of building a positive impression of a product, linking its name or logo with a positive image or feeling in the mind of the buyer. For instance, by placing successful cartoon characters on a product, companies are able to increase sales whether they are selling breakfast cereal or shampoo. Offering free music downloads, chat rooms, or games on an interactive website snags a child or teen and keeps them coming back. By focusing site design on teens’ and kids’ interests, companies build brand loyalty.
What do you think of branding? How might companies be disregarding the consumers’ best interests? What are the dangers?

**Week 6**
Teen-age girls who viewed commercials depicting women who modeled the unrealistically thin-ideal type of beauty caused adolescent girls to feel less confident, angrier and more dissatisfied with their weight and appearance (Hargreaves, 2002).

How do you feel when you see models who look underweight or unrealistic?

**Week 7**
In movies, body doubles are often used to substitute for "imperfect" female movie stars (such as America’s favorite actress Julia Roberts, in one of America’s favorite movies, *Pretty Woman*). Eighty-five percent of these body doubles have breast implants.

Do you think movie producers should continue to use body doubles? How could this practice be potentially harmful?

**Week 8**
Morality messages have significantly increased in food, weight control and fitness articles and ads over the past 20 years, linking morality to food choices and body weight (such as morality messages alluding to lack of control, laziness and self-indulgence linked to higher weight).

Have you ever felt like you were being judged about the choices you were making about food or exercise?

**Week 9**
Wooley and Wooley (1980) found that girls are more influenced and thus more vulnerable to cultural standards of ideal body images, than boys are.

Is the finding above consistent with your experience? How so?

**Week 10**
Video games and other media sometimes use prostitutes as characters that are targets for the male hero. In a game from the *Duke Nukem* series, prostitutes are forced to strip and are then killed. In the number one selling video game for 2001, *Grand Auto Theft III*, the player can clobber a prostitute with a baseball bat with new technology that makes the game even more realistic.

What are the dangers of presenting women in this way? How does this make you feel?

**Week 11**
Have you encountered something in the media this week (a billboard, a song, a magazine ad, a commercial, etc.) that has made you feel angry or frustrated? Think back on all of the media you’ve seen and how it’s made you feel. What could you do address this?
Week 12
About-face.org founder, Kathy Bruin writes, "We must all choose between battles: One battle is against the cultural ideal, and the other is against ourselves."

What do you think she means by this quote? How does this quote apply or not apply to your life?
Appendix J

Debrief Form

Thank you for your participation in this study. Previous research has indicated that girls and women tend to feel more poorly about their bodies and themselves after consuming media by doing things like reading magazines, watching television, and browsing on the internet where there are stereotyped or distorted images of female beauty. The purpose of this study was to evaluate whether a program designed to minimize those negative feelings about one's body would be effective among high school girls.

Everyone in the study was asked about their feelings and views about their body and the media prior to the intervention. Then some of you were presented with a program based on the principles of media literacy, in which one becomes a more critical consumer of the media. Others learned about the dangers of substance abuse. Then, we asked you to tell us again (a week and 3 months later) about your feelings about your body and the media to evaluate if the media literacy program was effective in reducing body image dissatisfaction and in increasing skepticism about the media.

Your participation in this study is greatly appreciated and will help psychologists discover more ways of addressing the issue of negative body image and eating disorders in the future. If you have any questions or concerns or are interested in the results of this study, you are welcome to talk with Ashley Neu (513-260-7551 or ashleyneu@gmail.com) or Dr. Christian End (513-745-3249). If you feel that you may have a problem with your weight or eating, your guidance department is available, as well as other resources. Please contact Ashley Neu for a list of these. If you would like to learn more about this research topic, we suggest the following references:


THANK YOU AGAIN FOR YOUR PARTICIPATION.
Chapter V: Dissertation

Abstract

The present study examined the effects of a media literacy intervention on the media skepticism and body image of 106 high-school sophomores \( M_{age} = 15.67 \) years at low- and high-risk for an eating disorder. The researcher developed and presented the media literacy program to 62 girls, while 44 girls served as the control group. Results indicated that, although significant decreases were found on all dependent variables, changes could not be attributed solely to the intervention. This study did reveal intervention-specific increases in media skepticism, however. Limited support was found for use of a supplemental e-mail intervention in prolonging intervention effects. Future research should explore how such programs can transcend media skepticism and produce more direct effects on eating disorder risk.
The Influence of a Media Literacy Intervention on Adolescent Girls at Low and High-risk for Eating Disorders

By the end of this decade, 12 times as many girls and young women will have died as a result of eating disorders than from all other causes of death combined (NIMH, 2001). For those who do survive, the emotional, social, financial, and physical toll of these disorders will be staggering. Clearly, intervention is needed to help prevent girls and women from falling victim to these disorders.

Pressures to be thin come in the form of both subtle and overt messages that create an unrealistic cultural standard of beauty, one that has become progressively more unattainable over time (Cash & Henry, 1995). This problem is not confined to adult women, but extends to younger females as well. Ricciardelli and McCabe's (2001) review found that up to 55% of preadolescent girls desire a thinner body. The widespread desire to be thinner is not surprising; a study of high school students revealed that two-thirds of girls believed being thinner would have a significantly positive impact on their lives (Paxton et al., 1991).

Body Dissatisfaction

A number of risk factors have been associated with adolescent girls' dissatisfaction with their bodies. Barker and Galambos (2003) conducted a three-year longitudinal study to identify factors associated with greater risk for low body satisfaction among 12 to 15 year olds. In line with Bronfenbrenner's (1977) ecological system of development, Barker and Galambos found that risk factors existed across various dimensions of the adolescents' lives. Weight, puberty, and maturational timing were established as individual risk factors, whereas teasing and the quality of peer relationships were categorized as social risk factors. Barker and Galambos also
implicated family risk factors in the development of negative body image, specifically poor parental acceptance. At the sociocultural level, other researchers have examined the mass media and its role in increasing risk for body dissatisfaction (Duquin, 1989; Forbes, Adams-Curtis, Rade, & Jaberg, 2001; Rudman & Verdi, 1993; Wiseman, Gray, Mosimann, & Ahrens, 1992).

*Adolescents and Eating Disorders*

Body dissatisfaction has also been found to be positively related to the most lethal of all mental illnesses, eating disorders (Cattarin & Thompson, 1994; Polivy & Herman, 2002; Stice & Shaw, 1994). In fact, researchers often assign body dissatisfaction a fundamental causal role in multidimensional models of eating disorders (Stice, Spangler, & Agras, 2001). Although it is not a sufficient factor, body image disturbance appears to be a necessary factor in the development of eating disorders (Polivy & Herman, 2002).

Physically, the irreparable consequences of eating disorders can be devastating. The experience of amenorrhea, thyroid problems, growth hormone level disturbances, osteoporosis, estrogen deficiency, renal problems, blood dysfunctions, and cardiac abnormalities is common among individuals with eating disorders (Gandour, 1984; Herzog & Copeland, 1985; Mitchell & Crow, 2006). Long-term effects can include electrolyte imbalance, menstrual irregularities, gastric rupture, parotid gland enlargement, enamel erosion, liver dysfunction, esophagitis, disturbed serum amylase levels, and hypokalemia (Herzog & Copeland, 1985; Mitchell & Crow, 2006; Mitchell & Pyle, 1982).

Preventing youth from developing eating disorders is imperative because these disorders become more resistant to intervention over time (Shisslak, Crago, Neal, &
Swain, 1987). Those who have been through treatment frequently experience relapses (Norring & Sohlberg, 1993). With a large percentage of women relapsing into the disorder multiple times over many years, many patients die before they are able to fully recover (Stice & Shaw, 1994). This difficulty in escaping the disorder has made anorexia nervosa the most lethal of all mental illnesses. Among girls and women between 15 and 24 years old, the annual death rate associated with anorexia is more than 12 times higher than the annual death rate due to all other causes combined, falling between 18 and 20 percent (Cavanaugh, 1999).

The Sociocultural Perspective of Eating Disorders and the Mass Media

One proposed factor in the etiology of eating disorder is society's portrayal of the thin ideal. Although there are many sources of influence that promote the thin ideal, the mass media is often considered to be the most powerful in its promotion of this ideal (Smolak & Levine, 1996). A great deal of research has demonstrated the media's role in perpetuating dangerous physical ideals among women.

