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BUFFERING AGAINST THE NEGATIVE EFFECTS OF BODY IMAGE MEDIA EXPOSURE: A COMPARISON OF SOCIAL PSYCHOLOGICAL INTERVENTIONS

by

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Abstract

Evidence of sociocultural influences on the development and maintenance of body image comes from shifting media trends and cross-cultural differences in the prevalence of eating disorders. Further, previous research has indicated that brief exposure to media portrayals of ideal female attractiveness can have significant affective and cognitive impacts on young women with low levels of dispositional body satisfaction. The current research employed principles elaborated in the literature on social influence and persuasion to develop and test the efficacy of two types of interventions aimed at buffering women against the deleterious effects of brief media exposure. Interventions were provided to 53 female undergraduates in groups of 3 - 9. Thirty-three females formed the control group. In a "social influence" intervention, peer pressure was exerted upon participants to report that the media ought to have a very minor role in determining how people feel about themselves and others by way of a simulated consensus of a homogeneous group reporting the same. In a second type of intervention, participants viewed a psychoeducational video which taught skills for critically appraising body image related messages conveyed through popular media. Participants were exposed to the combined intervention (social influence and persuasive video), the video, or no intervention. Participants then viewed pictures of fashion models depicting the sociocultural standard of female attractiveness. Measures of current mood states and body image taken prior and subsequent to interventions and exposure to images indicated that the interventions did not buffer against the effects of media exposure. In fact, mood actually worsened. Results are discussed in terms in terms of theories of social influence and persuasion. Future directions for research are provided.

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Introduction

Sociocultural Perspectives of Body Image Development

The psychological construct of body image has increasingly received attention in the literature in the past twenty years. Body image is a multidimensional construct incorporating one's perceptions, thoughts, feelings, and actions regarding one's body, especially its appearance (Cash & Pruzinsky, 1990). Perhaps one of the stronger influences on body image development and disturbance are sociocultural factors. Sociocultural perspectives focus on culture-specific ideals, expectations, and experiences as causative agents in the development and maintenance of body image (Heinberg, 1996). Evidence of Western culture's idealization of thinness include media trends and popular beliefs denigrating heavier people.

Media Trends

Contemporary Western societal ideals for body size focus on a degree of thinness that is unattainable for most women. For instance, up to the late 1970s, the Miss America pageant winner weighed 83% of the population average, and weighed significantly less than the average contestant. However, during that same time period, the general population in the United States had gotten heavier (Garner, Garfinkel, Schwartz, & Thompson, 1980). This same study also noted that the average *Playboy* playmate's weight had decreased significantly from 91% of average population weight in 1959 to 84% of average in 1978. An examination of popular women's magazines from 1959 to 1989 demonstrated a trend toward increased slenderness in models and increases in the number of models and advertisements for diet products (Wiseman, Gray, Mosimann, & Ahren, 1992).

Cultural ideals of unattainable female thinness pervade children's popular media as well. An anthropometric study of the body dimensions of Barbie dolls revealed that the likelihood of such a body shape in the general population was less than 1 in 100,000 (Norton, Olds, Olive, & Dank, 1996). It is perhaps not surprising that adolescent girls cite the media's portrayal of the thin ideal as the major contribution to their own felt pressure to be thin (Wertheim, Paxton, Schutz, & Muir, 1997).

Popular Beliefs about Heavier People

Given the value placed on the ideal of thinness and the media's strong ability to propagate this ideal, it is understandable that Western culture has been described as "lipophobic" (Vandereycken, 1993). Crandall (1994) conceptualizes prejudice against heavier people as emerging from symbolic attitudes. These attitudes "are characterized by the expression of beliefs and values relevant to self and identity. Based on early childhood learning, they represent long-standing values about society, are affectively laden, and can be independent of self-interest" (p.882). Crandall suggests that prejudicial beliefs about heavier people are akin to those about American blacks in that they stem from the belief that heavier people don't support the traditional values of hard work, self-contained independence, and self discipline. Prejudice against heavier people is associated with other measures of intolerance such as racism and authoritarianism. Finally, this prejudice is not based on self interest in terms of one's own heaviness. Rather, the prejudice serves to express a value, reinforcing a world view consistent with the belief of a just world.

Disparaging attitudes toward heavier people have been documented in the literature. In

an attitudinal survey questioning people's awareness of societal ideals, the item that heavier people are regarded as unattractive received significant endorsement (Heinberg, Thompson, & Stormer, 1995). A survey of anti-fat attitudes found that respondents believed that heavier people were undisciplined, inactive, unappealing, and were likely to have emotional and psychological problems (Robinson, Bacon, & O'Reilly, 1993). Other findings indicate that people believe that heavier people have different personalities, experience social difficulties, and have low self esteem (Allison, Basile, & Yuker, 1991).

There is also evidence that anti-fat attitudes are expressed at an early age, and can inflict considerable psychological pain. Wertheim et al. (1997) found that 80% of adolescent girls interviewed about body concerns were teased about their weight by their friends and family. Further, there is evidence to suggest that teasing may contribute significantly to the emergence and maintenance of negative body image. Among adults, reports of having been teased during adolescence have been related to adult levels of body image dissatisfaction, eating disturbances, and overall psychological functioning (Thompson, Fabian, Moulton, Dunn, & Altabe, 1991). Among 210 adolescent females aged 10-15 years, teasing history was significantly related to the development of negative body image and eating disturbances (Thompson, Coovert, Richards, Johnson, & Cattarin, 1995).

Effects of Media Exposure

Exposure to the media can produce changes in affective and cognitive states. Nine studies have utilized an exposure paradigm in which participants view either media images of models that depict current ideals of female beauty, or control images with no models. Groups of

participants are then compared on a number of affective and cognitive dimensions. In one such study, 118 female students viewed 20 slides of thin female models taken from fashion magazines or control slides containing no humans (Pinhas, Toner, Ali, Garfinkel, & Stuckless, 1999). Participants' body parts satisfaction and mood states were recorded one week prior to exposure and immediately after exposure using the Body Parts Satisfaction Scale (Berscheid, Walster, & Bohrnstedt, 1973) and the Profile of Mood States (McNair, Lorr, & Droppleman, 1971). Participants exposed to the fashion models reported more anger and depression than participants exposed to the control slides. No between-group differences in body parts satisfaction were reported by the authors, however.

In a study using visual analogue scales to measure body satisfaction, 20 female students viewed five magazine photographs of thin models and five photographs of obese females (Ogden & Mundray, 1996). The thin models were viewed on a different day than the obese models. Dependent measures were completed before and after exposure. Compared to baseline data, participants felt less satisfied with their bodies after viewing the thin pictures and felt more satisfied after viewing the obese pictures.

In another study, female students were exposed to 3 minutes worth of 12 pictures from magazines of ultra-thin models or normal weight models (Stice & Shaw, 1994). Participants who viewed the ultra-thin models reported heightened feelings of depression, unhappiness, shame, guilt, body dissatisfaction, stress, and decreased levels of personal confidence as measured by likert scales. Participants reported no changes in anxiety or affirmation of the thin-ideal stereotype. Further, feelings of guilt, depression, shame, stress, internalization of a thin ideal,

and a lack of confidence were associated with greater levels of bulimic symptomotology among these women.

In another study, 1 minute of exposure to 12 pictures of thin models produced significantly higher levels of private self-consciousness and state anxiety than did exposure to neutral pictures in college women (Kalodner, 1997). A private self-conscious person is concerned with personal beliefs, values, thoughts, and feelings. A public self-conscious person focuses on himself or herself according to the perceptions of others and views oneself as a social stimulus (Fenigstein, Scheier, & Buss, 1975). Unexpectedly, participants in this study who viewed thin model pictures reported higher body competence, a measure of feeling strong and coordinated, than women who viewed neutral pictures. Kalodner's (1997) suggestion that these images were motivating subjects to exercise to achieve an attainable ideal highlights the importance of considering individual differences in the effects of media exposure.

Another study exposed 49 female undergraduates to either fashion or news magazines for 13 minutes (Turner, Hamilton, Jacobs, Angood, & Dwyer, 1997). Results from this study were inconclusive. Comparisons between the different groups on a measure devised for the study revealed inconsistent group differences in terms of body image satisfaction, dieting attitudes and behaviour, and preoccupation with thinness. However, several of the items on this measure questioned respondents about behaviours and attitudes that necessarily pre-dated the experiment. It is therefore impossible to determine the effects of the experimental manipulation. Other results indicated no between-group differences in the selection of their own current body image, their ideal body image, and society's ideal body image on a measure using figure drawings

(Stunkard, Sorensen, & Schulsinger, 1983). Anchoring effects on this measure have been noted however (Gardner, Friedman, & Jackson, 1998a), which may explain the failure to detect group differences. Another concern with this study is that participants were given entire magazines to read, not individual pictures. As the manipulation check only questioned participants as to which magazines they had read of the ones provided, one cannot be certain which images in the magazines were viewed, and for how long, making comparisons between groups difficult.

To summarize thus far, five studies have generally replicated the finding that exposure to media images depicting the current cultural ideal of female beauty, as opposed to control images, leads to more negative affect, increased self-consciousness, and body image dissatisfaction. However, Myers and Biocca (1992) demonstrated that exposure to 26 minutes of ideal image television programs or commercials, as compared to neutral programs or commercials, resulted in significant decreases in several aspects of body size estimations (a sign of improved body image) among 76 female undergraduates. These same programmes and commercials made participants feel less depressed, but had no effect on hostility or anxiety scores as measured by the Multiple Affect Adjective Checklist (Zuckerman & Lubin, 1965). It is important to note that although the findings from this study contradict the findings described above, Myers and Biocca (1992) did not block participants according to dispositional levels of body image dissatisfaction, a point to which we now turn.

Individual Differences

Individual differences have been shown to moderate the effects of exposure to media images. That is, short term exposure to media portrayals of the feminine ideal does not affect all

women in the same manner. These individual differences might explain some of the inconsistent findings related to the effects of media exposure described above. As these studies did not block participants according to baseline levels of body image dissatisfaction, it is difficult to assess whether failure to demonstrate effects of media exposure on some of the measures used in those studies is a reflection of a true null effect or a result of a failure to account for individual differences. Discussed below are findings from studies where groups of participants were formed by blocking according to dispositional measures of body image dissatisfaction prior to the exposure paradigm.

By definition, individuals with eating disorders harbour body image concerns (American Psychiatric Association, 1994). Among eating disordered women, but not a non-clinical comparison group, exposure to images from female fashion magazines resulted in greater body size overestimation than did exposure to neutral images of homes (Hamilton & Waller, 1993).

Heinberg and Thompson (1995) compared reactions to media exposure among individuals with differing levels of dispositional body image disturbance and endorsement of sociocultural attitudes about appearance. Participants with high levels of these dispositions reported feeling significantly more depressed after viewing commercials that epitomized societal ideals of thinness and attractiveness compared to participants with low levels of these dispositions. In addition, those participants with high levels of internalized sociocultural ideals became more angry, and participants with high levels of dispositional body image disturbance became more dissatisfied with their appearance after viewing these same commercials.

Posovac, Posovac, and Posovac (1998) blocked female participants according to body

image dissatisfaction using a cut-off score of six or higher on the body dissatisfaction subscale of the Eating Disorder Inventory-II (Garner, 1991) before exposing them to media images. More weight concern was reported among women who were initially dissatisfied with their bodies following exposure to media images of ideal models compared to dissatisfied women who viewed pictures of automobiles. There was no effect of type of image viewed on weight concern among women who were initially satisfied with their bodies. State weight concern was measured using an adapted version of the Body Esteem Scale (Franzoi & Shields, 1984).

In another study reported by Posovac et al., participants were blocked in the manner described above and were exposed to images from fashion magazines, images of realistically attractive college women, or pictures of new automobiles. In the realistically attractive condition, participants were shown photos of women wearing tight fitting clothing similar to those of models in fashion magazines. The photos of attractive college women were not highly stylized or artificially perfected as is common practice in media publications (Posovac et al., 1998). Dissatisfied women exposed to fashion magazines reported more weight concern than dissatisfied women in both the control (automobile photos) and attractive college women conditions.

Results from the above four experiments demonstrate that blocking participants based on pre-exposure differences in body dissatisfaction is a reliable way to distinguish those who are susceptible to increased weight concern following exposure to ideal media images of feminine beauty from those who are not. Further, these results suggest that it is exposure to manipulated media images rather than images of realistic attractiveness that induces weight concern among

susceptible women. Presumably this is because images of realistic attractiveness are not as discrepant with participants' self-images as are media images (Posovac et al., 1998).

Self-monitoring is another individual difference which appears to distinguish those who are susceptible to media images from those who are not. High self-monitors are characterized by a greater concern with self-presentation and tend to assess social situations and make behavioural shifts according to the perceived demands of the situation. Low self-monitors regulate their behaviour according to internal beliefs and values (Snyder & Gangestad, 1986). Compared to low self-monitors, high self-monitors were more positive about their physical condition when exposed to ideal images in fashion advertisements (Henderson-King & Henderson-King, 1997). This finding suggests that high self-monitors may view fashion advertisements as self relevant and the images as goals to which one might reasonably aspire, rather than as unattainable ideals.

To summarize thus far, evidence has been reviewed to support the assertion that the contemporary ideal of female beauty has sociocultural roots. In Western society, there has been a clear trend toward the ideal female body becoming progressively slimmer. Prejudicial attitudes toward heavier people have been documented through questionnaires and have been conceptualized in a manner similar to racist attitudes. Other evidence shows that these attitudes are expressed from an early age and can have substantial psychological impacts later on. Strikingly, even brief exposure to popular media can have a significant impact on the affective and cognitive states of women who are prone to body image dissatisfaction. An important question to pose is: Can women be buffered from the predictable affective and cognitive effects of brief exposure to media depicting the sociocultural ideal of female attractiveness?

Teaching Skills for Critical Media Consumption

Two studies have examined the efficacy of intervention programs designed to teach skills for critical media consumption. In both studies, one component of the intervention involved participants watching and discussing the same video, "Slim Hopes" (Kilbourne, 1995), that was shown to participants in the current study. "Slim Hopes" teaches media analytic skills by showing viewers, among other things, how images of fashion models are manipulated by the media and how these ideals are unattainable.

In one study, 44 undergraduate women were given a group psychoeducational intervention in which they viewed the video, critiqued fashion advertisements, and conceived alternate, more inclusive advertisements (Rabak-Wagener, Eickoff-Shemek, & Vance-Kelly, 1998). A comparison group of 31 women received no intervention. Compared to baseline, women in the intervention group had weaker beliefs that models in advertising have an ideal body size or shape and that decisions about exercising and dieting should be based more on appearances than health. Women in the comparison group showed no changes.

