



ELSEVIER

Available online at www.sciencedirect.com

SCIENCE @ DIRECT®

Body Image 2 (2005) 53–61

Body Image

www.elsevier.com/locate/bodyimage

Media exposure, mood, and body image dissatisfaction: an experimental test of person versus product priming

Robyn Birkeland, J. Kevin Thompson*, Sylvia Herbozo, Megan Roehrig, Guy Cafri, Patricia van den Berg

Department of Psychology, University of South Florida, Tampa, FL 33620-8200, USA

Received 29 September 2003; received in revised form 3 November 2004; accepted 6 November 2004

Abstract

In the current study, 138 college females were randomly assigned to four media exposure conditions based on the presence or absence of an attractive person (fashion model) and the presence or absence of an appearance-related product. Outcome measures consisted of visual analogue ratings of multiple body image and mood variables. The results revealed a significant main effect for person, indicating that the presence of a model increased levels of body dissatisfaction and negative mood. No product effect emerged and there was no significant interaction between person and product. These findings suggest that the appearance priming effect of media exposure on body dissatisfaction and mood is specific to a person stimulus, with no additional effect promoted by a generic appearance-relevant stimulus.

© 2004 Elsevier B.V. All rights reserved.

Keywords: Advertisement; Body image; Media; Mood; Physical appearance; Self-confidence

Introduction

A variety of experimental studies have indicated that media exposure may produce immediate and negative effects on body image. In a recent meta-analysis, Groesz, Levine, and Murnen (2002) used 43 effect sizes from 25 studies, finding an overall effect size (d) of $-.30$, indicating that exposure to thin images had an adverse effect on body satisfaction

when compared to exposure to control images. Social comparison theory is one of the primary positions brought forth to explain such effects (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Social comparisons related to appearance are thought to engender negative appearance evaluation due to the upward comparison process. In effect, the great majority of women, when viewing idealized images, are comparing their own appearance to that of someone who is "more" attractive (Wertheim, Paxton, & Blaney, 2004). Failing to meet this ideal "standard" leads to a consequent reduction in the rating of one's own appearance, producing dissatisfaction (Thompson et al., 1999). The appearance comparison model is

* Corresponding author. Tel.: +1 813 9740367;

fax: +1 813 974417.

E-mail address: Thompsonjk2003@yahoo.com (J.K. Thompson).

derivative of the original social comparison paradigm articulated by Festinger (1954) that has received a wealth of empirical evaluation throughout the last six decades.

A wealth of work in the area of appearance comparison has been conducted over the past 15 years illustrating with correlational, experimental, and multidimensional scaling studies that females and males engage in appearance comparison processes that have detrimental effects on body image (e.g., Durkin & Paxton, 2002; Fisher, Dunn, & Thompson, 2002; Heinberg & Thompson, 1992a,b, 1995; Martin & Kennedy, 1993, 1994; Schutz, Paxton, & Wertheim, 2002; see also reviews by Groesz, Levine, & Murnen, 2002 and Thompson et al., 1999). Recent work has attempted to further evaluate the role of appearance comparison as the specific mechanism whereby exposure to body image-related stimuli leads to increases in body dissatisfaction. For instance, Cattarin, Thompson, Thomas, and Williams (2000) contrasted appearance comparison and non-comparison (distraction) media exposure conditions. The distraction condition required participants to focus on the products and message in TV ads instead of the person images. Cattarin et al. found a marginally significant effect suggesting that appearance comparison generated more body dissatisfaction than distraction.