Correlational studies have demonstrated a relationship between media consumption and body dissatisfaction among adolescents (Anderson, Huston, Schmitt, Linebarger, & Wright, 2001; Harrison, 2001; Levine & Harrison, 2004). In one study, Harrison (2001) examined the media consumed by 366 adolescents and found that exposure to television and magazines which depicted the reinforcement of thin individuals, and the punishment of overweight individuals, was predictive of eating disorder symptomology, especially for older adolescent girls.

While these correlational studies have established a consistently negative relationship between media consumption and body image, experimental studies have
provided a clearer picture of the potential causal relationship between media consumption and body image. Stice and Shaw (1994) exposed 157 undergraduate women to magazine images of female models of either thin or average size, or to no models at all. Self-reported depression, shame, guilt, body dissatisfaction, insecurity, and stress were significantly greater following exposure to thin models than to the other images.

Due to some inconsistencies across studies, Groesz, Murnen, and Levine (2002) conducted a meta-analysis of 25 experimental studies in order to examine the overall effect of media exposure on body image. The authors found that exposure to thin media images was associated with greater negative body image than exposure to average models, plus size models, or inanimate objects. These effects were strongest for those participants younger than 19 years old, indicating the importance of preventing these effects in adolescent populations.

Eating Disorder Prevention Programs

Research has indicated that the prevention of eating disorders is valuable on a number of levels. First, eating disorders take an enormous emotional, physical, and financial toll on victims, loved ones, and even society (Smolak & Levine, 1994; Steiner-Adair, 1994). Further, by the time treatment is effective, the individual has often suffered tremendously. Also, these disorders become more resistant to intervention over time, making early prevention valuable.

An increasing number of interventions with diverse agendas have been implemented over the last 25 years to prevent eating disorders with varying degrees of success. Many of these intervention programs have focused on educating adolescents about the nature of eating disorders. While these programs are frequently effective in
increasing awareness and knowledge, meta-analytical research has indicated they have had less success in altering attitudes and behaviors among this population (Fingeret, Warren, Cepeda-Benito, & Gleaves, 2006). In addition, efforts at decreasing the stigma of eating disorders have the potential to normalize and even glamorize eating disorders, thereby producing iatrogenic effects (Mann, Nolen-Hoeksema, Huang, & Burgard, 1997).

In addition to psychoeducation, cognitive approaches have been incorporated in prevention programs with some success (Green, Scott, Diyankova, Gasser, & Pederson, 2005; Matusek, 2004; Stice, Spangler, & Agras, 2001). Cognitive-based prevention programs often attempt to illicit cognitive dissonance. However, results of dissonance-based prevention programs have not been consistently positive (Green, 2005).

**Media Literacy Prevention Programs**

Media literacy has been established as an effective method of reducing the impact that the media has in many areas, such as alcohol consumption and eating disorders (Austin & Johnson, 1997; Wilksch, Tiggemann, & Wade, 2006; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005). Sometimes referred to as “media education”, media literacy focuses on the critical evaluation of media messages. It thus encourages and enables consumers of the media to become more conscious of and less impacted by media messages.

Media literacy has demonstrated potential for reducing the negative impact of the media on adult female body image (Berel & Irving, 1998). Previous studies have demonstrated the effectiveness of media literacy programs in decreasing weight-related anxiety and the internalization of the thin-ideal and increasing media skepticism for adult women (Coughlin & Kalodner, 2006; Irving & Berel, 2001).
Research has demonstrated that more than one type of media literacy program can achieve positive outcomes. Irving and Berel (2001) compared a single session externally-oriented feminist media literacy intervention, an internally-oriented cognitive media literacy intervention, and a media literacy video intervention. They found that all of these interventions were successful in increasing levels of media skepticism in the participants' beliefs related to realism, similarity, and desirability of characters in the media. Unfortunately, none of the interventions was successful in decreasing participants' negative attitudes about their bodies, which the authors attributed to the brevity of the intervention.

Lengthening the program to two sessions, Coughlin and Kalodner (2006) presented a media literacy program, ARMED, to 45 college women. Following the intervention, the authors compared these women's risk factors for eating disorders to women in a control group. Eight weeks after the intervention, the researchers found that women at high-risk for eating disorders had experienced significant decreases in body dissatisfaction, drive for thinness, feelings of ineffectiveness, and thin-ideal internalization. Conversely, the participants failed to demonstrate decreases in perfectionism, frequency of making physical comparisons, and thin-ideal awareness. The authors believe that assessing pre-intervention risk level was important in allowing them to detect intervention effects that may have gone undetected in previous studies.

Research addressing media literacy's effectiveness with adolescents and body dissatisfaction has been more limited. However, a few studies utilizing these younger populations have demonstrated potential for the efficacy of media literacy (Irving, DuPen & Berel, 1998; Wade, Davidson, & O'Dea, 2002; Wilksch, Tiggemann, & Wade, 2006).
Irving et al. (1998) conducted a peer-administered media literacy program for female high school students. The 24 participants watched and discussed Jean Kilbourne’s film, *Slim Hopes: Advertising and the Obsession with Thinness*, and learned skills for challenging the media. Participants in their intervention group reported less thin-ideal internalization and a lower perception of the realism of media images than 17 participants who did not receive media literacy training.

*Risk Level in Prevention*

Researchers have found that participants’ risk level for eating disorders is an important factor in determining effectiveness of prevention programs. Although infrequently studied, Weiss and Wertheim (2005) addressed the significance of risk level in their prevention program targeting adolescent girls. The authors found that while the intervention did not change low-risk girls’ reported body dissatisfaction or drive for thinness following the intervention, those participants at high-risk reported significant increases in interoceptive awareness and decreases in drive for thinness and body dissatisfaction, post-intervention. The differential effects of a program based on the participants’ risk levels appear to be an important, although frequently overlooked, factor.

*Internet Usage in Prevention Interventions*

While some of the previously researched interventions have been effective, many of the outcomes were short-lived (Wade et al., 2003). When attempting to prolong intervention effects, one avenue to consider is the internet. As the internet has become more prevalent in all areas of our lives, it has also become more widely used in psychological interventions (Ritterband, Gonder-Frederick, Cox, Clifton, West, & Borowitz, 2003). The usefulness of the internet in the implementation of intervention
Media Literacy Intervention

efforts has been well established in recent literature, specifically with regard to smoking cessation, weight loss, and body image (Schneider, Walter, & O'Donnell, 1990; Tate, Wing, & Winett, 2001; Winzelberg, Dev, & Taylor, 2002;).

With respect specifically to eating disorders, the internet is emerging as a valuable tool. Celio et al. (2002) evaluated several variations of a computer assisted health education program designed to prevent eating disorders in 116 undergraduate women. Compliance increased in the iteration that included e-mails. However, due to the fact that multiple factors were manipulated simultaneously, it is impossible to determine if, and the extent to which, the e-mails impacted compliance.

To date, no studies have examined the use of e-mail (without other internet technology components) in aiding intervention efforts. The present study hopes to extend the current research on internet utility by examining e-mail as a tool in increasing the retention and extension of intervention effects. The present study also aims to evaluate if a media literacy intervention for high school girls is effective in producing outcomes related to lowered risk for eating disorders and increased media skepticism and how these outcomes might differ based on the participants level of risk (high vs. low).

Method

Participants

Participants for this study were female sophomores enrolled at a single-sex Catholic high school. Exclusion criteria of the study included more than one absence during the intervention or control presentations and failure to provide student assent and/or parental consent. While 111 adolescents initiated the study, 5 were excluded due
to having more than one absence, resulting in a sample of 106 sophomores. Necessary consent and assent was obtained for all participants.

At the time of the intervention, all participants ($M$ age= 15.67 years; $SD = 4.86$ months) were enrolled in a general health class required of all sophomores. The majority of participants identified themselves as White/Non-Hispanic (see Table 1 for demographic information). No significant differences existed between the participants of different races/ethnicities in regards to the dependent variables (body dissatisfaction, drive for thinness, internalization, and media skepticism).

