

Running head: CONTENT AND ORGANIZATION OF SELF-CONCEPT

Content and Organization of the Self-Concept as Potential Moderators
of the Effects of the Media on Body Dissatisfaction

By

Yee Lam Li

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of Bachelor of Arts

With Honors in Psychology from the

University of Michigan

2009

Advisors: Dr. Karen F. Stein and Dr. L. Monique Ward

Abstract

Previous research has found that the effects of thin-ideal media exposure are moderated by factors such as BMI and baseline body dissatisfaction. However, there is a lack of research on the role self-concept plays in moderating thin-ideal media effects. This study filled this research gap by examining the moderating effects of the content and organization of self-concept on the relation between thin-ideal media exposure and negative effects, including body dissatisfaction, negative affect, and low-self esteem. Eighty female undergraduates of the University of Michigan participated in this study. After completing self-concept measurements, participants were randomly exposed to either a set of thin-ideal advertisements or a set of control advertisements. Body dissatisfaction, affect, and state-self esteem were measured immediately after exposure. The experimental group did not differ from the control group on any measure except for positive affect. Those who were exposed to thin-ideal images reported marginally higher positive affect compared to those who were exposed to neutral images. A marginally significant moderating effect emerged, with the net number of positive self-schema moderating the relation between thin-ideal media exposure and body dissatisfaction. This study provides support that the content of self-concept can potentially moderate media effects. Implications for eating disorder prevention are discussed.

Content and Organization of the Self-Concept as Potential Moderators
of the Effects of the Media on Body Dissatisfaction

Research has shown that many individuals are not satisfied with their bodies. Women in general show greater body dissatisfaction than men, and the majority of women are particularly not satisfied with their abdomen, hips, thighs, and buttocks (Ogden, 2003). In the United States, 56% of women reported that they were dieting. Only 4% of women reported feeling comfortable about how much they weighed. Also, body size overestimation is common—90% of all women have this kind of distorted body image (Pipher, 1997). One study tried to examine what the ideal body image was and found that the ideal girl should be 5 feet 7 inches tall and weighed 100 pounds, with a body mass index (BMI) of 15.61, according to adolescent girls (Nichter & Nichter, 1991). Yet, this BMI would mean she is seriously underweight and possibly anorexic. Internalization of an ideal like this can lead to body-image disturbance, negative affect, and eating disorders (Thompson & Stice, 2001).

Multiple factors contribute to the development of body dissatisfaction, negative affect, and eating disorders, including pressure to be thin (e.g. pressure from family, peers, or media), elevated body mass (Stice, 2002), negative self-evaluation (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004), and identity impairment (Stein & Corte 2007). For example, Bearman, Presnell, Martinez, and Stice (2006) found that for adolescent girls and boys, insufficient support from parents, negative affect, and dietary restraint are significantly associated with future decrease in body satisfaction.

Over the last several decades, the effects of media on body satisfaction and eating behavior and beliefs have been particularly well studied by many researchers. Experimental and correlational studies have provided evidence that shows that exposure to thin-ideal images

portrayed by the media have effects on body satisfaction and eating disorder symptomatology (e.g., Grabe, Hyde, & Ward, 2008; Groesz, Levine, & Murnen, 2002). The effect sizes reported in these meta-analyses range from small (Grabe et al., 2008; Groesz et al., 2002), to moderate (Grabe et al., 2008). At the same time, however, some researchers have found that media have no significant relations to body dissatisfaction and eating disorders (e.g., Champion & Furnham, 1999). Some studies even reported that media exposure can have positive effects on body image for some individuals. For instance, Holmstrom (2004) found that women who reported more media exposure had better body image. This variation in the findings may be the result of variations in participants' vulnerability to messages given out by the media. Examining the moderators of the effects of media exposure can help us understand why some people develop a sense of body dissatisfaction and engage in disordered eating after media use but some do not. It is important to identify populations that are most vulnerable to media messages and develop prevention strategies targeting these populations.