Tiggemann and colleagues have recently conducted several studies that have evaluated the social comparison process, cognitive priming, and schematicity. Hargreaves and Tiggemann (2002, 2003) conducted two similar studies with early and late adolescents, in which participants viewed an appearance or non-appearance-related TV commercial, within a normal viewing or distractor viewing condition. The results with older adolescents indicated that viewing the appearance video led to increased body dissatisfaction, anger, and schema activation for females when compared to viewing the non-appearance video; for males, there was only a significant effect for schema activation (Hargreaves & Tiggemann, 2002). Schema activation was also found to partly mediate the effect of the exposure to commercials on body dissatisfaction and trait level of appearance schematicity moderated this effect. The findings were generally replicated for younger adolescents, with girls' body dissatisfaction affected by viewing the appearance versus non-appearance

stimuli, whereas boys' body dissatisfaction was not differentially affected by video condition (Hargreaves & Tiggemann, 2003). However, schematicity did not moderate the effect of viewing on body dissatisfaction for younger adolescents. Interestingly, in neither study did the viewing condition (normal viewing, a distractor task) moderate findings, suggesting that a manipulation designed to decrease appearance comparison had little effect on body dissatisfaction changes eventuating from viewing the appearance-related ads.

Tiggemann and McGill (2004) exposed participants to one of three types of images: full body shots of highly attractive models, shots of body parts that met the sociocultural ideal, or shots of various products. They also manipulated the instructional set given to the participants to induce social comparison, general appearance processing, or distraction from the appearance aspects of the stimuli. They found that exposure to products led to less body dissatisfaction and negative mood than did exposure to either type of idealized body image. They also found that appearance comparison (as an outcome variable) was increased in the full body and body part conditions compared to the product condition, and that social comparison instructions led to the highest level of appearance comparison, followed by general appearance focus instructions, and control instructions.

Continuing this line of research on media exposure, schematic processing, and social comparison, Tiggemann and Slater (2004) conducted a study in which they exposed female college students to 15 min music video clips with either highly attractive women and a focus on appearance, or with "ordinary-looking" women and non-appearance-related images such as landscape shots. They found that the appearance video condition resulted in higher appearance schema activation, as measured by their schema activation measure, as well as higher body dissatisfaction, whereas they found no differences between the two conditions on mood. They also included comparison as a dependent variable, finding that it was also increased in the idealized appearance condition. Further, they tested social comparison and appearance schema activation as mediators of the relationship between exposure to the appearance music videos and body dissatisfaction. Social comparison was found to be a full mediator of this relationship, although schema activation was not. Thus, the results of their

study point to social comparison as the more important variable in women's reactions to idealized media images.

These studies can be interpreted to support both general priming and an appearance comparison mechanism that may underlie the effect of exposure on body dissatisfaction. To date, however, an experimental paradigm has not been used wherein the appearance-related dimension of the person and product are completely crossed in an experimental design. Tiggemann and McGill (2004) compared a full body image to a body part image, contrasting the two appearance conditions with a product condition. However, the product condition included primarily appearance-related stimuli (shoes, clothing, underwear) with some arguably non-appearance stimuli (toiletries, alcohol). Additionally, both of their person appearance conditions also included four neutral products, which was noted by the authors as a strategy to counter demand effects. Given this design, it would not be possible to evaluate a priming effect of appearance comparison as separate from one engendered by exposure to beauty-related products.

A stimulus set which allows for manipulating the conditions of person image (image present, no image) and product cue (appearance-related, non-appearance-related) should allow for a separation of a general priming process and one specific to appearance comparison. If a general priming process is most dominant in determining the negative mood and body image effects from media exposure, a main effect of product should result, such that exposure to appearance products causes more distress than non-appearance products. Social comparison theory, however, would receive support if there was a main effect for person, with the model present conditions (for both appearance and non-appearance-related products) producing greater distress than the model absent conditions. Both approaches would receive support in the eventuation of an interaction between person and product, illustrating that idealized images associated with products containing appearance cues produce the greatest mood changes. Accordingly, the current study was designed along these dimensions in an attempt to inform the mechanisms of a media exposure effect on body image and mood.

Method

Participants

Participants were 138 female undergraduates from the University of South Florida. Participants were 67% Caucasian, 13% African-American, 13% Hispanic, and 7% other. They ranged in age from 18 to 35 years ($M = 21.88$). Participants were recruited from psychology classes and received extra credit points for their participation for these two analyses.