The data were collected over two semesters. During the fall, students in two of the sections of the health class received the media literacy training ($n = 43$), while students in the other section served as a control group ($n = 25$). During the spring, students in one section of the health course received the media literacy training ($n = 19$) while students in the other section served as the control group ($n = 19$). No significant differences were found between the intervention and control groups at pre-intervention on the dependent variables. An independent-samples $t$ test indicated that differences did exist between the two semesters at pre-intervention on drive for thinness, $t(106) = 2.26, p < .05$, and internalization of the thin ideal, $t(106) = 2.69, p < .05$ (see Table 2).

Measures

*Eating Attitudes Test* (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1983). In order to differentiate between girls at low- and high-risk for an eating disorder, the EAT-26 was used. The EAT-26 is the most widely used standardized measure of eating disorder concerns and symptoms. It is a self-report measure composed of 26 items that asks respondents to indicate how frequently they feel or behave in certain ways that are...
consistent with eating disorder symptomology. The instrument is comprised of three subscales: dieting, bulimia and preoccupation with food, and oral control. Items include, “I particularly avoid food with a high carbohydrate content (bread, rice, potatoes, etc.),” and “I have gone on eating binges where I feel I may not be able to stop.” Participants in this study were asked to indicate how often they experience these feelings and behaviors on a six-item scale from never (1) to always (6), with higher scores indicating greater risk for each subscale. A sum of the items of these subscales was calculated to determine the overall total (coefficient alpha of .77; see Table 3), with higher totals indicating greater risk for an eating disorder. Possible scores on this measure can range from 0 to 78. Normative data gathered from 1,373 high school students indicates a mean score of 11.90 on this measure (Rosen, Silberg, & Gross, 1988).

In addition, the EAT-26 includes four behavioral questions in which respondents are asked to respond yes or no to indicate whether or not they have ever engaged in certain behaviors that put them at risk for an eating disorder, including eating binges, vomiting to control weight, using laxatives, diet pills or diuretics, or being treated for an eating disorder.

Although the EAT-26, like all other self-report measures, cannot be used as the sole diagnostic tool, the instrument can provide a risk level for respondents, and has been used to assess “eating disorder risk” among high school and college-aged women in multiple research studies, defined as scoring above 20 on the instrument or endorsing one or more of the behavioral items (Anstine & Grinenko, 2000; Garner, et al., 1998).

*Sociocultural Attitudes Toward Appearance Questionnaire-3* (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). Awareness and
internalization of societal standards of attractiveness were assessed using the SATAQ-3. Participants were asked to indicate their agreement with statements such as: “I compare my body to the bodies of people who are on TV,” and “I wish I looked like the models in music videos.” Participants indicated agreement with the 30 statements on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The possible range of scores was from 30 to 150. High scores on this overall measure indicated that participants have more internalization of society’s standards and feel more pressure to conform. Among a large sample of college women, the mean total score on this measure was 98.56 (Calogero, Davis, & Thompson, 2004). In this study, scale reliabilities for this measure ranged from .77 to .95.

Eating Disorders Inventory (EDI; Garner, Olmsted, & Polivy, 1983). The EDI is one of the most frequently used measures of behavioral and psychological characteristics common in eating disorders. Although participants provided self report data for the entire EDI, only two of the subscales were analyzed in this study: the body dissatisfaction and drive for thinness subscales. The body dissatisfaction subscale included nine items assessing the belief that certain parts of the body are too large. It consisted of statements such as, “I think my hips are too big,” to which respondents responded with how often they engage in these thoughts on a 6-point scale ranging from never (1) to always (6). The possible range of scores on this scale was from 0 to 27, with normative data indicating a mean score among adolescent girls of 11.30 (Rosen, Silberg, & Gross, 1988). The drive for thinness subscale contained seven items and measured the presence of extreme concern with thinness. This concern can be manifested by dieting or a preoccupation with weight. This subscale included statements like, “If I gain a pound, I
worry that I will keep gaining." Again, participants rated items on a 6-point scale ranging from *never* (1) to *always* (6). The possible range of total scores on this subscale extended from 0 to 21, with normative data indicating a mean score among adolescent girls of 5.6 (Rosen, Silberg, & Gross, 1988). Across administrations of this study, the scale reliabilities ranged from .78 to .89 for the body dissatisfaction subscale and from .78 to .92 for the drive for thinness subscale, respectively.

*Media Attitudes Questionnaire* (MAQ; Irving, DuPen, & Berel, 1998). The MAQ evaluates the participants' media skepticism. The scale assessed skepticism through such statements as, “Most women could be as thin as the models in ads by exercising and/or dieting.” The participants rate their level of agreement with 22 statements on a Likert-type scale from *completely disagree* (1) to *completely agree* (5). The responses for each item were then summed to generate a total score, which could range from 22 to 88. Lower total scores indicated greater skepticism of the media. Scale reliabilities of the MAQ in this study ranged from .81 to .91.

*E-mail Follow-up Survey.* For those who received e-mails following the delivery of the media literacy intervention, a four-question E-mail Follow-up Survey was administered to assess whether the participants read the e-mails, considered the critical thinking questions posed, and perceived the e-mails to be useful.

*Procedure*

This study was approved by the Xavier University Institutional Review Board (IRB) (see Appendix A).

*Pre-intervention.* Prior to the initial meeting with the participants, the researcher obtained parent consent and participant assent for each participant in the study.
each participant completed the SATAQ-3, EDI, and MAQ in order to establish baseline data, and the Demographic Questionnaire and the EAT-26.

The EAT-26 was used to establish risk level for the participants. The original intent was to assign participants to the high-risk group if they scored equal to or greater than 20 on the EAT-26, based on previously established standards. However, due to fewer participants indicating they were at high-risk than was required for statistical power, risk level was established by taking the median score on the EAT-26 ($\bar{x} = 7.00$, $SD = 7.57$) and categorizing participants as being high-risk ($n = 50$) or low-risk ($n = 56$).

**Intervention.** This media literacy intervention was developed based on a cognitive approach. According to Potter (2004), the aim of media literacy cannot be to solely increase knowledge of media messages, but must be to challenge the cognitions embedded by years of mass media socialization. While individuals may have some awareness of media influences, behavior change can only result from challenging and restructuring cognitions concerning the media.

The media literacy program was presented in four consecutive sessions, with each session lasting approximately fifty minutes. The content of the program was based primarily on two sources, with supplemental content created by the researcher in accordance with Potter’s principles. The first of these sources is the Media Literacy portion of the QuEST program, a toolkit developed in 2001 by Sheena’s Place, an organization dedicated to eating disorder treatment and prevention. Activities from the Media Education Foundation’s study guide for Jean Kilbourne’s *Slim Hopes: Advertising and the Obsession with Thinness*, a film routinely used by both educators and researchers, were also incorporated. Following each session, homework was assigned to require the
participant to apply the principles of the work done in the classroom. In addition, participants were asked to take a brief quiz consisting of true-false and short answer questions at the end of each session in order to evaluate the participants’ attention to and understanding of the material.

Each of the four sessions had a focus based on both previous media programs’ structures and Potter’s principles. The first session focused on the topic of “Consciousness Raising” and encouraged discussion of the issue of the media’s impact on female body image. The second session focused on “Competence”, specifically, acquiring the skills necessary to address the issue of the portrayal of women in the media. The third session focused on the premise of “Connection” and that an individual’s center of power, which is needed to overcome the influence of the media, depends on both information and emotion. In the final session, the focus was on “Change”, specifically developing initiatives to change the environment at a more global level.

**Control Group.** The participants in the control group received the same questionnaires as those participants in the media literacy intervention group, and were similarly classified as being at high- or low-risk for an eating disorder. The participants in the control group were assessed pre-intervention and then presented with four days of curriculum concerning substance abuse, specifically discussing the use of tobacco, prescription medication, and marijuana. This curriculum was created in consultation with the participants’ health teacher and was based primarily on content from The National Youth Anti-Drug Media Campaign website.