In a second study, 24 female high school students participated in a peer-led media literacy program designed to provide tools for resisting media pressures to conform to a thin standard of female beauty (Irving, DuPen, & Berel, 1998). The intervention consisted of viewing a 15-minute excerpt of "Slim Hopes" followed by a guided semi-structured discussion about issues raised in the video. Compared to the 17 students who did not receive the intervention, students who received the intervention had less internalized sociocultural ideals of female attractiveness. However, no attempts were made to control for family-wise type I error, even though many of the

dependent measures were significantly correlated with each other. Further, there were no between-group differences on 7 of 9 of the dependent measures. There was no evidence that the interventions had any effect on current mood states as measured by the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), nor was there any effect of intervention on body dissatisfaction as measured by the Body Dissatisfaction subscale of the Eating Disorders Inventory (Garner, 1991).

What is lacking in these two studies is that they did not challenge participants to use the skills taught to them during the course of the intervention. In the present study, participants were first provided with an intervention and then subsequently shown images of thin fashion models. In this manner, it could be determined whether the intervention served to buffer women from the well replicated negative effects of brief exposure to such images. A second difference between the current study and previous intervention studies is that the current study examined the relative efficacy of two routes to attitude change. In discussing each of these two routes below, a theoretical and practical rationale for the interventions used in this study will be developed.

Interventions

The elaboration likelihood model (ELM) of persuasion formed the basis for developing interventions used in the current study. ELM is a theoretical model which suggests that persuasion can occur in one of two different ways, differing in the amount of cognitive elaboration required (Petty & Cacioppo, 1986). In the peripheral route to persuasion, relatively little cognitive effort is required from the person being persuaded. Attitude change is produced as a function of message cues such as attractiveness and social status of the persuader. The

central route, however, requires considerable processing of information contained in the persuasive message. In the current study, participants received 1 of 2 types of interventions. The combined intervention consisted of social influence and a persuasive video. The persuasion intervention consisted only of a video. Participants in the combined intervention were persuaded via the peripheral and central routes. Participants who viewed the video were persuaded only via the central route.

Social Influence Via the Peripheral Route: Background and Practical Issues

In the present study, social influence was exerted upon participants to report that the media ought to have a very minor role in determining how people feel about themselves by way of a simulated consensus of an homogeneous group reporting the same. It was hoped that by using social influence as a peripheral route to encourage rejection of media ideals of attractiveness, participants would be buffered from the affective and cognitive effects of brief exposure to thin fashion models.

An application of Festinger's (1954) and Deutch and Gerard's (1955) theories about the exertion of social pressure provides an account for the acquisition of body image that stresses the importance of social groups in the development, maintenance, and propagation of attitudes and behaviours. Groups exert social pressures on individuals to conform to the attitudes and beliefs held by the group (Crandall, 1988). Conformity describes behaviour which is influenced by a group, resulting in increased congruence between the individual and the group (Allen, 1975). If an individual within the group deviates from group norms, direct communication, withdrawal of social support, or disapproval may be used by the group to restore uniformity. The deviate may

ultimately face rejection if he or she fails to conform (Crandall, 1988).

To understand why groups exert pressure on individuals within that group, it is useful to examine some of the tenets of social comparison theory. Festinger (1954) posited that people have a drive to evaluate their own opinions and abilities in order to obtain an accurate appraisal of the correctness of those opinions and abilities. This drive is considered to serve an adaptive function for the individual because inaccurate appraisals of opinions and abilities can be punishing or even fatal under certain circumstances (Festinger, 1954). Where possible, people will choose objective, physical, non-social means of appraising their opinions and abilities. However, when these means are not available, people will rely on social comparisons to evaluate themselves. In particular, when reality is ambiguous or unstructured, people evaluate themselves by comparisons with others (Festinger, 1954).

Normative social influences are pressures to conform with the positive expectations of another person or persons (Deutch & Gerard, 1955). Positive expectations are "expectations whose fulfilment by another leads to or reinforces positive rather than negative feelings, and whose non-fulfilment leads to the opposite, to alienation rather than solidarity" (p. 629). Conforming to positive expectations leads to feelings of self-esteem or self approval while not conforming leads to guilt or anxiety. Normative social influences can be exerted by another person, a group, or oneself. Normative social influences constitute the morals of a group and motivate action by promising social rewards and punishments (Cialdini, Kallgren, & Reno, 1991). Uniformity in a group is achieved by bringing the deviant in line with the majority, changing the opinion of the majority so that it matches that of the deviant, or rejecting the

deviant (Turner, 1991). The movement of the deviant toward the group or the group toward the deviant is a function of their relative power.

A number of issues affect the power of social influence in group settings. The size of the influencing group affects the degree to which an individual will conform to a unanimous majority. In general, conformity increases with increasing unanimous majorities up to three people and does not increase significantly with larger majorities (Allen, 1975; Asch, 1951; Deutch & Gerard, 1955; Israel, 1964; McKelvey & Kerr, 1988). Others, however, have found different results (e.g., Latane & Wolf, 1981; Tanford & Penrod, 1984). Simulated unanimous majorities of three to nine people were used in the present study.

The relation of the participant to the majority has received attention in the literature. Social impact theory (Latane & Wolf, 1981) predicts that greater conformity will result when there is greater cohesiveness between the participant and the majority. Cohesiveness is a function of personal similarity, personal attraction to other group members, prestige of the group, and the desire to remain part of the group (Allen, 1975; Crandall, 1994; Festinger, 1954).

Several reviews suggest that conformity is greater among homogeneous, cohesive groups than among heterogeneous groups (Allen, 1975; Bond & Smith, 1996). Gender is likely a relevant dimension on which groups may be considered homogeneous and, therefore, greater conformity could be expected among groups of the same sex. Given that normative social influence has been shown to be higher among individuals forming a cohesive and homogenous group than among individuals who do not form a cohesive group (Deutch & Gerard, 1955), the proposed study included women only. Further, homogeneity was simulated for participants in

the combined condition by having them read a statement which lead them to believe that the group they were in was the most homogeneous, in terms of personality traits, that had ever been formed.

The final factor affecting conformity is whether participants expect their responses to remain anonymous or whether they expect their responses to be shared with the rest of the group. Several researchers have found that rates of conformity are greater when participants indicate opinions publicly than anonymously (Asch, 1956; Deutch & Gerard, 1955). As it was the goal of the current study to exert maximal social influence, participants were told that they would be asked to share their responses with the rest of the group.

Persuasion Via the Central Route: Background and Practical Issues

Using the terminology of the ELM, a central route to attitude change involves the use of persuasive messages which require systematic processing of information contained in the message. In the present study, a video ("Slim Hopes") was presented to participants which encouraged a critical analysis of media messages. In an attempt to reduce the impact of media exposure, psychoeducational programs for treating bulimia and anorexia use persuasive messages to alert clients to the role of the mass media in developing and perpetuating unattainable body image ideals (Davis et al., 1992; Davis & Olmsted, 1992; Davis & Phillips, 1996). However, the efficacy of this specific component of psychoeducational programs has not been tested with regard to the its ability to buffer clients from the affective and cognitive effects of brief media exposure described above. The current study aimed to address the following question: Would viewing a video that exposes the media's role in developing and perpetuating unattainable ideals

of female beauty prior to brief media exposure showing those ideals actually serve to buffer women from the predictable affective and cognitive effects of media exposure?

A number of issues have been shown to affect the persuasiveness of messages. To be persuasive, the source of a message must be perceived as having expertise in the field in which he/she is presenting arguments. As well, the communicator must be seen as trustworthy (Alcock, Carment, & Sadava, 1991). In the video presented in the current study, the host of a popular television fashion show speaks about the techniques employed by the media to alter models so as to appear thinner and have less physical imperfections that they actually do. This television host is clearly an expert in the field about which she is talking and is trustworthy in as much as she is divulging information which runs counter to her interests of promoting the fashion industry supporting her show.

Whether or not to present both sides of an argument in a message depends on the situation. If an audience is intelligent, it is better to present the positive and negative sides of an argument and then refute the negative side than to only present the positive side (Hovland et al., 1957). As well, messages presenting the positive and negative sides of arguments are more persuasive when the audience does not have a firm position and when the audience is likely to hear opposing views from other sources (Karlins & Abelson, 1970). In the proposed study, the video's message was balanced in as much as it recognized the appeal of the images portrayed in the media as well describing their harmful effects.

The level of fear aroused by a message affects the degree to which it is persuasive. In general, low to moderate levels of fear result in attitude change whereas messages which arouse a

lot fear may not effect attitude change at all (McGuire, 1968). The parallel response model of fear-based persuasion (Leventhal, 1970) states that people respond to such messages so as to cope with the unpleasant feelings aroused by the message, and to avoid the danger described in the message. Therefore, persuasive messages suggest a course of action to avoid negative consequences, not merely arouse fear. The protection motivation model (Rogers, 1975) states that people will act to protect themselves when four beliefs are held: that the threat is severe; that one is vulnerable in some way; that one can perform the preventative action; and that the action will be effective.

The video used in the current study discussed the dangers of internalizing the ideals of feminine beauty portrayed in the media in terms of the risk for developing an eating disorder, particularly for young women. While the video described the dangers as significant, care was taken not to arouse excessive amounts of fear. Further, the video suggested that viewers can protect themselves from developing an eating disorder, in part, by more critically evaluating media messages. Finally, effective techniques for critical viewing were described.

There is reason to suspect that attitudes about body image and heavy people are amenable to change by presenting persuasive messages using the central route. Crandall (1994) demonstrated that participants who read a two-page persuasive message containing information about weight metabolism and genetics showed less dislike for heavier people than participants who read neutral messages. In this approach, Crandall persuaded participants to change their conclusion about an argument by attacking one of its premises. That is, since obesity is a condition beyond an individual's control, there is no reason to dislike heavier people. Crandall

(1994) suggested that his efforts to reduce the stigma of obesity were more successful than previous ones (Wiese, Wilson, Jones, & Neises, 1992) because he challenged attributions about obesity whereas previous efforts were aimed only at reducing endorsement of the obese stereotype. Crandall argued that it is this difference that reduced participants' social rejection of heavier people in his experiment.

The video used in the current study challenged participants' attributions about why fashion models appear as they do. The video demonstrated that these models' appearance is carefully stylized and manipulated through cosmetics and photographic techniques, and is not a function of natural appearance. In this way, it was hoped that the conclusion that it is realistic to aspire to images of beauty portrayed in the media would be challenged, resulting in a amelioration of predictable cognitive and affective reactions to media exposure.

Rationale for the Proposed Interventions

This study compared three levels of intervention; social influence plus persuasion (combined), persuasion alone (persuasion), and no intervention (control). One might reasonably question the utility of comparing the combined intervention to the persuasion intervention. The rationale for this choice had to do with the group dynamics that naturally occur in clinical settings providing psychoeducational interventions for eating disorders. In such group interventions, program leaders teach clients to consume popular media in an appropriately critical manner. The goal is to provide clients with tools to refute the unrealistic ideals of female beauty portrayed in the media.

Group discussion is often a component of this aspect of intervention. In such discussions,

it often happens that group members begin to publicly voice their disapproval of the way the media portrays female beauty. Several groups members may be vocal in their disapproval while others may initially remain silent. Under these circumstances, social influence to conform to group norms is exerted by vocal members on silent members. Although not explicit, there is likely implicit pressure to conform to the group. This pressure is exerted by virtue of the fact that the group has gained attractiveness and cohesiveness by this point in therapy. As silent group members will likely want to remain in the good favour of the group, they will feel pressure to conform their opinions to those stated by the group. One can see, then, that the combined intervention mirrors naturally occurring group dynamics in psychoeducational interventions for eating disorders. Therefore, it makes sense to test the effectiveness of an intervention encompassing both a psychoeducational video and ecologically valid group dynamics.

Although group dynamics may provide some therapeutic benefit during psychoeducational interventions, it is the teaching of critically analytic skills for media consumption that is presumed to have the most significant impact on clients. It is therefore important to assess the utility of a psychoeducational intervention in the absence of social influence. This is precisely what was tested in the persuasion intervention. It was hoped that comparisons of the two interventions would permit an assessment of the relative utility of social influence and a psychoeducational video for teaching critically analytic skills for media consumption.

A Secondary Purpose of the Present Study

Mason and Chaney (1996) suggested that eating disordered individuals have a conformist

personality style that makes them particularly vulnerable to being affected by sociocultural ideals of thinness. These authors speculate that compared to women without shape and weight concerns, women with those concerns could be characterized as having more social conformity characteristics, or predilections to regulate their behaviour in response to external social stimuli rather than internal values and standards. Others have found that high self-monitoring adolescents responded more to media images of idealized beauty than low self-monitors (Shaw, Waller, & Connor, in preparation). There was no equivalent significant association among adults. However, no data exist presently to test the hypothesis that self-monitoring is associated with general concerns about shape and weight.

The proposed study aimed to test this hypothesis by examining correlations between concerns about shape and weight, attitudes about sociocultural ideals of attractiveness, and self-monitoring. It was anticipated that, compared to low self-monitors, high self-monitors would have greater awareness and internalization of sociocultural ideals of thinness and greater concerns about their own shape and weight.

Hypotheses

The experimental design is shown in Table 1.

Hypothesis 1. It was hypothesized that participants in the combined and persuasion groups would evidence significantly more positive mood and body image than the control group following exposure to the intervention and ideal images at time 2b. It was also hypothesized that the combined group would show significantly more positive mood and positive body image at time 2b compared to the persuasion group. Finally, it was hypothesized that these between-

Table 1

Experimental Design

Time	Intervention groups		
	Social influence and persuasion (combined) (n = 29)	Persuasion alone (persuasion) (n = 24)	No intervention (control) (n = 33)
1 (baseline)			
2a (one week after time 1)			
2b (30 minutes after time 2a)			
3 (one week after time 2b)			

Note. Participants completed dependent measures at all four times. The intervention was provided and ideal images were shown between time 2a and time 2b. Ideal images were also shown prior to time 3.

group differences in mood and body image would remain evident at time 3, again following exposure to ideal images.

Hypothesis 2. It was hypothesized that the control group would report less positive mood and less positive body image following exposure to the ideal images than they had reported prior to exposure. This replicates the findings of eight studies (Hamilton & Waller, 1993; Heinberg & Thompson, 1995; Kalodner, 1997; Ogden & Mundray, 1996; Pinhas et al., 1999; Posovac et al., 1998; Stice & Shaw, 1994; Turner et al., 1997).