Measures

Preparation of the slide stimuli

Two-page magazine advertisements were selected that contained attractive models promoting appearance-related beauty products. The two-page advertisements featured an attractive model on one page and the product she was endorsing on the facing page. These ads were easily located in a variety of fashion magazines, although data were not collected to determine the frequency of the types of two-page ads as a percentage of all ads. Additionally, one-page magazine advertisements featuring non-appearance-related household products were selected. Appearance-related advertisements were selected from *Vogue*, *Mademoiselle*, *Allure*, and *Glamour* magazines whereas non-appearance-related advertisements were chosen from *Country Home*, *Family Circle*, *McCall's*, *Country Living*, *Good Housekeeping*, *Martha Stewart Living*, and *Consumer's Digest* magazines. Ads were not altered from their original design in order to match models and appearance products that did not originally appear together in the magazines. Care was taken in the selection of ads with models to select images that might realistically be paired with neutral household products, therefore, images that connoted seductiveness or models appeared in revealing clothes (e.g., underwear, bathing suits) were not utilized.

In a pilot survey, the advertisements were examined independently by a body image research group to determine and validate the attractiveness level of the models and ensure that the appearance-related products were appearance-related and that the neutral products were not appearance-related. The group was asked to rate 36 neutral product and 55 appearance-

related product advertisements on a seven-point Likert scale (1 = not at all; 7 = very much so). Questions included: "Is the model attractive?," "Is this product appearance related?," and "Is it clear what the product is?" A second group of 20 undergraduates also rated the stimuli on these questions. The mean ratings of the second group illustrated the content validity of the stimuli.¹ The mean score for the models' attractiveness was 6.34, indicating that these stimuli were rated as highly attractive. A one sample *t*-test, comparing the score of 6.34 to the mid-point of 4 of the possible range of scores on the attractiveness item (1–7), indicated that the attractiveness rating was significantly higher than the mid-point, $t(18) = 29.25$, $p < .001$. Additionally, the appearance-related products were rated as such ($M = 6.85$) and the non-appearance products were rated as not appearance-related ($M = 1.12$), $t(18) = 45.72$, $p < .001$. Finally, both non-appearance and appearance products were rated highly in the category of clarity of the type of product ($M_s = 6.32, 6.47$, respectively), and a *t*-test indicated that these scores did not significantly differ, $t(18) = .78$, $p > .05$.

Therefore, there were four sets of stimulus materials: (a) the original two-page ads with an attractive model and an appearance product, (b) the attractive model only, (c) the appearance product only, and (d) the pairing of the attractive model with a neutral product.

Visual Analogue Scales

Visual Analogue Scales (VAS; Heinberg & Thompson, 1995) are brief, non-verbal instruments for evaluating subjective experiences. A VAS requires individuals to place a vertical mark on a 100 mm horizontal line. The mark represents the participant's position on a certain construct or mood state. Responses are quantified by measuring to the nearest millimeter. Heinberg and Thompson (1995) found

good convergence of various VAS measures with longer measures of similar constructs. Specifically, using subscales of the Profile of Mood States, Heinberg and Thompson found the following correlations: POMS-depression/dejection and VAS-depression (.68), POMS-anxiety and VAS-anxiety (.60), and POMS-anger and VAS-anger (.53). A VAS measure of body image was also evaluated by Heinberg and Thompson. The appearance dissatisfaction VAS correlated .68 with the Body Dissatisfaction subscale of the Eating Disorder Inventory (Garner, 1991). Several studies have documented the responsiveness of these state measures to various laboratory manipulations (Cattarin et al., 2000; Durkin & Paxton, 2002; Tantleff-Dunn & Thompson, 1998) and also replicated our validity work (e.g., Durkin & Paxton, 2002). Additionally, because the VAS rating procedure consists of a slash mark across a 100 mm line, this assessment is ideal for brief manipulations that entail a relatively rapid re-testing – pre-testing sensitization (Kazdin, 2003) is likely reduced in comparison to a measure that involves a Likert-rating (1–5 or 1–7) wherein the participants might easily remember their pre-test answers at post-testing (Thompson, 2004).