**Immediate Post-Intervention.** Following the last session, participants completed the SATAQ-3, EDI, and MAQ to assess the immediate impact of the intervention.
E-mail Intervention. After collecting the immediate post-intervention data, the participants in the intervention group were then randomly assigned to an e-mail or no-e-mail group. Once a week for a total of 12 weeks, participants in the e-mail group received an e-mail asking them to reflect on empirically-based information related to media literacy. For example, one e-mail included the fact that a study by Sobieraj (1996) found that 50% of the commercials aimed at girls spoke about physical attractiveness, while none of the commercials aimed at boys referenced appearance. The e-mail also asked the participants to consider the impact of this practice on consumers and offer their own opinion. The purpose of these e-mails was to extend the media literacy curriculum taught through the intervention and to promote the use of critical thinking outside of the classroom via the internet.

Prolonged Post-Intervention and Post-E-mail Follow-up. Twelve weeks after the completion of the media literacy intervention, all participants received a final packet containing the SATAQ-3, EDI, and MAQ. Those participants who received the e-mail intervention also received the E-mail Follow-up Survey. Participants were then fully debriefed.

Results

Differences between Low- and High-Risk Participants at Pre-intervention

The first hypothesis stated that adolescent girls at high-risk for an eating disorder demonstrate higher levels of drive for thinness and body dissatisfaction than those at low-risk at baseline. It was also hypothesized that girls at high-risk demonstrate higher levels of thin-ideal internalization, indicating that they have greater internalized the images of beauty in the media. Last, girls at high-risk were hypothesized to demonstrate less media
skepticism, or doubts about the messages from the media, than those girls at low-risk at baseline. Two multivariate analyses of variance (MANOVAs) were conducted to test these hypotheses, one of which tested those variables related to eating disorder risk (body dissatisfaction and drive for thinness) and the other of which tested media variables (internalization of the thin ideal and media skepticism).

The first MANOVA was used to determine whether or not those at low- and high-risk differed in terms of the eating disorder variables, which included body dissatisfaction and drive for thinness. This test revealed that there were no significant differences between the two groups, Wilks’ $\Lambda = 1.0$, $F(2, 106) = .50$, $p = .61$. High-risk participants ($M = 8.48$, $SD = 6.49$) demonstrated similar levels of body dissatisfaction as low-risk participants ($M = 8.64$, $SD = 7.10$). In addition, those at high-risk ($M = 5.72$, $SD = 4.64$) also demonstrated levels of drive for thinness comparable to those at low-risk ($M = 5.02$, $SD = 5.59$).

The next MANOVA was conducted to evaluate the presence of differences between low- and high-risk participants on the media variables, which included thin-ideal internalization and media skepticism. This MANOVA was significant, Wilks’ $\Lambda = .93$, $F(2, 106) = 3.81$, $p = .025$. Post-hoc independent samples $t$ tests indicated that significant differences did exist between the low-risk and high-risk girls on both thin-ideal internalization, $t(102) = -2.83$, $p < .01$, and media skepticism, $t(102) = -2.63$, $p = .01$.

Participants at high-risk for an eating disorder ($M = 100.13$, $SD = 21.65$) reported significantly greater internalization of the thin ideal, which relates to more positive inner feelings towards the media’s idealization of thinness, than those at low-risk ($M = 88.91$, $SD = 18.75$). High-risk participants ($M = 66.34$, $SD = 13.97$) also reported less media skepticism.
skepticism, or disbelief about the reality of the media, than those at low-risk ($M = 59.81$, $SD = 11.35$).

Post-intervention Differences between Intervention and Control Participants on Eating Disorder Variables

In order to test the second and third hypotheses with regards to the eating disorder variables, which again include body dissatisfaction and drive for thinness, mixed design MANOVAs were conducted using an adjusted significance level of .025. Time (within-participants), intervention (between-participants) and risk level (between-participants) were treated as independent variables in these analyses. The second hypothesis states that, immediately following the intervention and at follow-up, participants in a media literacy intervention demonstrate significantly lower body dissatisfaction and drive for thinness than at baseline. Additionally these levels are significantly lower than those reported by the control group. These differences would be indicated by a significant interaction of time and intervention. The MANOVA revealed a significant interaction effect between time and intervention on the eating disorder variables, Wilks’ $\Lambda = .82$, $F(4, 100) = 5.75, p < .001$ (see Table 4 for all means and standard deviations).

Post hoc paired sample $t$ tests indicated significant reductions in both body dissatisfaction, $t(60) = 3.12, p < .01$ and drive for thinness, $t(59) = 4.03, p < .001$, for participants in the intervention group from pre-intervention to immediate post-intervention, as well as significant decreases in drive for thinness, $t(60) = 4.12, p < .001$, for this group from pre-intervention to prolonged post-intervention. Further, body dissatisfaction significantly increased for those in the intervention from immediate post-intervention to prolonged post-intervention, $t(60) = -2.57, p < .05$. For the control group,
significant decreases in participants’ reports of body dissatisfaction, $t(43) = 2.94, p < .01$, and drive for thinness, $t(43) = 5.01, p < .001$, also occurred between pre-intervention and immediate post-intervention.

The third hypothesis states that immediately following the intervention and at follow-up, participants at high-risk for an eating disorder demonstrate significantly lower body dissatisfaction and drive for thinness than at baseline. In addition, it is hypothesized that the impact of the intervention on those participants at low-risk is minimal. This would be indicated by a significant interaction of time, intervention, and risk level. No interaction was found for time, intervention, and risk level, Wilks’ $\Lambda = .97, F(4.92) = .67, p = .62$. Therefore, this hypothesis was not supported.

Post-intervention Differences between Intervention and Control Participants on Media Variables

With regard to the media variables, the second hypothesis states that, immediately following the intervention and at follow-up, participants in a media literacy intervention demonstrate significantly lower internalization of the thin ideal and significantly greater media skepticism than at baseline. Additionally, levels of internalization are significantly lower and levels of skepticism are significantly higher than the levels reported by participants in the control group. This would be indicated by a significant interaction of time and intervention. The MANOVA revealed a significant interaction effect between time and intervention variables for the media variables (internalization and media skepticism), Wilks’ $\Lambda = .82, F(4, 96) = 5.13, p < .001$. Post hoc paired sample $t$ tests indicated significant reductions internalization of the thin ideal, $t(61) = 2.73, p < .01$, and significant increases in media skepticism, $t(60) = 5.46, p < .001$, for participants in the
intervention group from pre-intervention to immediate post-intervention (See Table 4 for all means and standard deviations). Significant decreases were also reported for internalization in this group from pre-intervention to prolonged post-intervention, $t(61) = 2.76, p < .01$. Last, there was a significant decrease in media skepticism among those in the intervention from immediate post-intervention to prolonged post-intervention, $t(60) = -2.71, p < .01$. No significant differences across time were found for the control group.

With regard to the media variables, the third hypothesis states that immediately following the intervention and at follow-up, participants at high-risk for an eating disorder demonstrate significantly less internalization and greater media skepticism than at baseline. In addition, it is hypothesized that the impact of the intervention on participants at low-risk is minimal. This would be indicated by a significant interaction of time, intervention, and risk level. No interaction was found for intervention, risk level, and time, Wilks’ $\Lambda = .98, F(4.96) = .60, p = .66$. Therefore, the third hypothesis was not supported.

*Differences at Prolonged Post-intervention Based on E-mail*

The fourth hypothesis states that within the intervention group, at follow-up, participants in the e-mail condition demonstrate significantly lower levels of body dissatisfaction, drive for thinness, and internalization, and a significantly greater level of media skepticism than participants in the no-e-mail condition. In order to test this hypothesis, two mixed design MANOVAs were conducted at the .025 significance level, one for each of the two sets of variables (eating disorder variables and media variables) with time, e-mail, and risk level serving as independent variables for those participants in the intervention only.
Results of the MANOVA indicated that there was no significant interaction between time and e-mail for the eating disorder variables, Wilks’ $\Lambda = .96$, $F(4, 50) = .57$, $p = .69$, which therefore disconfirms Hypothesis 4 (see Table 5 for means and standard deviations). Additionally, no significant interaction was found for time, e-mail, and risk level for the eating disorder variables, Wilks’ $\Lambda = .94$, $F(4.50) = .76$, $p = .56$.

With regard to the media variables, there was also no significant interaction between time and e-mail, Wilks’ $\Lambda = .92$, $F(4, 53) = 1.30$, $p = .31$, which also disconfirms Hypothesis 4 (see Table 5). Last, no significant interaction was found for time, e-mail, and risk level for the media variables, Wilks’ $\Lambda = .89$, $F(453) = .165$, $p = .18$.