Hypothesis 3. It was hypothesized that there would be significant positive correlations between self-monitoring and body image. Specifically, it was hypothesized that high self-monitors would have poorer body image than low self-monitors.

Method

Participants

Eighty-six females were recruited from undergraduate classes in psychology and other academic disciplines. Psychology students had one bonus mark added to their grade for participating in the study. A lottery prize was also offered to participants as an inducement for participation. Participants completed a consent form which gave a brief description of the study (see Appendix A).

Participants were selected from a larger pool of $N = 260$ females on the basis of having elevated Concerns about Shape and Weight scale (CSAW) (Davis, 1996) scores. This was to ensure that participants had some degree of body dissatisfaction prior to exposure to ideal images and interventions. Evidence supporting the importance of this inclusion criterion is presented

above. The present study of n = 86 had a M time 1 CSAW score of 74.2 (SD = 29.9) which represents the highest 38% of the normative distribution on that scale.

Participants in the three intervention groups did not differ significantly in age, weight, height, or body mass index (BMI) (see Table 2). There were no time 1 baseline differences between the intervention groups on any of the dependent measures, dfs (2, 83), ps > .05.

Mood Measures

Visual analogue scales (VAS) for anger, anxiety, stress, depression, shame, sadness, guilt, happiness, and confidence were constructed for the current study (Heinberg & Thompson, 1995; Stice & Shaw, 1994) (see Appendix B). These scales were administered to measure immediate state changes in mood following exposure to images and interventions. The use of these scales required participants to indicate their current intensity of mood for each of the items by marking a slash on a 100 millimetre line. Responses are measured to the nearest millimetre, creating a 100-point scale. Responses ranged from 0 = no to 100 = extreme as suggested by Heinberg and Thompson (1995). Visual analogue scales are intended to be less susceptible to experimental demand. That is, they lessen the likelihood that respondents might simply be answering so as to appear consistent with their earlier responses (Gardner et al., 1998a). As such, visual analogue scales were thought to be more sensitive to the short-term effects of media exposure and accompanying interventions used in the study .

Pilot studies conducted by Heinberg and Thompson (1995) compared several VAS measures to other lengthier measures of affective states in a sample of 48 subjects. The VAS-anxiety measure correlated significantly with the POMS-Tension/Anxiety subscale (McNair et

Table 2

Characteristics of Participants

Variable		Group: Combined (n = 29)	Group: Persuasion (n = 24)	Group: Control (n = 33)	F	p
Age	M	20.4	20.2	21.0	1.44	.24
	(SD)	(1.5)	(1.9)	(2.5)		
Weight (kg)	M	67.4	70.8	70.0	0.45	.64
	(SD)	(15.3)	(16.7)	(9.1)		
Height (m)	M	1.6	1.7	1.6	0.99	.38
	(SD)	(6.2)	(6.1)	(5.5)		
BMI (kg/m^2)	M	25.0	25.5	25.9	0.24	.79
	(SD)	(5.5)	(5.5)	(4.1)		

Note. BMI = body mass index. The three intervention groups were combined (social influence and persuasive video), persuasion (persuasive video alone), and control (no treatment). All significance tests have df's (2, 83).

al., 1971), $r = .60$, $p < .01$. The VAS-anger correlated significantly with the POMS-Anger/Hostility subscale, $r = .53$, $p < .01$. In the current study, VAS-sadness and depression correlated significantly with the Beck Depression Inventory (Beck, Steer, & Garbin, 1988) at time 1 baseline, $r = .48$, $p < .01$ and $r = .54$, $p < .01$, respectively. VAS - confidence correlated significantly with the Rosenberg Self-esteem Scale (Rosenberg, 1979), $r = .65$, $p < .01$.

Body Image

Body-Image Assessment Scale (BIAS; Gardner, Stark, Jackson, & Friedman, 1998b).

This assessment measure is conceptually similar to the Stunkard et al. (1983) body silhouettes in which respondents are asked to indicate which of nine silhouettes with increasing width represent their actual body size and their ideal body size (see Appendix C). Rather than selecting one of nine silhouettes corresponding to their perceptions, the BIAS requires respondents to place a vertical mark at a point between two distorted figures (one very thin, the other very wide), placed 233 millimetres apart. A contiguous line with an intersection in the centre to indicate the average female (62.6 kg., 161.8 cm) connects the two figures. The scale was created by distorting the width of the median American female by +/- 30%. Validity for the BIAS was calculated by the degree of correspondence between the individual's perceived and reported weight, $r(81) = .68$, $p < .0005$ and body mass index, $r(81) = .74$, $p < .0005$. Three week test-retest reliability for perceived weight was high, $r = .89$, $p < .0005$.

A measure of body size discrepancy was calculated by subtracting the ideal body size from perceived body size. A higher discrepancy indicated greater dissatisfaction with body size.

Visual Analogue Scales (VAS) - weight/size dissatisfaction and overall appearance

dissatisfaction. These scales are identical to the ones for mood described above (see Appendix D). Heinberg and Thompson (1995) reported that the two scales correlated significantly with the Eating Disorder Inventory-Body Dissatisfaction subscale (EDI-BD) (Garner, Olmstead, & Polivy, 1983), $r = .66$, $p < .01$ and $r = .76$, $p < .01$ respectively.

Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ: Cusumano & Thompson, 1997). The SATAQ is a 21-item self-report inventory that requires respondents to rate their acceptance of statements on a five-point likert scale ranging from completely agree to completely disagree (see Appendix E). The measure consists of a subscale that quantifies awareness of societal attitudes of thinness and attractiveness (Awareness subscale) and a subscale measuring internalization of these ideals (Internalization subscale). Internal consistency (Cronbach's α) is .83 for the 11-item Awareness subscale and .89 for the 10-item Internalization subscale. The correlation between the two subscales is .34 (Cusumano & Thompson, 1997). Internal consistencies of the subscales in the current study are presented in Table 3.

Affective Reactions to the Media scale (ARM). This scale was created for the purposes of this study and modelled on the SATAQ (see Appendix F). Higher scores indicate stronger negative affective reactions to the media's portrayal of female attractiveness. Two of the 10 items (number 1 and 4) in the original scale were omitted from the final version because they correlated less than .3 with the total scale. Cronbach's α for the final 8-item scale was .92.

Concern about Shape and Weight Scale (CSAW: Davis, 1996). This scale is a 40-item measure of a variety of personal opinions and feelings that an individual holds toward their own body weight and shape (see Appendix G). Individuals are also asked to provide information

Table 3

Internal Consistency of Questionnaire Measures

Measure	Cronbach's α	M	SD
CSAW - Attitude	0.92	35.1	14.2
CSAW - Affect	0.98	39.1	17.5
SATAQ - Internalization	0.90	33.6	8.2
SATAQ - Awareness	0.79	40.6	5.5
ARM	0.92	25.1	7.6
SMS	0.63	9.3	3.1

Note. CSAW = Concerns about Shape and Weight scale; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; ARM = Affective Reactions to the Media Scale. SMS = Self-Monitoring Scale. Ms, SDs, and αs were calculated on time 1 baseline data. n = 86.

regarding gender, age, current, height and weight, and perceived ideal weight. Two subscales within the CSAW assess attitude and affect. The 22-item Attitude subscale reflects the extent to which respondents idealize and value thinness with respect to their overall scheme of self-evaluation. The 18-item affect subscale reflects the extent to which respondents project negative affect onto their own body image. Items are evaluated on a 5-point likert scale ranging from "strongly disagree" to "strongly agree". Higher scores on both subscales represent higher degrees of body image dysfunction in the attitudinal and affective domains. The psychometric properties of the instrument have been evaluated on 445 undergraduate students with a mean age of 22.8 years (SD=5.7); 355 females and 90 males. Two-week test-retest reliability are high; r (65) = .94 and r (65) = .85 for the Affect and Attitude subscales, respectively (ps<.0001). Internal consistency is high. Cronbach's αs for the Affect and Attitude subscales are .94 and .98, respectively. Internal consistencies of the subscales in the current study are presented in Table 6. The subscales are highly intercorrelated, r (360) = .73, p< .0001. Regarding concurrent validity, the Affect subscale correlates r (220) = .84, p < .0001 and r (220) = .70, p < .0001 with the EDI-Body Dissatisfaction subscale and Drive for Thinness subscale. The Attitude subscale of the CSAW correlates r (220) = .66, p < .0001 and r (220) = . 70, p < .0001 with these same two EDI subscales. Further, respondents' discrepancy between current and ideal weight correlates r (134) = .65, p< .0001 with the Affect subscale and r (134) = .41, p< .0001 with the Attitude subscale.

Self-Monitoring

The Self Monitoring Scale (SMS; Snyder & Gangestad, 1986) is an 18-item scale measuring individual levels of self-monitoring (see Appendix H). Evidence of satisfactory

internal consistency (α >.70) have been reported (Snyder & Gangestad, 1986). In the present study, α = .63.

Stimulus Materials

Persuasive video. The video was a 16-minute portion of "Slim Hopes" (Kilbourne, 1995). Using examples of over 120 advertisements from magazines and television, the video offers an analysis of the role that the female body plays in advertising imagery and the resulting negative effects on women's health. Host Jean Kilbourne looks at the vicious circle created by the obsession with thinness juxtaposed with images of food and control and presents a new look at the demoralizing and life threatening eating disorders like anorexia nervosa and bulimia. After the segment hosted by Kilbourne, the video showed a segment in which the host of a contemporary fashion television shows expounds on the dangers of internalizing the ideals of female attractiveness put forth by the media. This latter segment was taken from a psychoeducational program for the treatment of eating disorders (Davis & Phillips, 1996)

Control video. The 16-minute control video consisted of 32 30-second commercials taped from contemporary television. Commercials were for household products and automobiles. They did not contain any images of food or female models.

Social influence intervention. In the social influence intervention, participants were given the following message to read silently:

> "You have been asked to join the group today to accomplish an important task. That task is to have a group discussion about consumer preferences. You remember the volunteer forms you filled out when you came to the lab last time? In the forms, there

were items describing personality characteristics. You indicated those that you prefer in other people, those that you dislike, and those which characterize you. We try to match participants in a group so that their preferences will be met. In the past we have found that this is a very good device for making up a congenial group. In the case of this group, the match is just about as perfect as we could ever hope to get. I can therefore predict that your group will get along extremely well.

In all the questionnaires that we administered, we were able to tell that you only differed from the rest of the group in the relative importance that you feel the media should have in determining how we see ourselves, others, and the products and services we choose. That is, the rest of the group feels that people should pay less attention to the societal values conveyed through the media than you do. As well, the rest of the group selected heavier figures as representing their personal ideal for female attractiveness than you did. If there is sufficient time at the end of today's session, there will be an opportunity to discuss these and other current matters of social importance that help to shape advertising trends. We have found that most people find it very rewarding and educational to participate in this process with like minded people.

For the first part of today's session, it is asked that you record your answers without communicating with other participants. However, you will be asked to share your answers in our discussion at the end of today's session. Thank you for joining our group today."

Control for social influence intervention. In the control for social influence condition,

participants were given the following message to read silently:

"You have been asked to participate in an investigation of the effects of lifestyle, personality and self-image on preferences for consumer products. For this first session it is asked that you record your answers without communicating with other participants. Thank you for joining our group today."

The control for social influence described the ostensible purpose of the study in the same manner as was described in the social influence condition. However, the control condition differed from the social influence condition in that it did not give the impression that the group was cohesive, that there were any differences in group opinions, or that answers provided would be shared with other group members.

Ideal body images. Stimuli consisted of 34 still pictures of professional models taken from fashion magazines such as *Vogue, Glamour,* and *Cosmopolitan.* The pictures contained no images other than the models and contained no text. Each picture was presented on a 27-inch television screen for 20 seconds. Thus, participants were exposed to these images for a total of 12 minutes. A pilot study ($n = 5$) indicated that the models in the pictures were considered very typical of the thin ideal currently portrayed in the media ($M = 8.3$, $SD = 0.6$), and very attractive ($M = 7.5$, $SD = 0.7$). In the pilot study, a score of 1 indicated that the model was not at all typical or attractive and a score of 10 indicated that the model was extremely typical or attractive.

Procedure

An initial screening session (time 1) was conducted on $N = 260$ females in which all dependent measures were completed by the current ($n = 86$) participants. In addition,

participants were asked to list characteristics which they liked and disliked in others and characteristics of themselves (see Appendix I). The purpose of eliciting this information was to make the social influence ruse more credible with regard to how the groups were formed.

At time 2a, 1 - 2 weeks (M = 12.4 days, SD = 11.4) after time 1, participants returned to the lab in pre-arranged groups of three to nine which were randomly assigned with respect to experimental condition. Participants were introduced to the experiment verbally by the experimenter who described the study as an investigation of the effects of lifestyle, personality, and self-image on consumer preferences for products such as new homes, clothing, and automobiles (Posovac et al., 1998). Participants were then asked to complete a few preliminary measures before beginning the study proper. Participants were told the reason for taking these measures was to gain additional information about their self-image. At this time, participants completed visual analogue scales for anger, anxiety, stress, depression, shame, sadness, guilt, happiness, confidence, weight/size dissatisfaction, overall appearance dissatisfaction, and the BIAS. Participants were asked not to communicate with each other while completing these questionnaires.

Immediately following the administration of the measures at time 2a, participants completed a consumer preferences questionnaire which asked a series of questions such as, "Do you shop more at department stores than discount retail stores?" (See Appendix J). The purpose of the questionnaire was to distract attention from the true purpose of the study and to interfere with any body image priming that may have been induced through the administration of measures at time 2a.

In all experimental conditions, participants were then presented with one of the three conditions of intervention (combined, persuasion, or control), followed by exposure to ideal body images. To enhance the credibility the experimental situation and to increase processing of the images presented in the slides, participants completed a simple checklist where they were asked to indicate whether or not they liked the product presented in each slide and whether or not they would buy the product if they saw it in a store (see Appendix K).

Participants completed all the dependent measures immediately following the presentation of the slides (time 2b). As a rationale for completing measures at time 2b, participants were told that, "Sometimes watching television affects the way people feel. We are interested to know how you feel right now."