This study focused on examining the content and organization of the self-concept as prospective moderators of the effects of the media. Bruch (1981) suggested that adolescents who possess an unclear self-concept may use body weight as a source of self-definition because it is a domain that is very salient, personally manageable, and socially valued. These individuals, who define themselves based on their weight, are more likely to direct attention to advertisements that highlight body weight (Markus, 1977; Markus, Hamill, & Sentis, 1987; Markus, Smith, & Moreland, 1985), encode and recall more body weight relevant information and may be more susceptible to comparing themselves to these ideal body images (Higgins, 1987). Hence, they are potentially more susceptible to the media that stresses the importance of thinness. In addition, Stein and Corte (2007) showed that an impaired identity is associated with eating disorders. They

found that anorexic and bulimic women possessed fewer positive and more negative self-schemas, and their collection of self-schemas was more highly interrelated compared to controls. The same schema approach that was used in defining self-concept and its organization was used in this study. This study's aim was to examine whether the negativity and interrelatedness of self-schemas moderate the effects of the media on body dissatisfaction, affect, and state self-esteem.

Background and Significance

Research has shown that exposure to thin-ideal images portrayed by the media can have both short term and long term negative effects on women. For example, Birkeland, Thompson, Herbozo, Roehrig, Cafri, and van den Berg (2005) demonstrated that women reacted differently to advertisements featuring thin-ideal models and advertisements featuring only appearance-related goods differently. Women were more unsatisfied with their body after being exposed to the former but not the later. Pinhas, Toner, Ali, Garfinkel, and Stuckless (1999) also found that after immediate exposure to thin-ideal models, women expressed more negative affect, including depression and anger. Long term effects of the thin-ideal media are less well researched. However, it has been shown that hours of music video viewing was positively associated with perceived appearance importance and concerns about weight (Borzekowski, Robison, & Killen, 2000). Moreover, vulnerable adolescents might be especially susceptible to the long term effects of the thin-ideal media (Stice, Spangler, & Agras, 2001).

Although most research agrees that the thin-ideal media have influences on women, some research reports null results (e.g., Champion & Furnham, 1999). It is likely that some media effects may depend on specific aspects of the media consumer or consumption process. Bessenoff (2006) found that the effects of the thin-ideal media on body dissatisfaction, negative

mood, levels of depression, and self-esteem were mediated by social comparison and moderated by self-discrepancy. Tiggemann (2003) looked at different types of media and found that magazine reading and television watching affected the audience through different mechanisms. She found that the effects of magazine reading on body dissatisfaction was mediated by internalization of thin ideals whereas the effects of television watching on body dissatisfaction was not. In addition, other demonstrated moderators of media's influences include age (e.g., Groesz et al., 2002), BMI (e.g., Tiggemann, 2003), initial elevation in body dissatisfaction (e.g., Posavac, Posavac, & Posavac, 1998), and global self esteem (e.g., Aubrey, 2006; Tiggemann, 2003). The proposed study intends to examine if the content and organization of the self-concept also moderate the effects of media exposure.

Exploring the role of the self-concept

According to the schema model developed by Hazel Markus (1977), self-concept is defined as an intricate cognitive system about the self. It includes both valenced (positive, negative, or neutral) and underdeveloped self-schemas (Stein, 2003). In this study, underdeveloped self-schemas are defined as self-perceptions that one has that are not highly self-descriptive and important to oneself. Self-schemas, or self-schemata, are derived from one's experiences in the past. They form a basis for future information processing about the self, including judgment and decision making and predictions of schema-related behaviors. It has been shown that individuals are resistant to information that is counterschematic (Markus, 1977). For instance, people with eating disorders tended to focus their attention on words connoting fatness (materials consistent with self-schema) but avoided focusing their attention on words connoting thinness (counterschematic materials) (Rieger, Schotte, Touyz, Beumont, Griffiths, & Russell, 1998).

Self-schemas can be divided into two categories: positive and negative. Positive self-schemas are “cognitive resources.” They serve the role of (1) producing positive affect and (2) motivating behavior within the domain (Corte, 2007). For example, Kendzierski (2007) found that people with a healthy eater self-schema had a healthier diet that contained more fiber and less fat compared to aschematics. In addition, positive self schematics more often attributed their failures (e.g., a lapse) to less stable causes compared to aschematics (Kendzierski & Sheffield, 2000; Kendzierski, 2007). On the other hand, negative self-schemas are “cognitive liabilities.” They are responsible for (1) the production of negative affect and (2) the inhibition of behavior within the domain (Corte, 2007). For example, students with a negative self-schema in learning mathematics were more likely to learn in a maladaptive way when compared to students with a positive self-schema in the same domain (Ng, 2005). Based on the existing literature, it is expected that individuals with few positive and many negative self-schemas may attempt to increase the positivity of the self by conforming to societal norms and attaining socially desirable traits. One such socially desirable trait is thinness.