Please see Appendix B for additional, non-hypotheses related analyses involving the primary dependent variables.

Additional Analyses – Comprehension and Enjoyment of the Intervention

As was stated previously, participants in the intervention group were administered quizzes after each of the four media literacy sessions in order to monitor the participants’ retention of the material, as well as perceived enjoyment and self-reported learning. Considering a perfect score on the quiz is five points, quiz results (see Table 6) indicated that the participants understood the material overall. Mean scores for retention for days one through four of the intervention were 4.28, 4.78, 4.87, and 4.95, respectively. Participants also indicated an overall high level of enjoyment during the intervention, with a range of means from 3.97 to 4.31 (out of 5) across the intervention days. The participants further reported feeling that they had learned a good deal from the
intervention, with a range of means from 4.00 to 4.39 (out of 5) across the intervention days.

*Additional Analyses – E-mail Follow-up Survey Results*

Participants were also asked to evaluate the e-mail intervention on the E-mail Follow-Up Survey. Results of the e-mail survey indicated that the participants reported that the e-mails were somewhat helpful in furthering their knowledge of the presentation material, but many of the e-mails went unread. When asked to indicate how often they read the information in the e-mails, most of the participants reported *sometimes* or *often*. Specifically, the mean number of e-mails the participants reported reading was 6.88 (*SD* = 3.71), out of a total of 12. In addition, the majority of the girls (87.5%) reported *never* answering the critical thinking questions posed in the e-mails. However, when asked to report on their agreement with the statement, “I feel that the e-mails helped further my knowledge of the presentation material,” 93.75% indicated that they at least *somewhat agree.*

**Discussion**

With the connection between the media’s culture of thinness and body dissatisfaction among women and girls well established (Anderson et al., 2001; Harrison, 2001; Levine & Harrison, 2004), researchers are using media literacy as a prevention tool for eating disorders, albeit with mixed results. The goal of the present study was to evaluate the utility of a media literacy intervention in reducing eating disorder risk among adolescent girls, as well as to determine the differential impact of the intervention based on participants’ baseline risk level. A secondary aim of this study was to evaluate
whether a follow-up e-mail intervention could help sustain gains made during the media literacy intervention.

The first hypothesis predicted established differences between girls at high-risk and girls at low-risk for an eating disorder. It is first important to note that risk level was ultimately not determined by using the typical EAT-26 criteria, but instead by using a median split. This lower than expected number of high-risk participants might have been the result of self-presentational concerns on the part of the girls, especially due to the sensitive nature of the subject matter (Petersen & Mitchell, 2005). For establishing risk, utilizing a less transparent measure than the EAT-26, such as an affective scale or figure drawing scale (Goldfarb, Dykens, & Gerrard, 1985; Stunkard, 2000), might be useful in revealing risk in girls otherwise unwilling to disclose this sensitive information.

In terms of the hypothesis, however, results indicated that those at high-risk did demonstrate significantly greater internalization of the thin ideal and significantly less media skepticism at baseline. Results also indicated that high-risk and low-risk girls did not significantly differ on the eating disorder variables of body dissatisfaction and drive for thinness at baseline. It is likely that the manner in which risk level was ultimately determined might account for the lack of significant differences on the eating disorder variables. As a result of the median split, the groups of high- and low-risk participants were more similar than might be expected of groups categorized by the typical criteria. This similarity between high- and low-risk girls should be considered when interpreting the various effects, or lack thereof, of risk level.

However, despite using the alternative categorization method, high-risk girls did demonstrate significantly greater internalization of the thin ideal and less media
skepticism than those at low-risk at baseline. It is possible that these two constructs represent more “socially acceptable” characteristics, as significant media involvement is normative in this population (Huston & Wright, 1997). Those at high-risk may have been more willing to report believing in and internalizing the media’s messages than disliking their own bodies or intending to diet, issues that tend to be more private.

The second hypothesis tested whether the intervention was effective in reducing eating disorder risk factors while increasing media skepticism. Consistent with the hypothesis and intervention goals, the intervention group experienced significant increases in media skepticism immediately following the intervention, and this change was significantly greater than that of the control group. This indicates that the media literacy program specifically was effective in enhancing the participants’ levels of media skepticism, a primary goal of the study.

Results further indicated that the intervention group showed significant decreases in the eating disorder risk factors of body dissatisfaction and drive for thinness immediately following the interventions; however, the control group also demonstrated comparable significant improvements. This suggests that while body dissatisfaction and drive for thinness were in fact lessened, the benefits were not solely generated by the media literacy intervention. Likewise, thin ideal internalization also significantly decreased immediately following the media literacy intervention, but again this decrease was similar to that experienced by the control group.

This study also examined whether the effects of the intervention would be maintained over time. At the prolonged post-intervention assessment period, three months after the intervention, participants demonstrated lasting improvement on several
of the variables. Although internalization increased between the end of the intervention and three-month follow-up, levels of internalization were still significantly less at the three-month follow-up than at baseline for participants in the intervention. In the case of drive for thinness, media literacy participants' drive for thinness was significantly less at prolonged post-intervention than at pre-intervention. However, the differences between the intervention participants' scores on internalization and drive for thinness between pre-intervention and the three-month follow-up were not significantly greater than those of the control group. Thus, again, these effects cannot be solely attributed to the intervention.

Various explanations could account for why the control group, like the intervention group, experienced significant improvement on several variables. One possible cause is the fact that immediately prior to the researcher's presentation, the health courses from which participants were recruited addressed topics correlated to eating disorders and body image; e.g., developing a physical fitness plan to be implemented during the week of the intervention. It is possible that the continued execution of their fitness plans during the week of the intervention and control presentations could have enhanced their body satisfaction and lessened their intent to diet. It is also possible that, as intended, the intervention directly affected the girls in the intervention and unintentionally indirectly affected the girls in the control group. As has been argued elsewhere (Wade, Davidson, O'Dea, 2003), participants in interventions may have discussed the intervention with those in the control group, thereby leading to similar improvement in that group via social contagion. The current study's sample is from a population heavily influenced by peers, who may be especially prone to their peers' opinions on body shape and size, which in turn has been established as an important
factor in subsequent eating attitudes and behavior (Rodin, Striegel-Moore, Silberstein, 1990; Thompson et al., 2006). While the girls were instructed to keep the presented information confidential, there is no guarantee the intervention was not discussed.

It is also possible that the content presented to the control group, a substance abuse lesson, had themes similar to the media literacy intervention, which could account for the lack of significant differences between the two groups with regards to amount of change on body dissatisfaction and drive for thinness. While the lessons were created to be fundamentally different, some related concepts emerged over the course of the week, such as protecting one’s body from harm and the influence of the media. In the future, attempts should be made to include alternative control content that relates less to the media literacy intervention.

Another important finding regarding prolonged effects of the intervention was that the intervention group’s scores on body dissatisfaction returned nearer to baseline levels by the follow-up while the control group maintained their improvement in body dissatisfaction. Despite this trend, it is also important to note that the intervention did not increase general risk for an eating disorder, as some previous authors have discussed as a risk of eating disorder prevention programs (Botta, 1999; Garner, 1985; Mann et al., 1997).

To explain the possible iatrogenic effects of media-based programs, some authors have suggested that, despite being critical of the images generated by the media, adolescents who view these images still experience greater body dissatisfaction and drive for thinness (Botta, 1999; Milkie, 1999). Botta (1999) argues that even if adolescents are critical of media images, the images trigger negative affect and motivate the adolescents...
to pursue those body types. From a similar perspective, Milkie (1999) suggests that girls, particularly those of Caucasian descent, are harmed by media images, despite criticism of these images, because they believe that others find the images important and that others in the local culture evaluate them on the basis of these images. While further investigation of these theories is needed, both suggest possible iatrogenic effects of interventions such as the one presented here. However, the current study saw declines in body dissatisfaction and drive for thinness in the intervention group immediately following the intervention. This may have been a result of the more extensive curriculum in the present intervention, in which the focus was not to simply criticize media images, but to more fully analyze their content and process the thoughts and emotions associated with viewing.