In the current study, the VAS scales from previous work were included and two new measures (physical fitness satisfaction and self-confidence) were piloted to determine if such dimensions would respond to the experimental manipulation. Also, for some VASs, a high score indicated a positive rating (e.g., physical appearance satisfaction, self-confidence, and physical fitness satisfaction) whereas for others, a high score indicated a negative rating (e.g., appearance dissatisfaction, anger, anxiety, and depression). This was done to minimize a response bias on the part of participants in responding to the measures. The specific instruction given to participants was designed to index a state measure of mood and body image, an instruction often not included in many studies of this nature that often appear to assess a trait level of disturbance (Thompson, 2004). Specifically, participants were asked to "rate your current level of feeling" for each VAS scale. The descriptors used for anchoring the extreme ends of the VAS scale were "none" and "extreme" in all cases except for the self-confidence variable, wherein "extremely low" and "extremely high" were the anchors.

¹ We did not use the strategy of an expert panel to determine the validity of these stimuli. An expert panel would be appropriate for the development of an assessment measure or components of a treatment package, in an attempt to ensure that experts in the field agreed with the selection of items or treatment components. In this study, we were interested in the determination of what our target audience (i.e., adult females) would rate as highly attractive female images, to ensure exposure to images that were relevant and had content validity for them.

Additionally, we collected new data to evaluate the immediate stability of the VAS measures. A separate sample of 73 college females completed the VAS on two occasions, separated by a time frame designed to mimic that used for the exposure in the current study. The time period between administrations was five minutes, during which time participants read two benign newspaper articles from the campus newspaper. The test–retest reliabilities for the measures were the following: overall appearance dissatisfaction (.84), anger (.78), physical appearance satisfaction (.80), anxiety (.70), physical fitness satisfaction (.90), depression (.93), and self-confidence (.77).²

Intercorrelations among the variables were examined to determine the overlap among measures to ensure that it would be appropriate to treat them independently in analyses. The highest shared variance was 42% (overall appearance dissatisfaction and physical appearance satisfaction) and no other intercorrelations yielded an R^2 higher than .26, therefore, no composite variables were constructed.

Manipulation check

This was a short survey designed to ensure that participants attended to the experimental task. The survey consisted of several questions, rated on a five-point Likert scale, including asking the participants to rate the advertisements on dimensions such as level of interest in the advertisements, attractiveness of model, what kind of product the advertisement endorsed, the shape and color of product design, and their own motivation to buy the product. Participants who did not respond accurately to questions asking the type of products contained in the ads were eliminated from data analyses. All participants ($n = 138$) completed the manipulation check successfully and were included in the analyses. We have used these procedures in three previous investigations and found participants to have no questions or negative responses to the instructions or experimental format (Cattarin, Thompson, Thomas,

& Williams, 2000; Heinberg & Thompson, 1995; Tantleff-Dunn & Thompson, 1998).

Procedure

Participants initially completed a consent form and a brief demographic survey that asked for their age, year in school, height, and weight. Each participant was randomly assigned to one of four experimental conditions, consisting of a five-minute slide presentation: Attractive Model/Appearance-Related Product (AM/AP) ($n = 35$), Appearance-Related Product (AP) ($n = 34$), Attractive Model/Neutral Product (AM/NP) ($n = 35$), or Neutral Product (NP) ($n = 34$). In condition one, the Attractive Model/Appearance-Related Product (AM/AP) condition, participants viewed a five-minute slide presentation of magazine advertisements featuring an attractive model and an appearance-related product, such as cosmetic or hair products, placed side by side on one page. In a second condition, Appearance-Related Product (AP), subjects viewed a five-minute slide presentation of the *same* magazine advertisements featuring *only* the appearance-related product. In condition three, the Attractive Model/Neutral Product (AM/NP) condition, participants viewed five minutes of slides of magazine advertisements manipulated to feature the attractive models from the AM conditions with everyday, common household products. In the fourth condition, the Neutral Product condition (NP), participants viewed five minutes of slides of the magazine advertisements featuring *only* the neutral household product from the AM/NP condition.

Before viewing their particular slide presentation, all participants were told: "You will be viewing a five-minute slide presentation featuring magazine advertisements for various products. Actually, you may only be viewing a part of the advertisement because I am trying to determine what element of the ads motivates consumers to buy the product. Please look at the slides carefully as you will be asked to complete a few questionnaires about what you've seen and how it made you feel. Thank you."