Participants were then given a sealed package which they were instructed not to open until 1 week had passed (time 3). Participants were told that the package contained additional measures that needed to be completed to assess the stability of consumer preferences. In the package were black and white reproductions of the images presented previously as well as all the dependent measures. Instructions contained in the package requested that participants spend 20 seconds viewing each image, and only after all images had been viewed should they complete the rest of the questionnaires contained in the package. The purpose of repeating the administration of measures at time 3 was to assess the durability of any changes resulting from the interventions. The mean delay between time 2b and time 3 was 8.4 days ($\underline{SD} = 4.4$).

Included in the time 3 package was a suspicion check. Participants were asked, in a free response format, what they thought was the true purpose of the study (see Appendix L). Six

participants (7%) guessed the true purpose of the study. As those who were aware were evenly distributed between the persuasion and control conditions, all participants' measures were retained for the analyses. Finally, participants were instructed to return the completed time 3 package of measures to the office of the experimenter at pre-arranged times. When they returned the package, they were debriefed and all questions about the study were answered truthfully.

Results

Data Screening

All data were screened for accuracy of data entry, missing items, normality of distributions, and outliers. Occasionally missing items were replaced with item Ms for the entire sample. There was no evidence that data were missing in any systematic way according to group or particular measure. Two participants in the persuasion group and two participants in the control group did not complete any of the dependent measures at time 3. For these participants, missing scale scores were replaced by scale Ms for the entire sample.

Dependent measures were examined for normality. Several measures were found to be positively skewed, skewness/SE > 5. A square root transformation was applied to meet the normality assumption for ANOVA as suggested by Tabachnik and Fidell (1996). These VAS measures were anger, anxiety, depression, shame, sadness, and guilt. They were transformed for each testing time (ie., 1, 2a, 2b, 3). The resulting transformed variables had normal distributions.

Outliers were examined using SPSS Explore. Several measures were found to contain outliers. There was no evidence that outliers were distributed in any systematic manner within

particular intervention groups. To reduce their influence, all outliers were assigned a score one unit larger (or smaller) than the most extreme score in the intervention group to which they belonged as suggested by Tabachnik and Fidell (1996).

Analytic Strategy

A 3 (between) x 4 (within) mixed analysis of variance (ANOVA) was used to analyze the data. The between-subjects variable of group contained three levels; combined, persuasion, and control. The within-subjects variable of time contained four levels; 1, 2a, 2b, and 3.

There were three families of conceptually related dependent measures. The first family was visual analogue scales for mood (VAS - mood) that included anger, anxiety, stress, depression, shame, sadness, guilt, happiness, and confidence. The second family of measures was VAS - body image and included body size discrepancy, weight/size dissatisfaction, and overall appearance dissatisfaction. The third family of measures was body image questionnaires and included Attitude and Affect subscales of the CSAW, Internalization and Awareness subscales of the SATAQ, and the ARM.

Multivariate analysis of variance (MANOVA) was employed to examine omnibus main effects and interaction terms among the dependent measures within each of the three families. Where multivariate tests proved significant, subsequent univariate analysis of variance (ANOVA) was used to examine main effects and interactions of individual dependent measures within families. For multiple, simultaneously conducted univariate tests, family-wise error was maintained at $\alpha = .05$ by employing a Bonferroni correction. The per comparison error rate was set at α divided by the number of tests conducted.

To facilitate interpretation of the results, it is useful to recall how mood and body image were measured in this study. Positive mood is demonstrated by lower scores on the VAS scales for negative mood (anger, anxiety, stress, depression, shame, sadness, and guilt) and higher scores on the positive mood scales (happiness and confidence). Positive body image is demonstrated by lower scores on VAS-body size discrepancy, VAS-weight/size dissatisfaction, VAS-overall appearance dissatisfaction, by lower scores on each of the subscales of the CSAW and SATAQ, and by lower scores on the ARM.

Hypothesis 1

It was hypothesized that there would be a significant Group x Time interaction for each of the three families of dependent measures. Compared to time 1 and 2a participants at time 2b in the combined and persuasion groups were expected to report more positive mood and body image than the control group. It was also hypothesized that the combined group would show significantly more positive mood and positive body image at time 2b compared to the persuasion group. Finally, it was hypothesized that these between-group differences in mood and body image would remain evident at time 3.

Hypothesis 1 was not borne out in the results. The MANOVA revealed that the Group x Time interaction terms were not statistically significant for VAS - mood, Wilks' $\lambda = 0.39$, $F(54, 114) = 1.28$, $p = .14$, VAS - body image, Wilks' $\lambda = 0.82$, $F(18, 150) = 0.86$, $p = .62$, or body image questionnaires, Wilks' $\lambda = 0.79$, $F(20, 148) = 0.92$, $p = .56$. There was no evidence that participants in the two intervention groups differed significantly either from each other or from the control group on the dependent measures at time 2b compared to times 1 or 2a. Further, there

was no evidence that any of the groups differed from each other on the dependent measures at time 3. Group Ms, SDs, and univariate tests of main effect and interaction terms are displayed in Tables 4, 5, and 6.

Hypothesis 2

It was hypothesized that there would be a main effect of time for the control group on the dependent measures. Specifically, it was hypothesized that the control group would report less positive mood and less positive body image following exposure to the ideal images than they had reported prior to exposure. Recall that participants completed VAS - mood and VAS - body image measures just before (time 2a) and immediately after (time 2b and time 3) viewing pictures of thin fashion models. Body image questionnaires were completed at time 1 and 2b, but not at time 2a. Therefore, the most relevant comparisons for examining an effect of time are time 2a versus 2b for VAS - mood and for VAS - body image, and time 1 versus 2b for body image questionnaires.

The MANOVA revealed no effect of group on the three families of dependent measures, VAS - mood, Wilks' $\lambda = 0.75$, $F(18, 150) = 1.27$, $p = .22$, VAS - body image, Wilks' $\lambda = 0.97$, $F(6, 162) = 0.38$, $p = .89$, or body image questionnaires, Wilks' $\lambda = 0.91$, $F(10, 158) = 0.73$, $p = .70$. The MANOVA did reveal a significant main effect of time for the family of VAS - mood measures, Wilks' $\lambda = 0.35$, $F(27, 57) = 3.95$, p ,$<.001$. With α set at .006 (.05/9), univariate F tests revealed significant effects of time for shame, happiness, and confidence. All other VAS - mood univariate tests were not significant (see Table 4).

Transformed M VAS - shame scores for the entire sample at different testing times are shown in Figure 1. Post-hoc paired sample t tests revealed that participants reported feeling

Table 4

Significance Tests for Effects of Group and Time Independent Variables on VAS - Mood Dependent Measures

							Test of effects					
			Time				Group		Time		Group x Time	
Measure	Group		1	2a	2b	3	F (2, 83)	p	F (3, 249)	p	F (6, 249)	p
Anger	Combined	M (SD)	11.8 (14.7)	12.4 (15.7)	15.2 (16.3)	12.6 (18.0)	0.16	.853	0.72	.541	1.93	.076
	Persuasion	M (SD)	11.7 (16.9)	7.5 (8.3)	13.1 (18.6)	12.6 (12.9)						
	Control	M (SD)	14.1 (19.0)	13.4 (17.4)	10.9 (15.0)	15.9 (16.6)						
Anxiety	Combined	M (SD)	32.0 (28.6)	26.4 (27.4)	25.8 (27.0)	22.0 (22.5)	0.45	.639	3.11	.027	1.10	.364
	Persuasion	M (SD)	23.7 (24.5)	21.9 (20.4)	23.4 (23.7)	21.0 (21.9)						
	Control	M (SD)	26.5 (21.7)	18.0 (18.8)	14.6 (14.9)	20.0 (21.5)						
Stress	Combined	M (SD)	43.0 (25.4)	40.9 (30.4)	38.2 (29.0)	33.5 (25.3)	0.62	.539	3.25	.023	0.98	.441
	Persuasion	M (SD)	36.8 (24.4)	34.9 (25.2)	31.5 (27.6)	32.0 (23.5)						
	Control	M (SD)	39.2 (25.4)	31.8 (26.1)	26.9 (23.8)	35 (23.9)						

Table 4 (cont'd)

			Time				Test of effects					
							Group		Time		Group x Time	
Measure	Group		1	2a	2b	3	F (2, 83)	p	F (3, 249)	p	F (6, 249)	p
Depression	Combined	M (SD)	17.2 (19.8)	20.8 (22.5)	21.7 (24.2)	16.1 (16.8)	1.02	.367	1.23	.301	1.38	.221
	Persuasion	M (SD)	14.0 (16.9)	8.1 (10.9)	15.6 (20.6)	11.1 (12.2)						
	Control	M (SD)	18.4 (22.8)	14.4 (19.4)	13.3 (14.3)	13.5 (15.6)						
Shame	Combined	M (SD)	7.1 (12.1)	10.4 (14.3)	15.8 (21.8)	8.1 (10.5)	.17	.846	4.58	.004	1.62	.141
	Persuasion	M (SD)	7.7 (12.5)	7.3 (11.2)	12.2 (17.0)	9.9 (12.3)						
	Control	M (SD)	10.5 (17.7)	6.8 (10.0)	7.6 (9.3)	9.5 (14.3)						
Sadness	Combined	M (SD)	16.3 (19.3)	16.1 (20.4)	18.7 (19.3)	12.1 (16.4)	.41	.667	2.27	.081	1.80	.099
	Persuasion	M (SD)	17.1 (20.7)	7.4 (9.6)	17.7 (20.0)	12.5 (14.4)						
	Control	M (SD)	17.7 (22.4)	16.4 (21.6)	16.0 (17.8)	19.4 (20.7)						

Table 4 (cont'd)

			Time				Test of effects					
							Group		Time		Group x Time	
Measure	Group		1	2a	2b	3	F (2, 83)	p	F (3, 249)	p	F (6, 249)	p
Guilt	Combined	M (SD)	11.8 (17.9)	11.8 (18.6)	14.1 (15.0)	11.0 (16.1)	.60	.550	1.24	.296	1.87	.087
	Persuasion	M (SD)	11.1 (15.9)	11.4 (16.8)	12.9 (18.9)	8.7 (10.3)						
	Control	M (SD)	13.3 (20.4)	8.9 (16.1)	8.7 (16.2)	8.4 (14.6)						
Happiness	Combined	M (SD)	58.3 (17.0)	50.8 (20.8)	43.1 (18.2)	46.1 (25.3)	.50	.609	13.50	<.001	.60	.730
	Persuasion	M (SD)	60.4 (18.0)	54.2 (16.5)	46.6 (25.3)	56.4 (19.8)						
	Control	M (SD)	61 (21.6)	50.8 (23.7)	46.7 (23.6)	48.8 (26.0)						
Confidence	Combined	M (SD)	49.1 (22.3)	43.9 (21.8)	37.8 (19.5)	36.8 (24.1)	4.44	.015	11.69	<.001	1.20	.306
	Persuasion	M (SD)	58.5 (17.4)	53.8 (18.5)	45.8 (20.8)	56.7 (19.0)						
	Control	M (SD)	59.4 (21.4)	54.3 (19.4)	48.4 (20.9)	53.3 (21.6)						

Note. VAS = visual analogue scale.

Table 5

Significance Tests for Effects of Group and Time Independent Variables on VAS - Body Image Dependent Measures

							Test of effects					
			Time				Group		Time		Group x Time	
Measure	Group		1	2a	2b	3	F (2, 83)	p	F (3, 249)	p	F (6, 249)	p
Body size discrepancy (actual - ideal)	Combined	M (SD)	48.0 (45.0)	48.0 (41.9)	49.4 (47.3)	51.7 (42.2)	.685	.507	3.58	.014	.88	.508
	Persuasion	M (SD)	67.5 (49.4)	55.5 (47.5)	59.1 (59.5)	65.2 (42.6)						
	Control	M (SD)	50.5 (47.0)	41.3 (45.0)	51.0 (43.7)	57.4 (47.7)						
Weight/size dissatisfaction	Combined	M (SD)	52.9 (28.2)	46.5 (28.5)	48.1 (30.6)	46.3 (28.2)	0.16	.849	6.27	<.001	0.39	.883
	Persuasion	M (SD)	55.0 (28.2)	49.2 (28.9)	55.4 (27.2)	45.7 (30.2)						
	Control	M (SD)	52.6 (31.2)	45.1 (26.9)	49.1 (29.3)	42.8 (27.8)						
Overall appearance dissatisfaction	Combined	M (SD)	45.9 (28.3)	37.8 (28.9)	39.9 (26.0)	34.3 (27.9)	.04	.962	4.01	.008	1.50	.178
	Persuasion	M (SD)	35.6 (23.1)	40.2 (24.2)	45.2 (26.7)	36.4 (25.6)						
	Control	M (SD)	40.4 (26.7)	35.7 (23.6)	41.9 (29.1)	34.0 (25.0)						

Note. VAS = visual analogue scale.

Table 6

Significance Tests for Effects of Group and Time Independent Variables on Body Image Questionnaires

						Test of effects					
			Time			Group		Time		Group x Time	
Measure	Group		1	2	3	F (2, 83)	p	F (2, 166)	p	F (4, 166)	p
CSAW - Attitude	Combined	M (SD)	34.9 (13.5)	32.5 (12.3)	30.7 (13.8)	.01	.99	9.64	<.001	.32	.866
	Persuasion	M (SD)	35.4 (15.3)	32.4 (15.6)	31.4 (14.7)						
	Control	M (SD)	35.0 (14.6)	32.2 (12.5)	32.4 (12.8)						
CSAW- Affect	Combined	M (SD)	39.7 (17.3)	38.9 (18.1)	37.7 (17.1)	.20	.820	9.77	<.001	.72	.579
	Persuasion	M (SD)	40.6 (16.9)	38.3 (16.7)	35.5 (17.1)						
	Control	M (SD)	37.4 (18.6)	36.7 (16.5)	34.3 (18.3)						
SATAQ - Internalization	Combined	M (SD)	34.7 (7.8)	32.7 (8.0)	32.5 (9.1)	.73	.483	7.92	.001	1.20	.311
	Persuasion	M (SD)	34.4 (8.6)	32.4 (8.0)	33.4 (6.4)						
	Control	M (SD)	32.0 (8.3)	31.5 (6.7)	30.5 (7.3)						

Table 6 (cont'd)

						Test of effects					
			Time			Group		Time		Group x Time	
Measure	Group		1	2	3	F (2, 83)	p	F (2, 66)	p	F (4, 166)	p
SATAQ -Awareness	Combined	M	40.6	40.2	40.5	.06	.944	2.56	.080	.58	.674
		(SD)	(5.7)	(5.5)	(6.3)						
	Persuasion	M	40.3	39.8	39.9						
		(SD)	(5.0)	(5.7)	(4.0)						
	Control	M	40.9	39.3	40.0						
		(SD)	(5.9)	(5.3)	(5.7)						
ARM	Combined	M	21.6	20.6	20.1	1.47	.236	8.28	<.001	.51	.727
		(SD)	(7.9)	(7.5)	(7.7)						
	Persuasion	M	22.3	21.1	19.2						
		(SD)	(6.4)	(5.7)	(8.1)						
	Control	M	19.8	17.8	16.9						
		(SD)	(8.0)	(7.5)	(8.7)						

Note. CSAW = Concerns about Shape and Weight scale; SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire; ARM = Affective Reactions to the Media.