The third hypothesis stated that those at high-risk would benefit more from the intervention than those at low-risk. Contrary to this hypothesis, a significant effect of risk level on the intervention outcomes was not found in this study. These findings differ from those of Weiss and Wertheim (2005) who found that high-risk participants demonstrated greater improvement on body dissatisfaction and drive for thinness. As mentioned earlier, the categorization method used may have limited the potential of finding significant differences in outcome based on risk level. Thus, despite the current study's non-significant findings with regard to risk, other research on the significance of risk level in intervention outcomes (Coughlin & Kalodner, 2006; Weiss & Wertheim, 2005) point to the continued study of this variable.

The last hypothesis related to the use of the e-mail intervention and stated that those in the e-mail group would demonstrate less change between the end of the
intervention and three-month follow-up than those not receiving media literacy e-mails.

This hypothesis was primarily not supported; however, those receiving e-mails did significantly decrease on thin-ideal internalization from post-intervention to follow-up, while the no e-mail group did not. In addition, while the no e-mail group demonstrated a significant loss of the intervention improvements in body dissatisfaction and media skepticism, the e-mail group did not show similar losses. This may indicate some utility for the use of e-mail as a tool for prolonging intervention effectiveness.

There are several reasons why the e-mail intervention may not have been more effective in prolonging the effects of the intervention. First, although the participants indicated that they believed the e-mails were helpful in furthering their knowledge of the presentation material, the girls reported reading only about half of the e-mails sent, on average. In addition, most of the girls (87.5%) chose not to answer the critical thinking questions posed in the e-mails. It is possible that the participants might have derived more benefit from this secondary intervention had they been more actively engaged by the email content (read more of the e-mails and answered more of the questions posed). Perhaps creating more visually appealing emails, and not limiting content to text, may have also been more engaging for the participants. Requiring that the students read the emails, e.g., incorporating them as graded homework assignments, may have also increased the percentage of emails read and the email intervention's effectiveness. It is also possible that the potency of e-mails may not have been strong enough to contend with the large number of influences directed toward adolescent girls with regard to body perception and the media. Further, the e-mails could have gotten "lost" among the large number of e-mails received daily by most individuals.
Although participants in this study demonstrated improvement on the various dependent variables, it was unable to establish unique, intervention-specific improvements in body dissatisfaction, drive for thinness, and internalization. The present study was, however, successful in demonstrating the usefulness of a media literacy intervention in increasing participants' skepticism about the media. This is not surprising, as this was the more direct and explicit goal of the intervention. Returning to Potter's (2004) theory of media literacy upon which this intervention was based, it is possible that the intervention was effective in interrupting the more basic components of the media's process of influence on consumers, but not the more complex components. Namely, the intervention may have disrupted the participants' automatic acceptance of the messages by increasing their knowledge about these messages. Thus, the goals of "consciousness raising" and "competence", the foci of the first two sessions, may have been met. However, the intervention may not have been able to help the participants achieve "connection" and "change", the foci of the second two sessions, which are considered more complex (Potter, 2004). These latter two goals may require more intensive and lengthy intervention than the present study was able to provide (Stice & Shaw, 2004). Additionally, the approach of the intervention was primarily cognitive in nature and may have failed to focus enough on the important affective aspects of these issues. Austin, Pinkleton, and Funabiki (2007) point out that activating affect is an important aspect of media literacy training, and the current intervention may be improved by including more focus on this practice. Future researchers are also encouraged to identify the optimal length of a media literacy program in order to achieve some of these longer-term
outcomes, as well as additional curriculum that may enhance the affective components of such interventions.

Other limitations of the study include the small sample size and relative racial homogeneity of the participants. In addition, this particular sample was taken from a single-sex private school, institutions which some have suggested are correlated with higher rates of disordered eating (Dyer & Tiggemann, 1996). Therefore, this study should be replicated in other school environments in order to increase the generalizability of the findings.

While the current study’s intervention did not produce unique improvements for eating disorder risk factors, participants in the intervention group did experience a unique increase in their media skepticism, thereby demonstrating some utility for implementing programs such as this one. Future research is needed to determine whether the effects of media literacy programs can transcend media skepticism and be effective at reducing eating disorder risk among adolescent girls. In addition, some utility was found for the implementation of a simple e-mail intervention in prolonging intervention effectiveness. Further investigation of the use of e-mail in supplementing eating disorder prevention is recommended as well.
References


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Table 1

Demographic Variables for Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fall</th>
<th>Spring</th>
<th>All Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Non-Hispanic</td>
<td>92.6%</td>
<td>92.1%</td>
<td>92.5%</td>
</tr>
<tr>
<td>Black/Non-Hispanic</td>
<td>4.4%</td>
<td>7.9%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>1.5%</td>
<td>0.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Other</td>
<td>1.5%</td>
<td>0.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>15.54 years</td>
<td>15.91 years</td>
<td>15.67 years</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>4.17 months</td>
<td>4.73 months</td>
<td>4.77 months</td>
</tr>
<tr>
<td>Range</td>
<td>14.92-16.58 years</td>
<td>15.00-16.92 years</td>
<td>14.92-16.92 years</td>
</tr>
<tr>
<td>Risk Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Risk</td>
<td>50.7%</td>
<td>66.3%</td>
<td>52.8%</td>
</tr>
<tr>
<td>High Risk</td>
<td>49.3%</td>
<td>33.3%</td>
<td>47.2%</td>
</tr>
<tr>
<td>Absences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>88.24%</td>
<td>76.32%</td>
<td>84.0%</td>
</tr>
<tr>
<td>1</td>
<td>11.76%</td>
<td>23.68%</td>
<td>16.0%</td>
</tr>
</tbody>
</table>
Table 2

*Pre-Intervention Means and Standard Deviations for Fall and Spring Participants*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Dissatisfaction</td>
<td>9.13(6.73)</td>
<td>7.34(6.99)</td>
</tr>
<tr>
<td>Drive for Thinness</td>
<td>6.13(5.06)*</td>
<td>3.58(5.20)</td>
</tr>
<tr>
<td>Internalization</td>
<td>98.12(22.00)*</td>
<td>85.18(15.93)</td>
</tr>
<tr>
<td>Media Skepticism</td>
<td>63.76(12.96)</td>
<td>60.13(12.97)</td>
</tr>
</tbody>
</table>

* Indicates significant differences between semesters at \( p < .05 \).
Table 3
Scale Reliabilities

<table>
<thead>
<tr>
<th>Scale</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Intervention</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Fall</em></td>
<td></td>
</tr>
<tr>
<td>EAT</td>
<td>.77</td>
</tr>
<tr>
<td>EDI-BD</td>
<td>.84</td>
</tr>
<tr>
<td>EDI-DT</td>
<td>.87</td>
</tr>
<tr>
<td>SATAQ</td>
<td>.95</td>
</tr>
<tr>
<td>MAQ</td>
<td>.84</td>
</tr>
<tr>
<td><em>Spring</em></td>
<td></td>
</tr>
<tr>
<td>EAT</td>
<td>.77</td>
</tr>
<tr>
<td>EDI-BD</td>
<td>.89</td>
</tr>
<tr>
<td>EDI-DT</td>
<td>.92</td>
</tr>
<tr>
<td>SATAQ</td>
<td>.88</td>
</tr>
<tr>
<td>MAQ</td>
<td>.84</td>
</tr>
</tbody>
</table>
### Table 4

**Means and Standard Deviations for the EDI-BD, EDI-DT, SATAQ, and MAQ for Intervention and Control from Time 1 to Time 3**