Prior to exposure, all participants completed the pre-manipulation VAS measures, which they inserted into a manila envelope and returned to the experimenter. Immediately after exposure, they completed the post-manipulation VAS measures. Measures were randomized at pre- and post-testing for all individuals. After the post-testing, participants completed the

² Some authors have questioned the relevance of test–retest reliability for state measures (e.g., Anderson & Paulosky, 2004); however, we felt it important to document that there was minimal measurement error with the VAS method, even given the short interim of testing necessitated by the experimental manipulation. Internal consistency estimates were not appropriate for the single item VAS measures. We would like to thank Eric Stice for his helpful input on the issue of reliability of state measures.

manipulation check. After participants had finished completing the measures, they were awarded one experimental point and debriefed. Additionally, participants were asked to refrain from discussing the content of the study with others.

Results

A preliminary analysis was conducted to ensure group equivalency on age, body mass index (BMI), and Time 1 VAS scores. A 2 (Model: present, absent) \times 2 (Product: appearance, neutral) ANOVA on age and BMI revealed no significant main effects or interactions. A 2 (Model) \times 2 (Product) MANOVA was conducted on the Time 1 VAS variables. There was a marginal effect for the interaction between Model and Product, $F(7, 121) = 1.90$, $p = .075$. Therefore, for the primary analyses, a MANCOVA was conducted on the Time 2 VAS scores, with Time 1 used as a covariate. A priori power analyses for the main and interaction effects of a MANOVA and ANOVA revealed that there were a sufficient number of participants to achieve power of .80 for a medium effect size with alpha set at .05 (Cohen, 1988).³

The 2 (Model: present, absent) \times 2 (Product: appearance, neutral) MANCOVA on the VAS measures revealed a significant main effect for Model $F(7, 121) = 4.00$, $p < .001$. However, the main effect for Product $F(7, 121) = 1.37$, $p = .22$ and the Model \times Product interaction $F(7, 121) = .81$, $p = .58$ were not significant.

Univariate analyses revealed a significant model effect for four of seven dependent measures: physical fitness satisfaction, $F(1, 127) = 11.08$, $p = .001$, $\eta^2 = .08$; physical appearance satisfaction, $F(1, 127) = 7.45$, $p = .007$, $\eta^2 = .06$; overall appearance dissatisfaction, $F(1, 127) = 5.73$, $p = .018$, $\eta^2 = .04$; and depression, $F(1, 127) = 11.98$, $p = .001$, $\eta^2 = .09$. An evaluation of the adjusted means indicated that greater distress was associated with exposure to the

model than in the model's absence: physical fitness satisfaction (model present: 50.9; model absent: 58.9), physical appearance satisfaction (model present: 57.5; model absent: 63.8), overall appearance dissatisfaction (model present: 43.0; model absent: 34.8), and depression (model present: 24.4; model absent: 17.3).

In addition, marginally significant effects for Model were found for two other measures, anger $F(1, 127) = 3.68$, $p = .057$, $\eta^2 = .03$ and self-confidence $F(1, 127) = 3.67$, $p = .058$, $\eta^2 = .03$. The model present condition elicited higher anger (19.2 versus 15.2) and lower self-confidence (67.3 versus 71.9). Table 1 contains unadjusted means and standard deviations for each level for both conditions and time.

Discussion

These results strongly support the appearance comparison model of exposure. Results from the

Table 1
Means and standard deviations for Model (present, absent) and Product (appearance, neutral) conditions by time