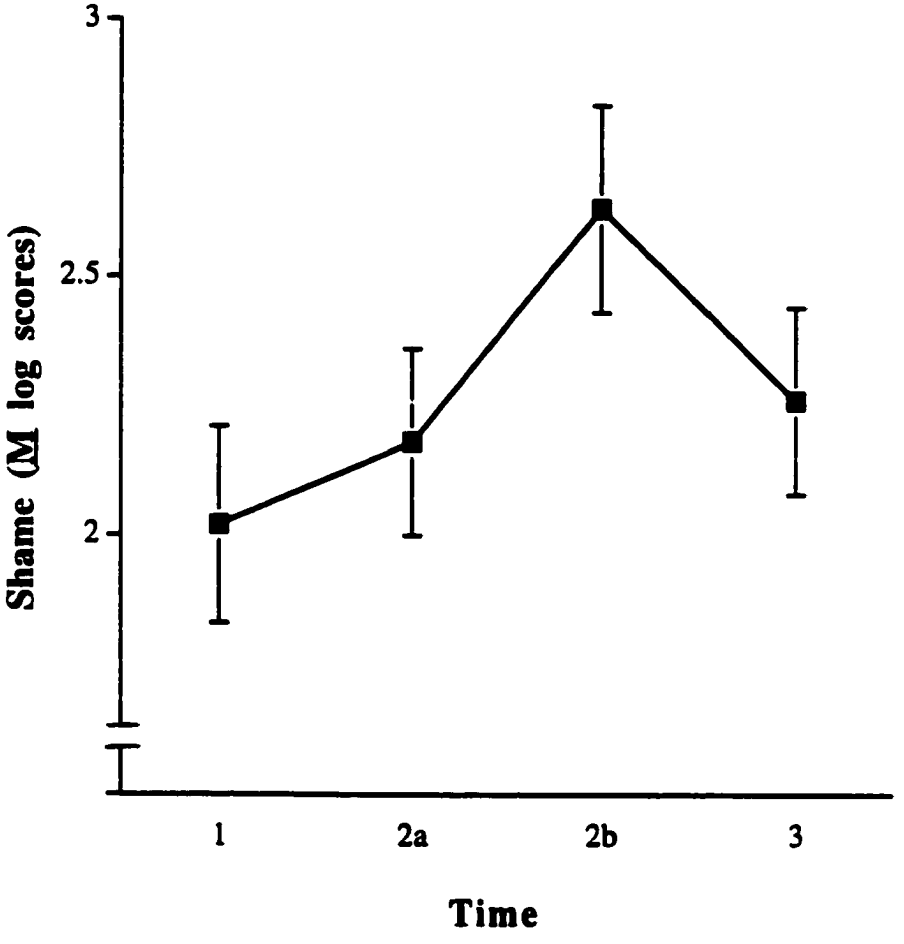

Figure 1. VAS - shame scores for the entire sample (n = 86) plotted as a function of time. Ms were calculated using the square root of VAS - shame raw scores. Vertical lines depict standard errors of the means.

significantly more shame at time 2b than at any other time (dfs = 85, ps < .03). Mean VAS happiness and confidence scores for the entire sample are shown in Figures 2 and 3. Post-hoc paired sample t tests revealed that participants reported feeling less happiness at time 2b than at either time 1 or 2a (df's = 85, ps < .001). Participants also felt less confident at time 2b than at any other time (df's = 85, ps < .025).

The MANOVA revealed a significant main effect of time for the family of VAS - body image measures, Wilks' $\lambda = 0.73$, $F(9, 75) = 3.04$, $p = .004$. With α set at .017 (.05/3), univariate F tests revealed significant effects of time for all three dependent measures within that family (see Table 5).

Mean body size discrepancy scores for the entire sample at different testing times are shown in Figure 4. Discrepancy scores were calculated by subtracting participants' reported ideal body size from their reported actual body size on the BIAS. Higher scores indicate greater body size dissatisfaction. Post-hoc paired sample t tests showed that participants reported significantly greater discrepancy at time 2b than at time 2a, $t(85) = 2.54$, $p = .013$.

Means for VAS - weight/size dissatisfaction and overall appearance dissatisfaction are shown in Figure 5. Post-hoc paired sample t tests demonstrated that weight/size dissatisfaction scores were significantly lower at time 3 than at time 1 ($df = 85$, $p < .001$). There were no significant differences between times 2a and 2b. However, t tests did reveal that overall appearance dissatisfaction scores were significantly higher at time 2b than at time 2a, $t(85) = 2.34$, $p = .022$.

The MANOVA revealed a significant main effect of time for the family of body image questionnaires, Wilks' $\lambda = 0.73$, $F(10, 74) = 2.72$, $p = .007$. With α set at .01 (.05/5), univariate

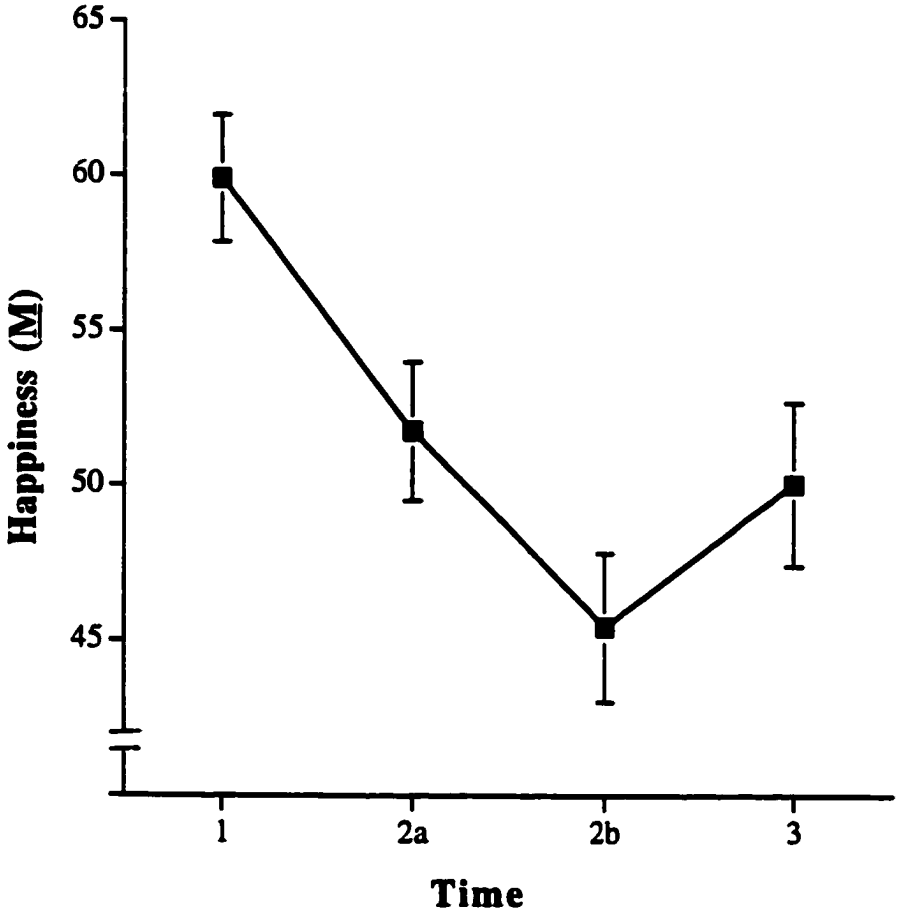

Figure 2. VAS - happiness scores for the entire sample (n = 86) plotted as a function of time. Vertical lines depict standard errors of the means.

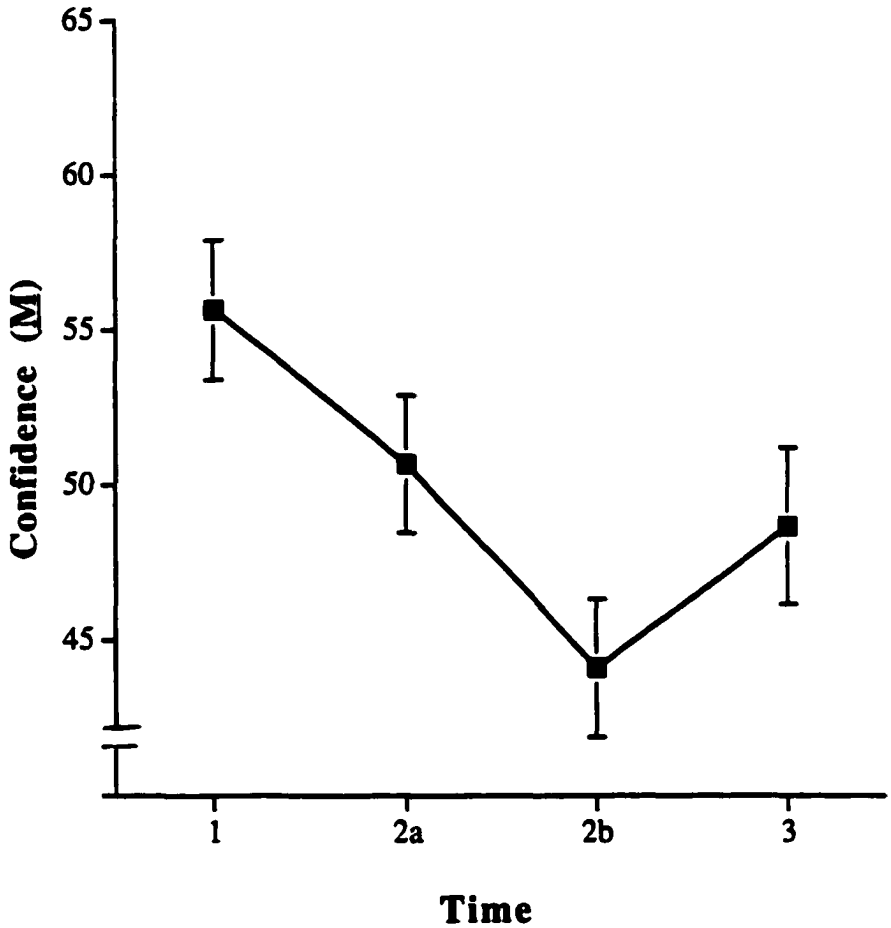

Figure 3. VAS - confidence scores for the entire sample (n = 86) plotted as a function of time. Vertical lines depict standard errors of the means.

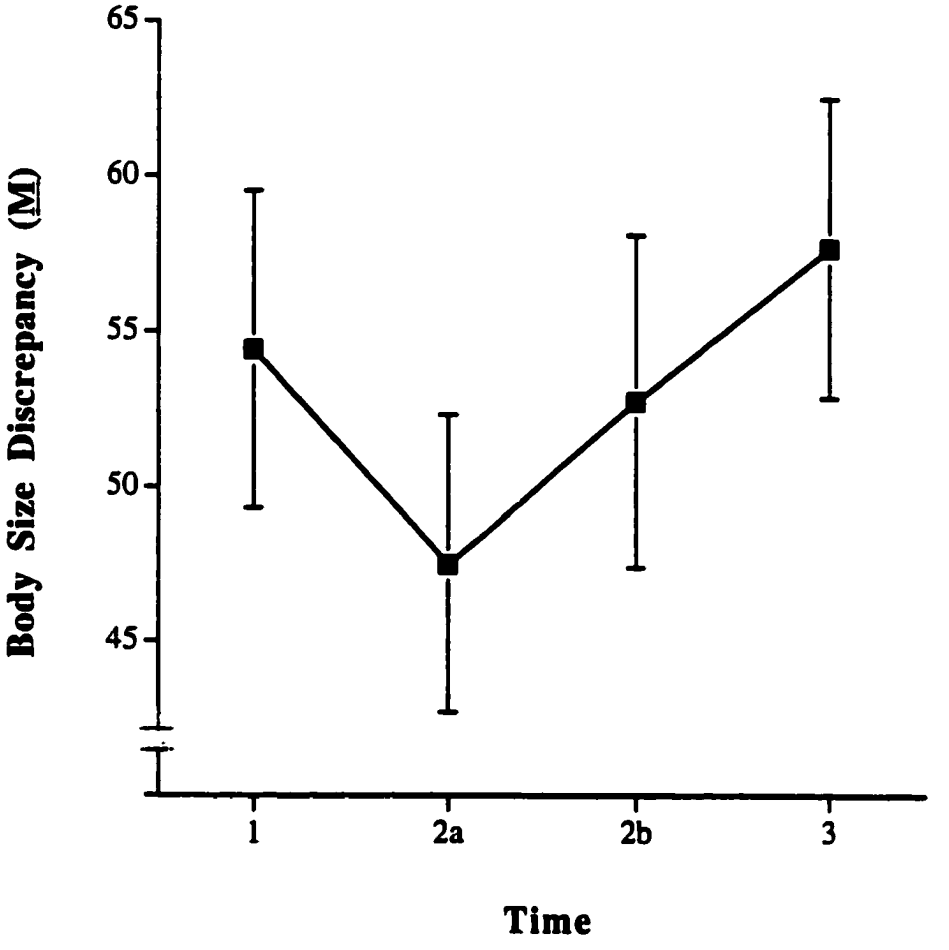

Figure 4. Body size discrepancy for the entire sample (n = 86) plotted as a function of time. Vertical lines depict standard errors of the means.