<table>
<thead>
<tr>
<th>DV</th>
<th>Risk</th>
<th>Intervention Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Dissatisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>8.35(6.16)</td>
<td>5.32(5.21)</td>
<td>9.67(8.87)</td>
</tr>
<tr>
<td>High</td>
<td>10.35(6.06)</td>
<td>5.85(4.61)</td>
<td>4.56(3.69)</td>
</tr>
<tr>
<td>Total</td>
<td>9.05(6.14)</td>
<td>5.51(4.97)</td>
<td>4.85(7.86)</td>
</tr>
<tr>
<td>Dissatisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>4.27(5.31)</td>
<td>1.46(2.05)</td>
<td>5.61(6.19)</td>
</tr>
<tr>
<td>High</td>
<td>6.15(5.27)</td>
<td>2.50(3.66)</td>
<td>5.63(5.27)</td>
</tr>
<tr>
<td>Total</td>
<td>4.93(5.33)</td>
<td>1.82(2.74)</td>
<td>5.62(5.27)</td>
</tr>
<tr>
<td>Drive for Thinness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>4.27(5.31)</td>
<td>1.46(2.05)</td>
<td>5.61(6.19)</td>
</tr>
<tr>
<td>High</td>
<td>6.15(5.27)</td>
<td>2.50(3.66)</td>
<td>5.63(5.27)</td>
</tr>
<tr>
<td>Total</td>
<td>4.93(5.33)</td>
<td>1.82(2.74)</td>
<td>5.62(5.27)</td>
</tr>
<tr>
<td>Internalization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>92.76(16.49)</td>
<td>89.53(12.22)</td>
<td>80.78(21.51)</td>
</tr>
<tr>
<td>High</td>
<td>105.68(17.63)</td>
<td>100.55(11.59)</td>
<td>95.24(23.94)</td>
</tr>
<tr>
<td>Total</td>
<td>97.50(17.90)</td>
<td>93.57(13.04)</td>
<td>89.19(23.81)</td>
</tr>
<tr>
<td>*Media Skepticism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>62.11(9.69)</td>
<td>54.87(11.15)</td>
<td>55.67(13.44)</td>
</tr>
<tr>
<td>High</td>
<td>66.50(13.24)</td>
<td>62.32(14.76)</td>
<td>66.20(14.87)</td>
</tr>
<tr>
<td>Total</td>
<td>63.72(11.22)</td>
<td>57.60(12.99)</td>
<td>61.97(15.07)</td>
</tr>
</tbody>
</table>

*Note. Values indicate means and (standard deviations). Means in the same row and under the same group heading (Intervention or Control) that do not share the same subscript are statistically different at least at $p < .05$. * Lower scores indicate greater skepticism of the media.
### Table 5

**Means and Standard Deviations for the EDI-BD, EDI-DT, SATAQ, and MAQ for E-mail and No E-mail Groups from Time 1 to Time 3**

<table>
<thead>
<tr>
<th>DV</th>
<th>Risk</th>
<th>E-mail Group</th>
<th>No E-mail Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time 1</td>
<td>Time 2</td>
</tr>
<tr>
<td>Body Dissatisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>8.95(6.06)</td>
<td>6.24(5.81)</td>
<td>6.62(5.39)</td>
</tr>
<tr>
<td>High</td>
<td>9.13(8.03)</td>
<td>5.88(4.55)</td>
<td>8.25(4.46)</td>
</tr>
<tr>
<td>Total</td>
<td>9.00(6.51)</td>
<td>6.14(5.41)</td>
<td>7.07(5.13)</td>
</tr>
<tr>
<td>Drive for Thinness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>4.10(5.04)</td>
<td>1.81(2.46)</td>
<td>1.14(2.49)</td>
</tr>
<tr>
<td>High</td>
<td>7.00(6.70)</td>
<td>1.50(1.41)</td>
<td>2.38(3.74)</td>
</tr>
<tr>
<td>Total</td>
<td>4.90(5.58)</td>
<td>1.72(2.20)</td>
<td>1.48(2.87)</td>
</tr>
<tr>
<td>Internalization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>89.65(15.87)</td>
<td>89.91(11.04)</td>
<td>87.22(8.87)</td>
</tr>
<tr>
<td>High</td>
<td>102.56(19.03)</td>
<td>97.56(13.54)</td>
<td>94.89(14.70)</td>
</tr>
<tr>
<td>Total</td>
<td>93.28(17.52)</td>
<td>92.06(12.08)</td>
<td>89.38(11.13)</td>
</tr>
<tr>
<td>*Media Skepticism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>60.39(10.12)</td>
<td>54.74(11.51)</td>
<td>54.52(11.22)</td>
</tr>
<tr>
<td>High</td>
<td>60.00(15.04)</td>
<td>59.11(18.80)</td>
<td>64.00(21.32)</td>
</tr>
<tr>
<td>Total</td>
<td>60.28(11.45)</td>
<td>55.97(13.75)</td>
<td>57.19(15.02)</td>
</tr>
</tbody>
</table>

*Note. Values indicate means and (standard deviations). Means in the same row and under the same group heading (Intervention or Control) that do not share the same subscript are statistically different at least at p < .05. * Lower scores indicate greater skepticism of the media.*
Table 6
Results of Media Literacy Quizzes

<table>
<thead>
<tr>
<th>Day of Intervention</th>
<th>Quiz Score</th>
<th>Enjoyment</th>
<th>Perceived Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>4.28 (.90)</td>
<td>4.02 (.82)</td>
<td>4.03 (.83)</td>
</tr>
<tr>
<td>Day 2</td>
<td>4.78 (.45)</td>
<td>3.97 (.70)</td>
<td>4.00 (.83)</td>
</tr>
<tr>
<td>Day 3</td>
<td>4.87 (.34)</td>
<td>4.31 (.64)</td>
<td>4.39 (.82)</td>
</tr>
<tr>
<td>Day 4</td>
<td>4.95 (.22)</td>
<td>4.03 (.88)</td>
<td>4.02 (1.02)</td>
</tr>
</tbody>
</table>

*Notes:* Table denotes means and (standard deviations). Higher scores indicate greater retention or endorsement.
Appendix A

IRB Approval Letter

September 4, 2007

Ashley Neu, M.A.
2272 Jefferson Ave., Apt. 1
Cincinnati, OH 45212

RE: Protocol #0468-3 The Influence of a Media Literacy Program on Adolescent Girls at Low and High Risk for Eating Disorders

Dear Ms. Neu:

The IRB has reviewed your responses to my letter of August 31 and your revised informed consent and assent documents. You have satisfactorily addressed all of the IRB’s concerns.

Your study is approved in the Expedited Review category. Approval expires 9/4/08. A progress report must be filed with XU’s IRB by the expiration date. The form is enclosed for your convenience and is also available at www.xu.edu/IRB/IRBforms.htm.

If there are any adverse events or modifications to the study, please notify the IRB immediately.

We wish you success with your research!

Sincerely,

Kathleen J. Hart, Ph.D.
Interim Chair

Enclosures: Approval-stamped informed consent forms
Progress Report form
Appendix B

Non-Hypotheses Related Results

*Post-intervention Differences between Intervention and Control Participants on Eating Disorder Variables*

For the body dissatisfaction and drive for thinness variables, results of the MANOVA indicated a main effect of time, Wilks' $\Lambda = .66$, $F(4, 92) = 11.78, p < .001$. Post hoc analyses revealed significant differences in participants' reported levels of body dissatisfaction over time. The participants experienced a significant decrease in body dissatisfaction from pre-intervention ($M = 8.80$, $SD = 6.89$) to immediate post-intervention ($M = 5.07$, $SD = 4.41$), $t(104) = 4.30, p < .001$, as well as from pre-intervention to prolonged post-intervention ($M = 6.36$, $SD = 5.54$), $t(104) = 2.47, p < .025$. However, participants experienced a significant increase in their negative body feelings (body dissatisfaction) from immediate post-intervention to prolonged post-intervention, $t(104) = -2.26, p < .05$. For the drive for thinness variable, participants experienced a significant decrease in their concern about and intent to diet (drive for thinness) from pre-intervention ($M = 5.11$, $SD = 5.21$) to immediate post-intervention ($M = 1.62$, $SD = 2.34$), $t(103) = 6.32, p < .001$, as well as from pre-intervention to prolonged post-intervention ($M = 2.05$, $SD = 3.40$), $t(104) = 5.52, p < .001$.

Results of the MANOVA indicated no main effect of the intervention for the body dissatisfaction and drive for thinness variables, Wilks' $\Lambda = .93$, $F(2, 94) = 3.33, p = .04$. However, intervention participants ($M = 7.47$, $SD = 3.92$) demonstrated significantly greater levels of body dissatisfaction than control participants ($M = 5.83$, $SD = 3.58$) across time, $t(102) = -2.18, p < .05$. No significant differences were found between
intervention \((M = 2.94, SD = 2.89)\) and control participants \((M = 2.93, SD = 1.99)\) on the drive for thinness variable across time, \(t(101) = -.01, p = .99\).