Thinness not only represents physical attractiveness, but also represents moral perfection, self-control (Brownell, 1991), freedom, and success (Ogden, 2003). Evans (2003) found that when told that thin women did not lead a particularly successful life or were least likely to be satisfied about their life, women after exposure to thin-ideal images reported higher levels of positive moods, appearance and social state self-esteem, and a better view about their future life compared to those who were told that thin women were most likely to have high life-satisfaction. This implies that women who associate thinness with success are more vulnerable to the effects of the thin-ideal media. Individuals who have a negative sense of self may try to improve their negative self-concept by attaining a thin figure that is associated with many positive qualities.

These individuals should be particularly susceptible to media's effects because the media are the major perpetrators of thin-ideal standards, besides family and peers.

A second component of self-schemas that could moderate media effects is the interrelatedness among self-schemas. Research indicates that a less differentiated self is associated with higher levels of chronic anxiety and less effective problem solving techniques among adolescents (Knauth, Skowron, & Escobar, 2006). This may be because a self-concept that consists of a highly interrelated collection of self-schemas functions in a narrower and less complex way than a self-concept that is characterized by low interrelatedness among self-schemas (Stein & Corte, 2007). Within a self-concept that functions in a narrow way, activation of one self-schema may initiate activation of a series of related self-schemas. This can potentially make these individuals more vulnerable than others to the effects of media exposure since activation of a body weight self-schema (if available) due to exposure to thin-ideal images can potentially lead to activation of self-schemas in other related domains. Furthermore, it has been shown that non-African American women who watched at least 20 hours of television per week were more likely to experience a decrease in self-complexity (Harrison, 2006). Therefore, if having a narrow sense of self does make people more susceptible to the effects of the media, people who are consistently exposed to the thin-ideal media will be increasingly vulnerable to their effects.

Based on previous studies, it is likely that the content and the organization of the self-concept could moderate the effects of the media. Specifically, I predicted that identity impairments would associate with relatively strong media impact on body dissatisfaction, affect, and state self-esteem. Based on the concern that people who have a high number of positive self-schemas may also have a high number of negative self-schemas, we

calculated the number of net positive self-schemas by subtracting the number of negative self-schemas from the number of positive self-schemas. Also, because experimental manipulations are often not strong enough to produce changes in traits, state self-esteem were measured instead of global self-esteem (Heatherton & Polivy, 1991).

I have chosen to focus on body dissatisfaction, negative affect, and low self-esteem because these factors are associated with disordered eating behavior (Corte & Stein, 2005; Stice, Schupak-Neuberg, Shaw & Stein, 1994). They are in fact most likely the precursors of eating disorders (Polivy & Herman, 2002). Having an impaired self-concept may make an individual more likely to develop body dissatisfaction, negative affect, and low self-esteem after media exposure to thin-ideal images, and hence more susceptible to developing eating disorders. This can potentially explain why individuals who have identity impairments are at greater risk of developing eating disorders (Stein & Corte, 2007).

Hypotheses

General Hypothesis. Previous research has shown inconsistent results regarding the effects of media exposure. I hypothesized that the content and organization of the self-concept would moderate the effects of the media on body dissatisfaction, affect, and state self-esteem.

Furthermore, I expected that people with few positive and many negative self-schemas and a self-concept with high interrelatedness would be especially vulnerable to negative messages about body weight given by the media.

Hypothesis 1. I predicted that participants exposed to advertisements portraying thin women would report a higher level of body dissatisfaction, more negative affect, and lower state self-esteem compared to their counterparts exposed to neutral objects only.

Hypothesis 2. I predicted that the impact of exposure to thin-ideal images on body dissatisfaction, negative affect, and state self-esteem would be moderated by the number of valenced self-schemas (positive or negative) and the level of interrelatedness among the self-schemas. An impoverished self-concept (characterized by few positive, many negative self-schemas and high interrelatedness) would increase a person's vulnerability to negative messages about body weight sent by the media.