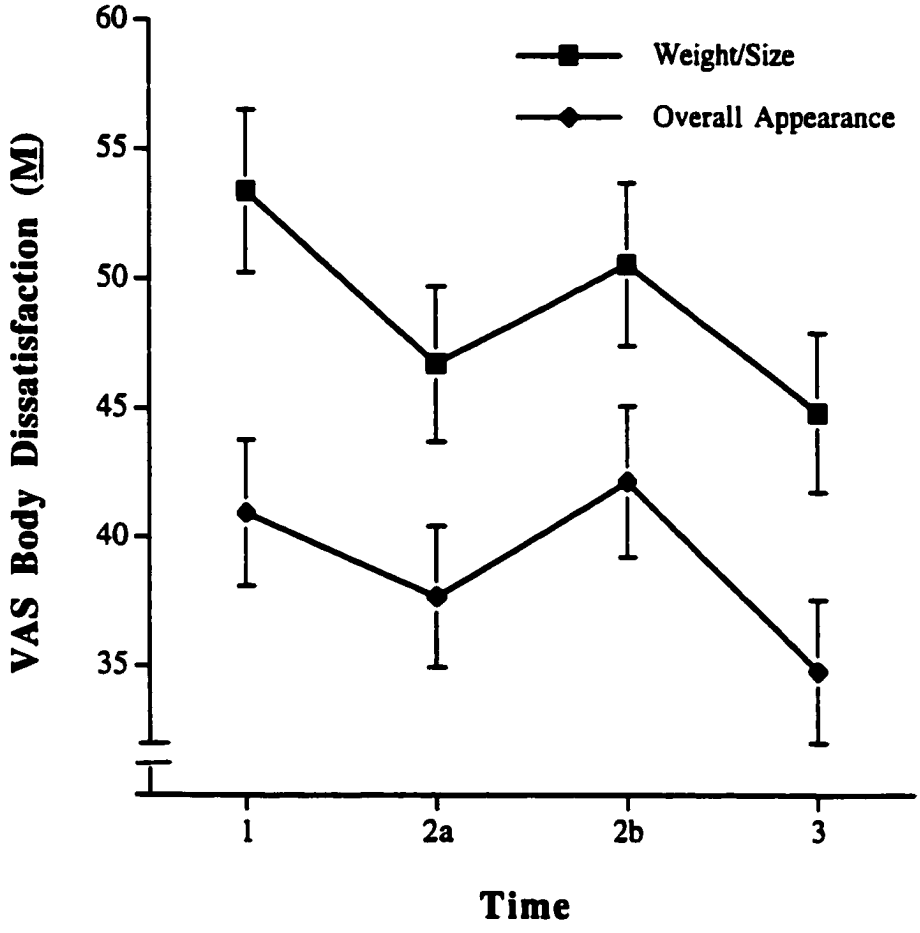

Figure 5. Visual Analogue Scales (VAS) body dissatisfaction scale scores for the entire sample (n = 86) plotted as a function of time. Vertical lines depict standard errors of the means.

F tests revealed significant effects of time on CSAW - Attitude, CSAW - Affect, SATAQ - Internalization. and the ARM scale. There was no significant effect of time on SATAQ - Awareness (see Table 6).

Mean scores for the Attitude and Affect subscales of the CSAW are presented in Figure 6. Post-hoc paired sample t tests led to the rejection of the null hypothesis with regard to the two CSAW subscales. CSAW - Attitude scores at time 1 were significantly higher than at times 2b or 3, (dfs = 85, ps < .003). CSAW - Affect scores were significantly lower at time 3 than at any other time (dfs = 85, ps < .004). CSAW - Affect scores at time 1 did not differ significantly from those at time 2b.

Mean scores for the ARM and the Internalization subscale of the SATAQ are shown in Figure 7. Post-hoc paired sample t tests led to the rejection of the null hypothesis with regard to SATAQ - Internalization and the ARM. Scores on both these dependent measures were significantly higher at time 1 than at times 2b or 3, (dfs = 85, ps < .005). These findings indicate that participants internalized sociocultural ideals of attractiveness less, and had less negative affective reactions to the media's portrayal of women after being exposed to ideal images than before exposure.

The finding that body image improved on 4 of 5 body image questionnaires after exposure to ideal images ran directly counter to what was hypothesized. One possibility why this may have occurred is that questionnaire scores were simply regressing toward the mean. To test this possibility, a series of t tests was conducted in which an effect of time was examined within sub-samples of the entire sample (n = 86) formed on the basis of time 1 scores more than one standard deviation above or below the normative M for each measure. It was expected that if Ms

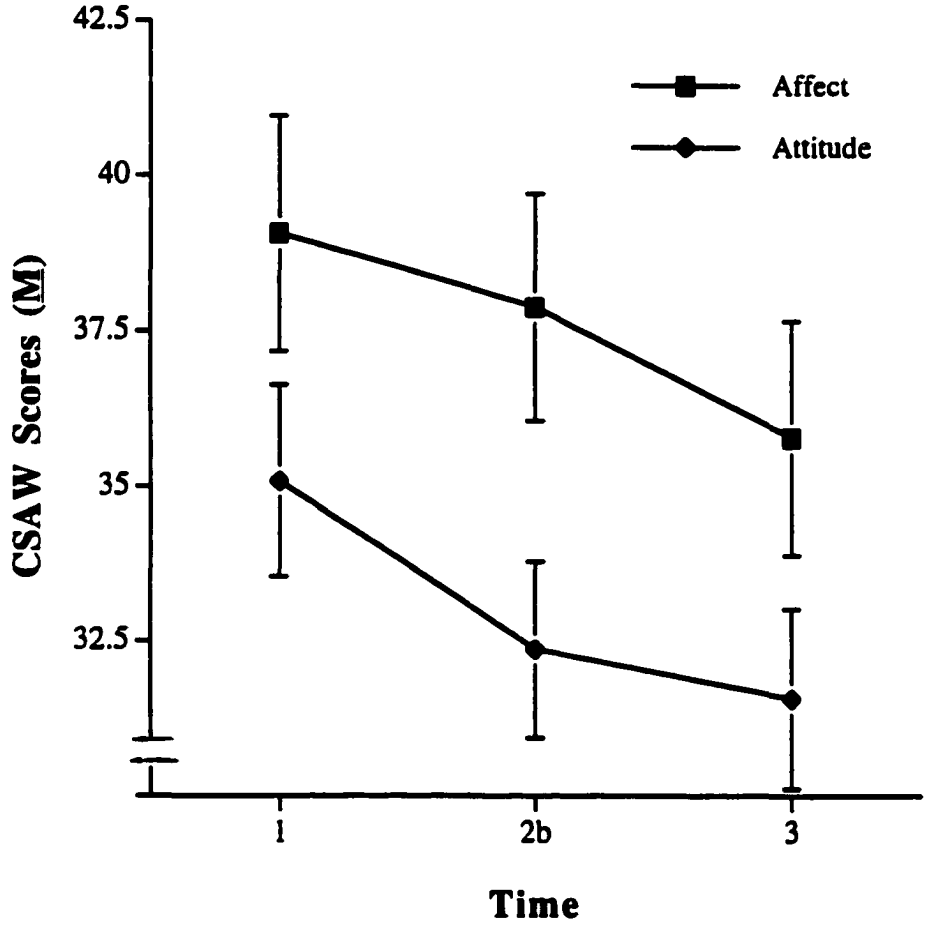

Figure 6. Scores for the Attitude and Affect subscales of the Concerns about Shape and Weight (CSAW) scale for the entire sample (n = 86) plotted as a function of time. Vertical lines depict standard errors of the means.

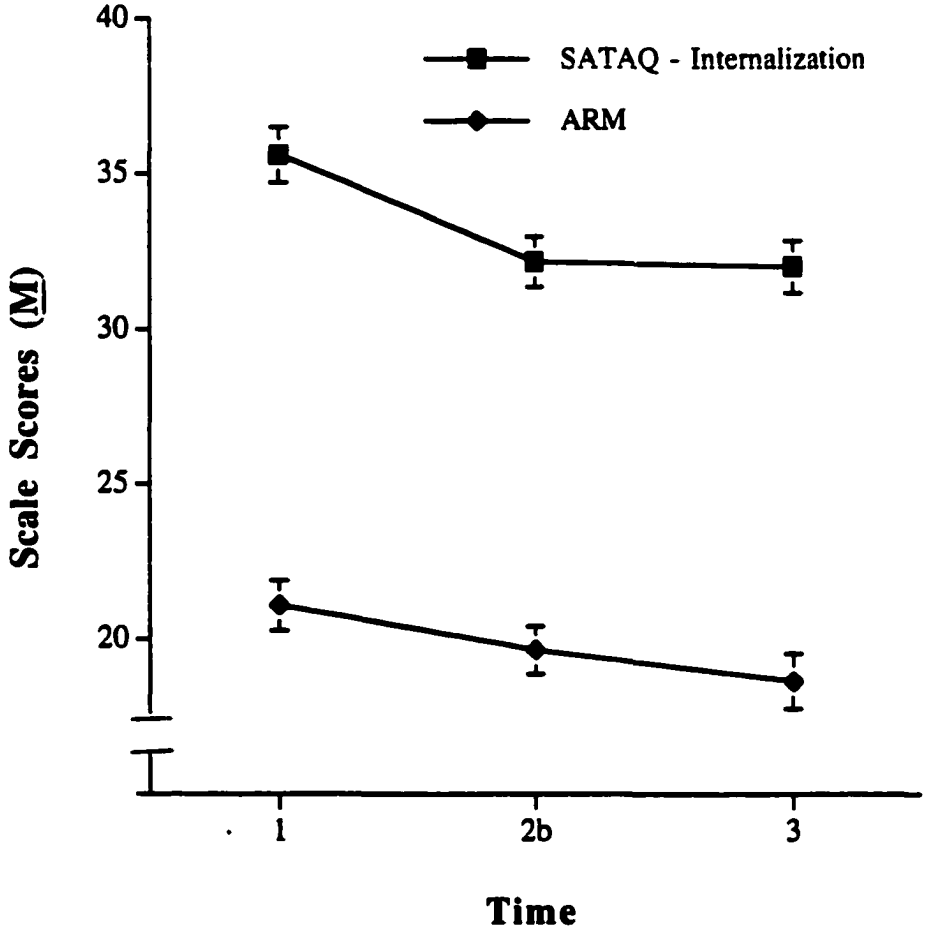

Figure 7. Scores for the Internalization subscale of the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ) and the Affective Reactions to the Media (ARM) for the entire sample (n = 86) plotted as a function of time. Vertical lines depict standard errors of the means.

were actually regressing then initially high Ms would decrease over time, medium Ms would not change, and low Ms would increase (Cook & Campbell, 1979). As shown in Table 7, no measure's Ms followed that pattern, thus attenuating the possibility that body image questionnaires improved as a function of regression toward the mean.

Hypothesis 3

It was hypothesized that there would be significant positive correlations between the Self-Monitoring Scale (SMS) (Snyder & Gangestad, 1986) and the following dependent measures: SATAQ - Awareness, SATAQ - Internalization, CSAW - Attitude, and CSAW - Affect. Pearson correlations revealed no significant associations between these measures a time 1.

Summary

The data do not support hypothesis 1. Specifically, neither intervention buffered participants against the negative effects of brief exposure to images of thin fashion models. However, the data do provide partial support for hypothesis 2 which predicted that participants would display less positive mood and less positive body image after being exposed to media images of ideally thin fashion models than before exposure. Participants displayed less positive affect on 3 of 9 VAS - mood scales following exposure to ideal images than prior to exposure. Results from 2 of 3 VAS - body image measures also indicated that participants were more dissatisfied with their bodies after viewing ideal images than before viewing those images. However, scores on the two CSAW subscales showed that participants' body image improved after exposure to ideal images. As well, scores on the SATAQ - Internalization demonstrated that participants had internalized sociocultural ideals of female attractiveness to a lesser extent after

Table 7

Test of Regression Toward the Mean Hypothesis

						Test of time effects					
			Time			1 versus 2b		1 versus 3		2b versus 3	
Measure	Group		1	2b	3	t	p	t	p	t	p
CSAW - Attitude	High (n = 20)	M (SD)	54.5 (6.6)	46.1 (10.8)	45.8 (11.1)	3.66	.002	3.26	.004	0.23	.822
	Medium (n = 58)	M (SD)	31.7 (7.9)	30.7 (9.0)	29.7 (9.2)	1.11	.269	1.93	.058	1.24	.218
	Low (n = 8)	M (SD)	11.2 (2.8)	10.2 (5.1)	9.5 (5.6)	0.64	.544	1.21	.264	0.62	.555
CSAW - Affect	High (n = 24)	M (SD)	59.4 (6.5)	56.2 (8.5)	53.5 (9.4)	2.32	.030	2.90	.008	1.35	.090
	Medium (n = 50)	M (SD)	36.3 (9.4)	35.6 (9.8)	33.7 (11.9)	0.76	.454	2.83	.007	2.57	.013
	Low (n = 12)	M (SD)	9.8 (4.4)	10.7 (8.2)	9.1 (7.7)	0.46	.655	0.34	.740	1.67	.123
SATAQ - Internalization	High (n = 15)	M (SD)	44.5 (2.6)	41.6 (4.0)	41.3 (4.9)	2.92	.011	2.72	.017	.35	.733
	Medium (n = 62)	M (SD)	33.3 (4.8)	31.5 (5.5)	31.5 (5.7)	3.82	< .001	3.28	.002	0.11	.915
	Low (n = 9)	M (SD)	17.2 (2.0)	21.1 (4.5)	19.8 (2.9)	2.57	.033	2.52	.036	0.82	.438

Table 7 (cont'd)

						Test of time effects					
			Time			1 versus 2b		1 versus 3		2b versus 3	
Measure	Group		1	2b	3	t	p	t	p	t	p
SATAQ - Awareness	High (n = 15)	M (SD)	48.2 (2.5)	46.1 (2.8)	45.9 (3.3)	2.95	.011	3.18	.007	.019	.849
	Medium (n = 58)	M (SD)	40.7 (3.2)	39.6 (4.3)	40.4 (4.1)	2.40	.020	0.68	.501	2.05	.045
	Low (n = 13)	M (SD)	31.5 (1.5)	33.1 (3.7)	32.2 (3.0)	1.40	.188	0.81	.435	0.93	.372
ARM	High (n = 17)	M (SD)	31.4 (3.5)	27.9 (4.7)	27.6 (8.3)	3.77	.002	2.30	.035	0.18	.858
	Medium (n = 55)	M (SD)	20.8 (4.4)	19.3 (5.6)	17.7 (6.5)	2.24	.029	3.39	.001	2.11	.040
	Low (n = 14)	M (SD)	9.9 (1.7)	11.1 (2.7)	11.4 (3.8)	2.59	.022	1.67	.120	0.25	.804

Note. CSAW = Concerns about Shape and Weight scale; SATAQ = Sociocultural Attitudes Toward Appearance Questionaire; ARM = Affective Reactions to the Media scale. Groups for each measure were formed by dividing the sample (n = 86) into those with time 1 scores: (a) more than one standard deviation above the normative M (high); (b) less than one standard deviation above or below the normative M (medium); and (c) more than one standard deviation below the normative M (low). Normative Ms and standard deviations for each measure were obtained from a larger screening sample of N = 258 -260.

exposure. Finally, ARM scores after exposure to ideal images indicated that participants had weaker negative affective reactions to the media's portrayal of idealized female attractiveness than before exposure. The data did not support hypothesis 3. There was no indication of a relationship between self-monitoring and concerns about shape and weight, or awareness or internalization of sociocultural standards of attractiveness.