Likewise, no main effect of participant risk was found for the eating disorder variables, Wilks' \(\Lambda = .96, F(2, 94) = 2.15, p = .12\). Post hoc independent samples \(t\) tests indicated that across time, those at high-risk \((M = 7.05, SD = 3.97)\) and low-risk \((M = 6.59, SD = 3.78)\) did not demonstrate significantly different levels of body dissatisfaction, \(t(100) = -.60, p = .55\). However, those at high-risk \((M = 3.50, SD = 2.95)\) demonstrated significantly greater levels of drive for thinness than low-risk participants \((M = 2.43, SD = 2.01)\), \(t(99) = -2.16, p < .05\).

Results of the MANOVA indicated that there was no significant interaction between time and risk level, Wilks' \(\Lambda = .96, F(4, 92) = .86, p = .49\). Likewise, no interaction of intervention and risk level was found, Wilks' \(\Lambda = .96, F(2, 94) = 1.94, p = .15\).

**Post-intervention Differences between Intervention and Control Participants on Media Variables**

For the internalization and media skepticism variables, results of the MANOVA indicated no main effect of time for the media variables, Wilks' \(\Lambda = .94, F(4, 96) = 1.58, p = .19\).

Results of the MANOVA did reveal a main effect of the intervention, Wilks' \(\Lambda = .88, F(2, 98) = 6.56, p < .01\). However, no significant differences were found between intervention \((M = 94.02, SD = 12.39)\) and control participants \((M = 88.39, SD = 17.00)\) across time, \(t(104) = -1.87, p = .05\) on the levels of internalization, or idealization of popular beauty standards. In addition, no significant differences were found between
intervention ($M = 60.60$, $SD = 11.77$) and control participants ($M = 62.95$, $SD = 13.10$) on the media skepticism variable across time, $t(103) = .97, p = .34$.

A main effect for risk was also found, Wilks' $\Lambda = .84$, $F(2, 98) = 9.15, p < .001$, for the internalization and media skepticism variables. Post hoc independent samples $t$ tests indicated that across time, those at high-risk ($M = 96.62$, $SD = 15.64$) demonstrated significantly greater internalization of the thin ideal than those at low risk ($M = 88.15$, $SD = 12.68$), $t(102) = -3.05, p < .05$. High-risk participants ($M = 66.82$, $SD = 13.14$) also demonstrated significantly less media skepticism than those at low-risk ($M = 57.55$, $SD = 9.95$), $t(101) = -4.07, p < .001$.

Results of the MANOVA indicated that there was no significant interaction between time and risk level for the media variables, Wilks' $\Lambda = .91$, $F(4, 96) = 2.26, p = .07$. Likewise, no interaction of intervention and risk level was found, Wilks' $\Lambda = .99$, $F(2, 98) = .73, p = .48$.

Differences at Prolonged Post-intervention Based on E-mail

With regard to the e-mail condition, the first MANOVA conducted for the body dissatisfaction and drive for thinness variables indicated only a main effect for time, Wilks' $\Lambda = .64$, $F(4, 50) = 5.13, p < .001$. From pre-intervention ($M = 8.85$, $SD = 6.10$) to immediate post-intervention ($M = 5.79$, $SD = .66$), participants in the intervention experienced a decrease in body dissatisfaction, indicating more positive feelings about their bodies, $t(60) = 3.12, p < .01$. However, participants experienced a significant increase in their negative body feelings (body dissatisfaction) from immediate post-intervention ($M = 1.98$, $SD = .66$) to prolonged post-intervention ($M = 7.77$, $SD = .69$), $t(60) = -2.57, p < .05$. For the drive for thinness variable, participants experienced a
significant decrease in their concern about and intent to diet from pre-intervention ($M = 4.82, SD = 5.23$) to immediate post-intervention ($M = 1.95, SD = 5.31$), $t(59) = 4.03, p < .001$, as well as from pre-intervention ($M = 4.82, SD = 5.23$) to prolonged post-intervention ($M = 1.98, SD = 3.53$), $t(60) = 4.12, p < .001$.

Results of the analysis indicated no main effect of e-mail for the body dissatisfaction and drive for thinness variables, Wilks' $\Lambda = 1.0, F(2, 52) = .03, p = .97$. Specifically, no significant differences were found between the e-mail group ($M = 7.55, SD = 4.06$) and no e-mail group ($M = 7.39, SD = 3.83$) on levels of body dissatisfaction across time, $t(59) = -.16, p = .88$. Likewise, no significant differences were found between the e-mail group ($M = 2.70; SD = 2.50$) and no-e-mail group ($M = 3.18, SD = 3.28$) on the drive for thinness variable across time, $t(57) = .64, p = .53$.

Likewise, no main effect of risk level was found for the eating disorder variables, Wilks' $\Lambda = .91, F(2, 52) = 2.61, p = .08$. No significant differences were found between those at high-risk ($M = 8.73, SD = 3.41$) and those at low-risk ($M = 6.68, SD = 4.06$), on the body dissatisfaction variable, $t(58) = -2.00, p = .51$. However, post hoc independent samples $t$ tests indicated that across time, those at high-risk ($M = 4.00, SD = 3.74$) demonstrated significantly greater levels of drive for thinness than those at low-risk ($M = 2.26, SD = 2.08$), $t(56) = -2.28, p < .05$.

No significant interaction was found for time and risk level for the eating disorder variables, Wilks' $\Lambda = .88, F(4, 50) = 1.75, p = .15$. The interaction of e-mail and risk level was also not significant, Wilks' $\Lambda = .96, F(2, 52) = 1.26, p = .29$.

The second MANOVA was conducted to examine the effects of time, e-mail, and risk on the internalization and media skepticism variables. This MANOVA revealed a
main effect of time, $\Lambda = .63, F(4, 53), p < .001$. Post hoc pairwise comparisons revealed significant differences in reported levels of internalization in participants from pre-intervention to immediate post-intervention, $t(61) = 2.73, p < .01$, and between pre-intervention and prolonged post-intervention, $t(61) = 2.76, p < .01$. Specifically, from pre-intervention ($M = 96.94, SD = 17.95$) to immediate post-intervention ($M = 92.90, SD = 13.78$), those in the intervention experienced a decrease in their internalization of the media's standard of beauty, as well as from pre-intervention to prolonged post-intervention ($M = 92.23, SD = 9.84$). For the media skepticism variable, participants experienced a significant increase in their skepticism of the media from pre-intervention ($M = 63.49, SD = 11.26$) to immediate post-intervention ($M = 57.02, SD = 13.66$), $t(60) = 5.46, p < .001$, as well as from immediate post-intervention to prolonged post-intervention ($M = 61.28, SD = 14.85$), $t(60) = .271, p < .01$.

No main effect was found for the e-mail intervention for the media variables, Wilks’ $\Lambda = .94, F(2, 55), p = .16$. Specifically, no significant differences were found between the e-mail group ($M = 91.57, SD = 12.90$) and no e-mail group ($M = 96.63, SD = 11.45$) on levels of internalization across time, $t(60) = 1.63, p = .05$. However, those in the e-mail group ($M = 57.81, SD = 12.34$) demonstrated significantly greater levels of media skepticism than those in the no-e-mail group ($M = 63.67, SD = 10.47$), $t(59) = 1.99, p = .05$.

This MANOVA also revealed a main effect of risk level, $\Lambda = .86, F(2, 55) = 5.13, p < .025$. Among the media literacy participants, post hoc independent samples $t$-tests revealed that those participants at low-risk ($M = 90.65, SD = 10.86$) reported significantly less internalization of the thin ideal than those at high-risk ($M = 100.85, SD = 12.87$)

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across time, $t(59) = -3.38, p = .001$. In addition, those at low-risk ($M = 58.18, SD = 9.61$) reported significantly greater skepticism of the media than those at high-risk ($M = 65.39, SD = 13.75$) across time, $t(58) = -2.38, p < .05$.

Additionally, no significant interaction was found for time and risk level for these variables, Wilks’ $\Lambda = .85, F(4, 53) = 2.44, p = .06$ (see Table 4). The interaction of e-mail and risk level was also not significant, Wilks’ $\Lambda = .99, F(2, 55) = .21, p = .81$. 

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