	Present		Absent	
	Appearance	Neutral	Appearance	Neutral
PA satisfaction				
Pre	53.9 (23.3)	66.2 (23.8)	72.2 (18.4)	60.5 (23.6)
Post	49.8 (26.6)	58.1 (25.0)	72.6 (20.3)	60.9 (20.4)
OA dissatisfaction				
Pre	45.8 (29.3)	38.3 (28.5)	30.5 (23.3)	40.2 (25.2)
Post	46.2 (29.1)	44.3 (28.4)	30.2 (24.7)	35.4 (24.7)
Fit satisfaction				
Pre	46.6 (24.2)	56.8 (20.8)	63.3 (22.2)	54.4 (22.1)
Post	43.0 (28.1)	51.5 (22.3)	66.6 (24.1)	57.7 (23.7)
Depression				
Pre	28.3 (26.3)	20.1 (20.2)	16.4 (19.1)	27.2 (21.6)
Post	27.7 (28.3)	24.0 (24.0)	11.9 (12.2)	20.0 (17.1)
Anger				
Pre	18.7 (22.2)	18.8 (19.3)	15.7 (18.7)	22.1 (19.8)
Post	22.5 (22.0)	16.6 (19.7)	12.7 (15.9)	17.0 (15.0)
Confidence				
Pre	62.9 (24.9)	70.1 (24.1)	75.5 (18.8)	66.5 (24.1)
Post	58.5 (29.1)	71.3 (21.9)	77.7 (18.2)	70.5 (21.7)
Anxiety				
Pre	32.8 (31.0)	31.3 (24.6)	25.1 (23.4)	35.9 (30.1)
Post	30.8 (28.6)	27.7 (25.2)	22.0 (21.6)	27.7 (28.2)

PA: physical appearance; OA: overall appearance; Fit: fitness.

³ The specific power was based on a MANOVA with seven dependent variables. We could find no procedure for calculating power for a MANCOVA. However, Rausch, Maxwell, and Kelley (2003) recently demonstrated that a MANCOVA, specifically with the Time 1 level used as a covariate (as was done in this study), is "generally more powerful when testing for treatment effects than a multivariate analysis of variance (MANOVA)" (pp. 474–475) (see also Table 2, p. 475).

MANCOVA indicated that advertisements featuring models produced higher levels of body dissatisfaction and mood disturbance than advertisements featuring products. No main effect for product eventuated, indicating that advertisements featuring appearance-related products did not produce greater mood and body image changes than advertisements featuring neutral, household products. In addition, there was no interaction between person and product, which would have supported both a general and appearance specific priming (if the model and appearance-related product condition had produced the greatest changes of the four conditions). Our findings, based on an extension of previous designs, add further support to the appearance comparison theory as an explanatory model for the mechanism whereby exposure to idealized media images produces body dissatisfaction.

Procedural strategies were included to direct attention to the stimuli without altering a relatively normal viewing process. All participants passed this check, suggesting that attention to the details of the particular condition was indeed manipulated. Clearly, the opportunity for participants was available for cognitive priming in all conditions, but appearance comparison was possible for only the two model present conditions. The lack of an effect for the model + appearance product condition illustrates the absence of any cognitive priming influence, as does the equivalent changes for both product conditions.

Future studies might extend this methodology to the evaluation of other factors or levels of variables.⁴ Most importantly, we only tested the theories at one level of appearance comparison – attractive, idealized images. We did not include a condition consisting of unattractive images. In practical terms, this would have been difficult and perhaps limited in ecological validity given that fashion magazines generally have minimal or no stimuli of this nature. Therefore, women almost never encounter these images via the media route of exposure. However, the limitation is an essential one to consider in terms of understanding the mechanism of exposure and attempts need to be undertaken to create such stimuli. For instance, it might be possible to find stimuli consisting of

“unattractive” individuals from non-fashion magazines (or Internet websites). Alternatively, given the stigmatization of obesity in the US (Thompson et al., 1999), a condition consisting of images of overweight individuals might be created to test the presumed downward comparison effect of exposure, which might lead to an augmentation of body satisfaction and positive mood.