Discussion

It was the primary intention of the current study to test the efficacy of interventions, based on social psychological principles of persuasion, to buffer against the negative affective and cognitive effects of brief exposure to popular media depicting "ideal" females. The results clearly indicate that the interventions were unsuccessful. Second, the current study aimed to replicate findings relating to the affective and cognitive effects of brief exposure to popular media portrayals of ideal female beauty. In this regard, present findings partially replicated previous research in the area. The third aim of this study was to test for the presence of a theoretical link between self-monitoring, awareness and internalization of sociocultural ideals of attractiveness, and concerns about shape and weight. No evidence for such a link was found in the current study. It is the aim of this section to examine potential explanations for the negative findings and to suggest avenues for future research to test the plausibility of those explanations.

Efficacy of Interventions

Hypothesis 1 predicted that relative to baseline, at post-intervention (time 2b), participants in the combined and persuasion groups would evidence more positive affect and body image than the control group. It was also hypothesized that the combined group would show significantly more positive affect and positive body image at time 2b compared to the

persuasion group. Finally, it was hypothesized that these between-group differences in mood and body image would remain evident after one week (time 3). The results clearly did not confirm hypothesis 1.

Statistical Problems

Small sample size. One possibility why the intervention groups did not change significantly over time was that the sample was not large enough to detect an effect. That is, the interventions actually did buffer participants and with a larger sample, intervention groups would differ significantly on the dependent measures over time. An examination of Tables 3 - 5 reject this possibility. Only 3 of 17 dependent measures had values of $p < .10$. Furthermore, on the VAS measures in which p for the interaction term was <.10 the Group x Time differences were in the direction opposite to the one hypothesized. Although not statistically significant, it appears that participants felt more angry, more sad, and more guilty after being exposed to the interventions and images. Therefore, it seems unlikely that significant intervention effects would be detected with a larger sample.

Floor effects. A second possibility is that the interventions were ineffective because participants harbored no a priori body image concerns and therefore there was no room for them to improve. This possibility is unlikely for two reasons. First, the total sample ($n = 86$) had a time 1 baseline Mdn = 74.2 on the total CSAW scale (Attitude + Affect subscales). This represents the upper 38 per cent of the normative distribution (Davis, 1996). Therefore, the sample had greater concerns about shape and weight than what would be expected in the general population. Second, blocking participants above and below the normative or sample Mdns of the CSAW or SATAQ did not increase the power of ANOVA. Values of p did not shift in

preliminary analyses in which participants were blocked in these ways. Therefore, the failure to find evidence supporting the efficacy of these interventions is unlikely due floor effects.

Problems with the Social Influence Paradigm

It is possible that the combined intervention was unsuccessful because of problems related specifically to the social influence paradigm.

Credibility of the experimental situation. It is possible that participants did not believe the social influence message that was presented to them. In particular, they may not have believed they held the strongest attitudes in favor of the media of anyone in the group, nor that their ideal body size was thinner than everyone else's. Results from the suspicion check showed that while no one in the combined group reported that they knew the true purpose of the study and 38% reported that they did not know the purpose of the study, 62% did not respond to the suspicion check. It is possible, then, that a substantial proportion of participants in the combined group were aware of the true purpose of the study. Therefore, it is possible that participants did not conform to the simulated group consensus simply because they did not believe the consensus was real. Future efforts at simulating a group consensus should consider the credibility of the paradigm.

Lack of group goals. Another reason why the social influence paradigm may not have been successful in achieving conformity is that participants may not have thought that there was any benefit to conforming. Social impact theory (Latane & Wolf, 1981) predicts that greater conformity will occur when there is personal attraction to other group members and a desire to remain part of the group. While the message that participants read did stress the homogeneity of the group in terms of personal likes and dislikes and likely created group attraction, it may not

have instilled in participants a desire to remain part of the group. There was no stated goal of the group which would have been considered personally rewarding for participants to pursue and which conformity would have helped to achieve. Turner (1991) noted that pressures on the individual to conform to discrepant group opinions increase when the discrepancy is relevant to the functioning of the group. Festinger (1954), in a related vein of thought, postulated that uniformity will occur in a group working toward a particular goal to the extent that members perceive uniformity as serving a facilitating function toward reaching the goal and that members depend on each other to reach the goal. Future studies attempting to exert social influence should consider the importance of common group goals in achieving conformity.

Problems with the Persuasive Video

The potential reasons outlined above for the failure of the social influence paradigm to induce conformity may help to understand why no differences were found between the persuasion and combined groups. However, a more important finding was that scores on mood and body image dependent measures did not improve for either intervention group relative to the control group. Below are potential reasons for the failure of the persuasive video to buffer participants' mood and body image from the effects of media exposure and to effect attitude change toward sociocultural ideals of attractiveness.

Audience factors. Strong attitudes are resistant to change in two ways. First, they are more stable over time than weaker attitudes. Second, they are more resistant to persuasive messages than weaker attitudes (Kenrick, Neuberg, & Cialdini, 1999). Strong attitudes resist change because people are more committed to them and because they are more imbedded in one's self-concept (Boninger, Krosnick, & Berent, 1995; Pomeranz, Chaiken, & Tordesillas,

1995). Baseline median SATI scores indicated that participants had more strongly internalized the sociocultural ideals of female attractiveness than the general population. Arguably, those same ideals are highly internalized in women in the general population to begin with. Therefore, the reason the persuasive video may not have effected any attitudinal change may be because such a change would have meant altering several important aspects of the self, such as the belief that to be attractive one must be thin. Participants may have been unwilling to undertake this task.

Message factors. The importance of having an expert and trustworthy source for delivering persuasive arguments has been demonstrated extensively (e.g., Bettinghaus, 1968; Hovland, Janis, & Kelley, 1959). However, it is possible that although the deliverers of the persuasive message in the current study were both expert and trustworthy, the persuasive video was ineffectual because the audience received the message in a passive manner. Several investigations have shown that the impact of persuasive appeals is greater when they require active rather than passive participation from the audience. For instance, during World War II, efforts were made to persuade two groups women to serve unpopular organ meats (e.g., hearts and kidneys) to their families in support of the war effort. One group of women heard a lecture about the virtues of organ meats and how they could be easily prepared. The other group was drawn into a discussion of why housewives had trouble preparing, serving, or gaining acceptance for organ meats. A follow-up poll indicated that 3% of the women who heard the lecture planned to serve one of the meats never before served compared to 32% of the women who participated in the group discussion (Lewin, 1953).

More recently, two investigations described above have demonstrated that media analysis

skills can be successfully taught in settings involving group interaction. Recall that in one study, Rabak-Wagenar et al., (1998) showed participants "Slim Hopes", had participants critique fashion advertisements, and had them conceived alternate, more inclusive advertisements. Compared to baseline, women in the intervention group had weaker beliefs that models in advertising have an ideal body size or shape and that decisions about exercising and dieting should be based more on appearances than health. Women in the comparison group showed no changes.

In a second study, female high school students participated in a peer-led media literacy program designed to provide tools for resisting media pressures to conform to a thin standard of female beauty (Irving et al., 1998). The intervention consisted of viewing a 15-minute excerpt of "Slim Hopes" followed by a guided semi-structured discussion about issues raised in the video. Compared to the 17 students who did not receive the intervention, students who received the intervention had lower SATAQ - internalization scores. Recall, however, that there were no between-group differences on 7 of 9 dependent measures. As in the current study, there was no evidence that the intervention had any effect on current mood states or body dissatisfaction.

Although the nature of the intervention provided in these two studies was very similar, Rabak-Wagenar et al.'s (1998) interventions may have been more effective than Irving et al.'s (1998) efforts simply because the intervention in the former was of a longer duration. These two studies shed light as to why the persuasive video used in the current study may have been unsuccessful. It may have been too brief. A 16-minute video, no matter how persuasive, may simply not be long enough to effect any change in attitudes that have developed over a lifetime. It should be noted that in Rabak-Wagenar et al.'s (1998) study, the educational intervention was

delivered over four sessions lasting 1 hour and 35 minutes each. In Irving et al.'s (1998) study, interventions consisted only of viewing "Slim Hopes" and participating in a brief group discussion, although the length of the discussion was not reported. In both studies, however, interventions were provided over a longer period of time than they were in the current study. The difference in length of the interventions may help to explain why Rabak-Wagener et al. (1998) were more successful than Irving et al. (1998) and why improvements achieved in those studies were not evident in the present study. Future educational programs of this nature should consider the importance of the duration of the intervention and the interactive involvement of recipients of the information.

Effects of Exposure to Ideally Thin Images

Hypothesis 2 predicted that the control group would report less positive affect and less positive body image following exposure to the ideal images than they had reported prior to exposure. Analyses revealed that, regardless of experimental condition, participants' mood and body image worsened on some, but not all, dependent measures after being exposed to images of ideally thin fashion models. It should be noted that because the design of the current study did not include a control group who saw neutral images, it cannot be concluded that exposure to ideal body images, specifically, caused participants' mood and body image to worsen. For instance, it is possible that mood and body image worsened due to repeated completion of measures or some other unknown factor. However, given that exposure to ideal body images has been shown to cause worsening of mood and body image in eight studies (Hamilton & Waller, 1993; Heinberg & Thompson, 1995; Kalodner, 1997; Ogden & Mundray, 1996; Pinhas et al., 1999; Posovac et al., 1998; Stice & Shaw, 1994; Turner et al., 1997), it likely that these specific

images had similar effects in the current study.

VAS - Mood Measures

Participants reported more shame and less happiness and confidence after being exposed to images of ideally thin fashion models, a finding that has been reported elsewhere. Stice and Shaw (1994) found that exposure to pictures of ultra-thin models, compared to pictures without models, produced increased feelings of shame and decreased feelings of happiness and confidence. Unlike previous research in this area (Heinberg & Thompson, 1995; Pinhas et al., 1999; Stice & Shaw, 1994), the present study did not find that exposure to ideally thin images produced feelings of depression, guilt, anxiety, stress, and anger.

It is not surprising that participants' affect did not worsen on all measures used in the current study. Other studies have not consistently found effects of exposure to ideal images on depression and anxiety (Heinberg & Thompson, 1995; Myers & Biocca, 1992; Stice & Shaw, 1994). Further, studies examining the effect of exposure to ideal images on mood typically find that not all moods surveyed are affected. The percentage of surveyed moods affected by exposure has been shown to range from 33% (Myers & Biocca, 1992; Pinhas et al., 1999) to 71% (Stice & Shaw, 1994). Therefore, the finding that only 33% of the mood dimensions surveyed in the current study were affected by exposure to ideal images is in line with previous research in this field.

VAS - Body Image Measures

The finding in the current study that exposure to ideal images led to poorer body image has been shown previously in two studies using visual analogue scales. Ogden and Mundray (1996) found that females who looked at five pictures of thin fashion models for five minutes felt

(Stice & Shaw, 1994). Therefore, the finding that only 33% of the mood dimensions surveyed in the current study were affected by exposure to ideal images is in line with previous research in this field.

VAS - Body Image Measures

The finding in the current study that exposure to ideal images led to poorer body image has been shown previously in two studies using visual analogue scales. Ogden and Mundray (1996) found that females who looked at five pictures of thin fashion models for five minutes felt fatter, less sexy, less attractive, less toned, and less fit than women who viewed pictures of obese people. This same study examined body size discrepancy (actual - ideal) using silhouettes similar to those created by Stunkard et al. (1983). Results showed that there was a larger discrepancy among females who looked at pictures of thin models than females who looked at pictures of obese people. Heinberg and Thompson (1995) found that, among women with high levels of dispositional body image disturbance, women who looked at images of ideally thin models were more dissatisfied with their bodies than women who looked at pictures containing no people. Therefore, the current study replicates previous findings that body image, as measured by visual analogue scales, worsens after exposure to images of ideally thin models.

Body Image Questionnaires

An unexpected finding in the current study was that body image, as measured by the Attitude and Affect subscales of the CSAW, the Internalization subscale of the SATAQ, and the ARM improved after exposure to ideal images. Previous studies have found that body image, as measured by questionnaires, worsens (Posovac et al., 1998) or stays the same (Pinhas et al., 1999; Stice & Shaw, 1994) after exposure to ideal images. No improvements such as those

some salubrious effect on body image. However, Davis (1996) showed that CSAW mean scores did not change significantly over a 3-week test-retest period. Therefore, it is unlikely that repeatedly completing body image questionnaires improves body image. Additional research is needed to help explain this unexpected finding. Specifically, each component of the design used in the current study would have to be systematically examined as a potential cause of improved body image.

Relationship between Self-Monitoring and Body Image

It was hypothesized that, compared to low self-monitors, high self-monitors would have greater awareness and acceptance of sociocultural ideals of thinness and greater concerns about their own weight and shape. Contrary to expectations, no significant correlations were found between the SMS and the SATAQ or CSAW.

Ideal body stereotype endorsement has been shown to positively correlate (r = .37) with the Conformity scale of the Jackson Personality Inventory (Jackson, 1976; Stice & Shaw, 1994). Mason and Chaney (1996) speculated that compared to women without shape and weight concerns, women with those concerns could be characterized as being more likely to make social comparisons and to regulate their behaviour and hold attitudes in response to external social stimuli rather than internal values and standards. The current data do not support this hypothesis.

One possibility why no association was found in the current study is that the sample surveyed was beyond the developmental stage where body image and acceptance of sociocultural standards of attractiveness express themselves as functions of social comparisons. Shaw, Waller, and Conner (in preparation) found that high self-monitoring adolescents responded more to media images of idealized beauty than low self-monitors. However, there was no equivalent

significant association among adults in their study, suggesting that adolescence is a developmental stage when body image is particularly vulnerable to media messages. In line with this research, no association between self-monitoring and body image was found among the adult sample in the current study. It remains to be seen, however, whether such an association might be found in a younger sample. To test this developmental hypothesis, future research should test for the presence of an association between these variables among an adolescent sample.

Conclusion

The present study adds to a growing body of research demonstrating that brief exposure to images of the sociocultural ideal of female thinness affects female viewers' mood and body image as measured by visual analogue scales. However, unlike previous research, results from the current study do not provide evidence that body image, as measured by questionnaires, worsens as a result of that exposure. Interventions provided in the current study failed to buffer women from the affective and cognitive consequences of media exposure indicating that brief interventions of this nature are not sufficient to combat the deleterious effect of such exposure. Future research should continue to systematically examine which elements of psychoeducational interventions are of greatest therapeutic benefit.

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Appendix A

Consent Form

My signature on this sheet indicates that I agree to participate in a study by Josh Slatkoff and supervised by Dr. Ron Davis on **"Effects of Lifestyle, Personality, and Self-Image on Preferences for Consumer Products"**. My signature also indicates the following:

1. I am a volunteer and can withdraw at any time, without explanation or penalty.
2. There is no risk of any physical harm.
3. I realize that some of the questions that I will be answering are of a personal nature and may arouse some feelings of discomfort.
4. The data I provide will be confidential and will be securely stored for a period of seven (7) years within the Department of Psychology at Lakehead University.
5. I will receive a summary of the project, upon request, following the completion of the project.
6. I understand that my participation in this study will require me to come to the laboratory of Josh Slatkoff and Dr. Ron Davis on two occasions and will require a total of two and a half hours of my time.

I have received and understand explanations about the nature of the study, its purpose, and procedures.

_____

Print Name

_____

Student Number (to receive bonus points)

_____

Signature of Participant **Date**

_____

Witness **Date**

Appendix B

VAS

Please make a dash on the horizontal line to indicate your **CURRENT** level of feeling for the following emotions.

Anger No _____ Extreme

Anxiety No _____ Extreme

Stress No _____ Extreme

Depression No _____ Extreme

Shame No _____ Extreme

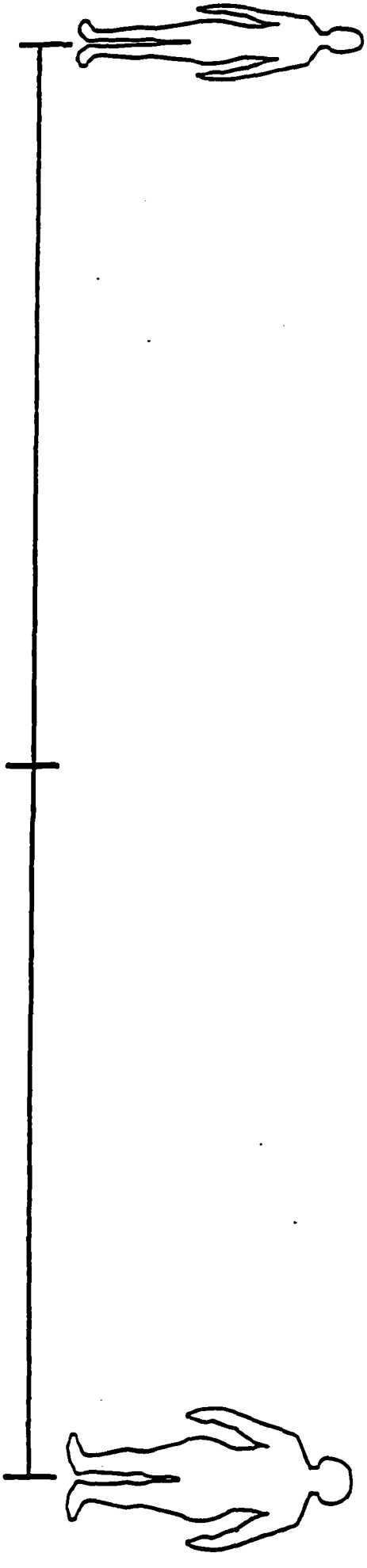
Sadness No _____ Extreme

Guilt No _____ Extreme

Happiness No _____ Extreme

Confident No _____ Extreme

Appendix C



Appendix D

VAS

Please make a vertical mark across the horizontal line to indicate your **CURRENT** level of feeling for the following emotions.

Weight/Size

Dissatisfaction No _____ Extreme

Overall Appearance

Dissatisfaction No _____ Extreme

Appendix E

SATAQ
(Cusumano & Thompson, 1997)

Please read each of the following items and circle the number that best reflects your agreement with the statement.

1. I would like my body to look like the women who appear in TV shows and movies.

1 2 3 4 5

---

completely disagree — neither agree nor disagree — completely agree

2. I believe that clothes look better on women that are in good physical shape.

1 2 3 4 5

---

completely disagree — neither agree nor disagree — completely agree

3. Music videos that show women that are in good physical shape make me wish that I were in better physical shape.

1 2 3 4 5

---

completely disagree — neither agree nor disagree — completely agree

4. I do not wish to look like the female models who appear in magazines.

1 2 3 4 5

---

completely disagree — neither agree nor disagree — completely agree

5. I tend to compare my body to TV and movie stars.

1 2 3 4 5

---

completely disagree — neither agree nor disagree — completely agree

6. In our society, fat people are regarded as attractive.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

7. Photographs of physically fit women make me wish that I had better muscle tone.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

8. Attractiveness is very important if you want to get ahead in our culture.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

9. It's important for people to look attractive if they want to succeed in today's culture.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

10. Most people believe that a toned and physically fit body improves how you look.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

11. People think that the more attractive you are, the better you look in clothes.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

12. In today's society, it's not important to always look attractive.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

13. I wish I looked like the women pictured in magazines who model underwear.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

14. I often read magazines and compare my appearance to the female models.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

15. People with well-proportioned bodies look better in clothes.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

16. A physically fit woman is admired for her looks more than someone who is not fit and toned.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

17. How I look does not affect my mood in social situations.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

18. People find individuals who are in shape more attractive than individuals who are not in shape.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

19. In our culture, someone with a well-built body has a better chance of obtaining success.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

20. I often find myself comparing my physique to that of athletes pictured in magazines.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

21. I do not compare my appearance to people I consider very attractive.

1 2 3 4 5

completely disagree — neither agree nor disagree — completely agree

Appendix F

ARM

1) I am angry at myself for aspiring to the ideals of female attractiveness portrayed in the media.

1	2	3	4	5
completely disagree		neither agree nor disagree		completely agree

2) I am angry at myself for not attaining the ideals of female attractiveness portrayed in the media.

1	2	3	4	5
completely disagree		neither agree nor disagree		completely agree

3) It depresses me that I aspire to the ideals of female attractiveness portrayed in the media.

1	2	3	4	5
completely disagree		neither agree nor disagree		completely agree

4) It depresses me that I can't live up to the ideals of female attractiveness portrayed in the media.

1	2	3	4	5
completely disagree		neither agree nor disagree		completely agree

5) It makes me feel anxious to think about the way the media portrays female attractiveness.

1	2	3	4	5
completely disagree		neither agree nor disagree		completely agree

6) It makes me anxious to aspire to the ideals of female attractiveness portrayed in the media.

1	2	3	4	5
completely disagree		neither agree nor disagree		completely agree

7) It makes me anxious when I feel that I am unable to attain the ideals of female attractiveness portrayed in the media.

1	2	3	4	5
completely disagree		neither agree nor disagree		completely agree

8) I aspire to the ideals of female attractiveness portrayed in the media.

1	2	3	4	5
completely disagree		neither agree nor disagree		completely agree

CSAW

NAME:_____ DATE: _____

INSTRUCTIONS: This is a scale which measures a variety of personal opinions and feelings about your own body weight and shape. THERE ARE NO RIGHT OR WRONG ANSWERS SO TRY VERY HARD TO BE COMPLETELY HONEST IN YOUR ANSWERS. Read each statement carefully. For each statement fill in the square with the response that best represents your opinion or feeling. Make sure that your answer is in the correct box.

SD = Strongly Disagree; **D** = Disagree; **N** = Neutral; **A** = Agree; **SA** = Strongly Agree

1	I think a lot about my weight or shape.	SD D N A SA
2	I think that being at the right weight or shape leads to greater happiness in my relationships with other people my age.	SD D N A SA
3	I think that changing my weight or shape are not high priorities at this point in my life.	SD D N A SA
4	I think that changing my weight or shape is just about the only way I could feel better about myself at this point in my life.	SD D N A SA
5	I think that the happiest moments in my life were mainly due to the fact that I was at the right weight or shape back then.	SD D N A SA
6	I think I would rather be successful in my work or studies than be successful in achieving and maintaining the right weight or shape.	SD D N A SA
7	I think that my weight or shape will have little or no influence on the direction that my life takes in the future.	SD D N A SA
8	I think that getting to the right weight or shape makes me a more special person.	SD D N A SA
9	I think that my desire to change my weight or shape is more important than just about anything else in my life at the moment.	SD D N A SA
10	I think that my life would be much better if I were at the right weight or shape.	SD D N A SA
11	I think that my weight or shape will have little or no influence on my ability to achieve the future goals that I have set for myself.	SD D N A SA
12	I think that I worry a lot about my weight or shape.	SD D N A SA
13	I think that many of the problems I face right now are caused by not being at the right weight or shape.	SD D N A SA
14	I think that little else could make me happier than achieving or maintaining the right weight or shape.	SD D N A SA
15	I think that my weight or shape do not greatly influence the way I feel about myself as a person.	SD D N A SA
16	I think that many of my personal problems would be solved if I could only get to the right weight or shape.	SD D N A SA
17	I think that my weight or shape are not the most important parts of my identity.	SD D N A SA

18	I think that my own worth as a person is mainly determined by my weight or shape.	SD D N A SA
19	I think that the good things I have experienced so far have had little to do with my weight or shape.	SD D N A SA
20	I think that my main problem right now is my inability to achieve and maintain the right weight or shape.	SD D N A SA
21	I think that other people my age don't really care about my weight or shape.	SD D N A SA
22	I think that I would become a more valuable person if I were able to achieve or maintain the right weight or shape.	SD D N A SA
23	I feel insecure about my weight or shape.	SD D N A SA
24	I feel great about my weight or shape.	SD D N A SA
25	I feel negative about my weight or shape.	SD D N A SA
26	I feel humiliated about my weight or shape.	SD D N A SA
27	I feel unhappy about my weight or shape.	SD D N A SA
28	I feel comfortable about my weight or shape.	SD D N A SA
29	I feel dissatisfied about my weight or shape.	SD D N A SA
30	I feel secure about my weight or shape.	SD D N A SA
31	I feel terrible about my weight or shape.	SD D N A SA
32	I feel proud about my weight or shape.	SD D N A SA
33	I feel bad about my weight or shape.	SD D N A SA
34	I feel happy about my weight or shape.	SD D N A SA
35	I feel satisfied about my weight or shape.	SD D N A SA
36	I feel nervous about my weight or shape.	SD D N A SA
37	I feel uncomfortable about my weight or shape.	SD D N A SA
38	I feel relaxed about my weight or shape.	SD D N A SA
39	I feel good about my weight or shape.	SD D N A SA
40	I feel positive about my weight or shape.	SD D N A SA

41. Your age: ☐☐ years

42. Your height: ☐ feet and ☐☐ inches [Guess if you don't know]

43. Your current weight: ☐☐☐ pounds [Guess if you don't know]

44. What would be the right weight for you: ☐☐☐ pounds

45. Your sex: ☐ female or ☐ male

Appendix H

SMS
(Snyder and Gangestad, 1986)

Please answer true or false to the following statements by circling the appropriate word.

1. I find it hard to imitate the behaviour of other people. **(True False)**

2. At parties and social gatherings, I do not attempt to do or say things that others will like. **(True False)**

3. I can only argue for ideas which I already believe. **(True False)**

4. I can make impromptu speeches even on topics about which I have almost no information. **(True False)**

5. I guess I put on a show to impress or entertain others. **(True False)**

6. I would probably make a good actor. **(True False)**

7. In a group of people I am rarely the centre of attention. **(True False)**

8. In different situations and with different people, I often act like very different persons. **(True False)**

9. I am not particularly good at making other people like me. **(True False)**

10. I'm not always the person I appear to be. **(True False)**

11. I would not change my opinions (or the way I do things) in order to please someone or win their favor. **(True False)**

12. I have considered being an entertainer. **(True False)**

13. I have never been good at games like charades or improvisational acting. **(True False)**

14. I have trouble changing my behaviour to suit different people and different situations. **(True False)**

15. At a party I let others keep the jokes and stories going. **(True False)**

16. I feel a bit awkward in public and do not show up quite as well as I should. **(True False)**

17. I can look anyone in the eye and tell a lie with a straight face (if for a right end). **(True False)**

18. I may deceive people by being friendly when I really don't like them. **(True False)**

Appendix I

Favourable Characteristics

1. Give three adjectives which describe characteristics you appreciate in other people.

a)_____ b)_____ c) _____

2. Give three adjectives which describe characteristics which you dislike in other people.

a)_____ b)_____ c) _____

3. Give three adjectives which describe yourself.

a)_____ b)_____ c) _____

Appendix J

Consumer Preference Questionnaire

1. Do you shop more at department stores than discount retail stores?

_____

2. Do you ever purchase items from the television shopping network? If so, which items have you bought?

_____

3. How much do you spend in the average month on clothes?_____

4. If you were to purchase a home in the next five years, would it be a new home or one that has been previously lived in? _____

5. If you were to purchase a home, would you seek the help of a real estate agent? Why or why not?

_____

6. How much would you be willing to spend on your first home?_____

7. If you were to purchase a new vehicle in the next five years, which would it be?

_____

8. What would be your three most important considerations when deciding which vehicle to purchase?

a)_____b)_____c)_____

9. How many hours per week do you spend doing housework? _____

10. Name the three products you use most when doing housework.

a)_____b)_____c)_____

11. On average, how many hours per day do you spend watching television?_____hours

12. On average, how many hours per week do you spend reading fashion magazines? _____hours

13. What is your marital status (married, single, common-law, separated, divorced, other *please specify*)_____

14. What is the highest level of schooling your parents have completed?

Mother
___ elementary school
___ high school
___ technical college
___ undergraduate degree
___ post-graduate degree
___ professional degree
___ other (please specify)

Father
___ elementary school
___ high school
___ technical college
___ undergraduate degree
___ professional degree
___ post-graduate degree
___ other (please specify)

Appendix K
Product Preference Rating

Picture Number _____

How much do you like the product on the screen? Please indicate your opinion by putting a vertical mark across the horizontal line below.

No _____ Extreme

Would you purchase this product if you saw it in a store? Circle one. **Yes** **No**

Appendix L

Thank you for participating in our study. Please tell us what you think was the true purpose of the study.

_____

_____

_____

Date when these questionnaires were completed_____