The sample consisted of females in undergraduate psychology classes who voluntarily agreed to participate in the study. Therefore, although they were randomly assigned to conditions, they were not randomly selected from the population. In order to increase external validity, it would be useful in future research to test a less restricted sample (Kazdin, 2002). It would also be interesting to extend the design to a sample chosen for a particularly high level of body image dissatisfaction. It is possible that, for instance, participants pre-selected for this characteristic might respond more negatively than controls to the model + appearance product condition, illustrating a priming influence not found in the current study. Or, perhaps more intriguing, such participants might exhibit a product type exposure, indicating the priming effect explored but not found in the current study. Additionally, it is conceivable that a schema priming effect might flow from an activation of a specific schema, by means of stimulus exposure to a specific body attribute (hair, cheeks, waist, etc.) that is matched to a particular participant's body attribute dissatisfaction (e.g., Altabe & Thompson, 1996). A final limitation is the lack of a true schema measure in the current study, such as a recall or a sentence stem completion task (e.g., Hargreaves & Tiggemann, 2002). Such a measure might be used to determine whether schema activation is a necessary mediating mechanism between exposure and negative body image, as found by Hargreaves and Tiggemann (2002).

Future research might also examine gender and ethnicity variables. For instance, body comparison processes for females appear to be primarily centered around weight issues, whereas male body image concerns largely focus on muscularity (Cafri & Thompson, 2004; McCabe & Ricciardelli, 2004). Fisher et al. (2002) using multidimensional scaling techniques, found that these gender differences in comparison attributes begin in the adolescent years.

⁴ It is also possible that future meta-analyses, similar to Groesz et al. (2002) might evaluate effect sizes for different conditions based on product, person, or both conditions.

These current findings offer some support for extant prevention, early intervention, and treatment modules that include an anti-appearance comparison component. For instance, Cash and Strachan (2002) have validated a cognitive-behavioral treatment package that includes components to counteract appearance comparison tendencies. Similarly, several of the early intervention and prevention programs include strategies to resist or modify deleterious appearance comparison behaviors (Stice & Hoffman, 2004). For instance, Posavac, Posavac, and Wiegel (2001) found that psychoeducational interventions based on sociocultural and genetic arguments against pursuit of the thin-ideal produced more of a decrease in appearance comparison than a control group. The current findings also fit with emerging work in the risk assessment field that has found that appearance comparison may precede the development of body dissatisfaction and eating disturbance and may also mediate the relationship between formative influences (peer, parents, media) and body dissatisfaction (Keery, van den Berg, & Thompson, 2004; van den Berg, Thompson, Brandon, & Coovert, 2002; Wertheim, Paxton, & Blaney, 2004). Findings from the current study, along with those from the risk and prevention areas, support continued evaluation of the appearance comparison construct in the field of body image.

References

- Altabe, M. N., & Thompson, J. K. (1996). Body image: A cognitive self-schema. *Cognitive Therapy and Research*, 20, 171–193.
- Anderson, D. A., & Paulosky, C. A. (2004). Psychological assessment of eating disorders and related features. In J. K. Thompson (Ed.), *Handbook of eating disorders and obesity* (pp. 112–129). New York: Wiley.
- Cafri, G., & Thompson, J. K. (2004). Measuring male body image: A review of the current methodology. *Psychology of Men and Masculinity*, 5, 18–29.
- Cash, T. F., & Strachan, M. D. (2002). Cognitive-behavioral approaches to changing body image. In T. F. Cash, & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research and clinical practice* (pp. 478–486). New York: Guilford.
- Cattarin, J. A., Thompson, J. K., Thomas, C., & Williams, R. (2000). Body image, mood, and televised images of attractiveness: The role of social comparison. *Journal of Social and Clinical Psychology*, 19, 220–239.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum.
- Durkin, S. J., & Paxton, S. J. (2002). Predictors of vulnerability to reduced body image satisfaction and psychological well being in response to exposure to idealized female media images in adolescent girls. *Journal of Psychosomatic Research*, 53, 995–1005.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117–140.
- Fisher, E., Dunn, M., & Thompson, J. K. (2002). Social comparison and body image: An investigation of body comparison processes using multidimensional scaling. *Journal of Social and Clinical Psychology*, 21, 567–579.
- Garner, D.M. (1991). *Eating Disorder Inventory-2*. Psychological Assessment Resources, Odessa, FL.
- Groesz, L., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders*, 31, 1–16.
- Hargreaves, D., & Tiggemann, M. (2002). The effect of television commercials on mood and body dissatisfaction: The role of appearance-schema activation. *Journal of Social and Clinical Psychology*, 21, 287–308.
- Hargreaves, D., & Tiggemann, M. (2003). The effect of “thin ideal” television commercials on body dissatisfaction and schema activation during early adolescence. *Journal of Youth and Adolescence*, 32, 367–373.
- Heinberg, L. J., & Thompson, J. K. (1992). Social comparison: Gender, target importance ratings, and relation to body image disturbance. *Journal of Social Behavior and Personality*, 7, 335–344.
- Heinberg, L. J., & Thompson, J. K. (1992). The effects of figure size feedback (positive vs. negative) and target comparison group (particularistic vs. universalistic) on body image disturbance. *International Journal of Eating Disorders*, 12, 441–448.
- Heinberg, L. J., & Thompson, J. K. (1995). Body image and elevated images of thinness and attractiveness: A controlled laboratory investigation. *Journal of Social and Clinical Psychology*, 14, 325–328.
- Jones, D. C. (2001). Social comparison and body image: Attractiveness comparisons to models and peers among adolescent girls and boys. *Sex Roles*, 45, 645–664.
- Kazdin, A. E. (2002). *Research design in clinical psychology* (4th ed.). Boston, MA: Allyn & Bacon.
- Keery, H., van den Berg, P., & Thompson, J. K. (2004). The Tripartite Theory of body image and eating disturbance. *Body Image: An International Journal of Research*, 1, 237–251.
- Martin, M. C., & Kennedy, P. F. (1993). Advertising and social comparison: Consequences for female preadolescents and adolescents. *Psychology and Marketing*, 10, 513–530.
- Martin, M. C., & Kennedy, P. F. (1994). Social comparison and the beauty of advertising models: The role of motives for social comparison. *Advances in Consumer Research*, 21, 365–371.
- McCabe, M., & Ricciardelli, L. (2004). Body image and eating problems in boys and men. In J. K. Thompson (Ed.), *Handbook of eating disorders and obesity* (pp. 606–634). New York: Wiley.
- Posavac, H. D., Posavac, S. S., & Weigel, R. G. (2001). Reducing the impact of media images on women at risk for body image disturbance: Three targeted interventions. *Journal of Social and Clinical Psychology*, 20, 324–340.

- Rausch, J. R., Maxwell, S. E., & Kelley, K. (2003). Analytic methods for questions pertaining to a randomized pretest, posttest, follow-up design. *Journal of Clinical Child and Adolescent Psychology*, *32*, 467–486.
- Schutz, H. K., Paxton, S. J., & Wertheim, E. H. (2002). Investigation of body comparison among adolescent girls. *Journal of Applied Social Psychology*, *32*, 1906–1937.
- Stice, E., & Hoffman, E. (2004). Prevention of eating disorders. In J. K. Thompson (Ed.), *Handbook of eating disorders and obesity* (pp. 33–57). New York: Wiley.
- Tantleff-Dunn, S., & Thompson, J. K. (1998). Body image and appearance-related feedback: Recall, judgment, and affective response. *Journal of Social and Clinical Psychology*, *17*, 319–340.
- Thompson, J. K. (2004). The (mis)measurement of body image. *Body Image: An International Journal of Research*, *1*, 7–14.
- Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment and treatment of body image disturbance*. Washington, DC: American Psychological Association.
- Tiggemann, M., & McGill, B. (2004). The role of social comparison in the effect of magazine advertisements on women's mood and body dissatisfaction. *Journal of Social and Clinical Psychology*, *23*, 23–44.
- Tiggemann, M., & Slater, A. (2004). Thin ideals in music television: A source of social comparison and body dissatisfaction. *International Journal of Eating Disorders*, *35*, 48–58.
- van den Berg, P., Thompson, J. K., Brandon, K., & Covert, M. (2002). The tripartite model of eating disorders: A covariance structure modeling investigation. *Journal of Psychosomatic Research*, *53*, 1007–1020.
- Wertheim, E. H., Paxton, S. J., & Blaney, S. (2004). Psychosocial aspects of body image disturbance. In J. K. Thompson (Ed.), *Handbook of eating disorders and obesity* (pp. 463–494). New York: Wiley.