This work can potentially further our understanding of the role identity impairment plays in the development of body dissatisfaction, negative affect, and low state self-esteem after media exposure. Identity intervention, which aims to help individuals develop a set of diverse and positive self-schemas, holds potential for decreasing people's vulnerability to the message that is sent by the media that equates thinness with goodness.

Method

Participants

Eighty participants were recruited from the Psychology Introductory Subject Pool of the University of Michigan.¹ All participants were female. Most participants were freshman. They were students in Introductory Psychology courses (111, 112, 114, and 115). By participating, they received one and a half hour of subject pool credit for their Introductory Psychology course. Most of the participants were Caucasian/European American (75.0%); others were Asian American (12.5%), African American (8.8%), Latino/a (1.2%), or other (2.5%). Participant ages ranged from 18 to 21 years ($M = 18.36$, $SD = 0.62$). Their BMI calculated based on self-reported height and weight ranged from 16.9 to 47.7 ($M = 23.1$, $SD = 4.78$) (see Table 2).

Prescreening

In order to maximize the variability in participants' self-schemas, efforts were made to oversample for individuals with high self-concept clarity and individuals with low self-concept clarity. To test for self-concept clarity, I used a 5-item adapted version of the Campbell, Trapnell, Heine, and Katz (1996) Self-Concept Clarity Scale (SCCS) to screen the entire Psychology Introductory Subject Pool (Smith, Hogg, Martin, & Terry, 2007). An example of the items is as follows: "My beliefs about myself conflict with one another." Participants were asked to rate on a 5-point Likert scale (1 = "very slightly or not at all" to 5 = "extremely") to what degree the statements described them. One item was reverse coded. Lower scores indicate greater self-conceptual clarity. The reliability of the scale is satisfactory ($\alpha = .77$). Only those with scores either at least 1 standard deviation above the mean or at least 1 standard deviation below the mean were invited to participate in the study. However, because we did not get enough prescreened participants, we also allowed eleven individuals from the subject pool, who did not meet the prescreening requirements, to participate in the study. It was hoped that through prescreening, the range of scores in number of positive and negative self-schemas could potentially be increased.

Materials

Media Exposure. Each participant was randomly exposed to one of the two sets of advertisements drawn from women's magazines. A total of 24 images were selected, and each set consisted of twelve images. The types of goods advertised in the selected advertisements ranged from beauty products to cars. The thin-ideal set contained eight advertisements that depicted thin ideal images of women and four advertisements (for deception) that only depicted neutral objects except food and drinks (see Figure 1 and Figure 2). The control set contained twelve advertisements that depicted only neutral objects, with the same exceptions. All thin-ideal

images were pretested by laboratory members. Two factors were taken into account in selecting the thin-ideal images. The first factor was that the female figures depicted in the advertisements had to have a thin appearance. The second factor was that the advertisements could not be overtly sexually objectifying.

Demographic information. Age and race of subjects were recorded. Participants were also asked to report their height and weight for BMI calculation. BMI is calculated using the formula: $\text{weight (lb)} / [\text{height (in)}]^2 \times 703$.

Self-Concept. Zajonc's card-sort along with the rating methodology developed by Markus (1977) was used to measure the number of positive, and negative self-schemas available in memory and their level of interrelatedness of self-schemas (see Appendix A and B for instructions). It consisted of two tasks. The first task required participants to write down all attributes that were important to who they were and to rate the self-descriptiveness and importance of each self-generated attribute on an 11-point Likert scale. In keeping with self-schema measurement convention, attributes that were rated 8-11 on both self-descriptiveness and importance scales were classified as self-schemas. In addition, participants were asked to rate the valence of each self-generated descriptor. The second task required participants to think about one self-descriptor at a time and write down all attributes that would change if the attribute, which one was focusing on, was changed, absent, or became untrue of oneself. An interrelatedness score is calculated by dividing the number of reported associations by the product of the number of cards used and the number of cards used minus one. Interrelatedness scores range from 0 to 1, with scores closer to one indicating higher interrelatedness. Validity and test-retest reliability for the measures have been demonstrated (Stein, 1995).

Affect. The Positive and Negative Affect Schedule (PANAS; Watson & Clark, 1988) was used to access affect. It consists of two mood scales with ten items each. Items such as “interested”, “excited”, and “enthusiastic” are included in the Positive Affect (PA) Scale. Items such as “distressed”, “upset”, and “hostile” are included in the Negative Affect (NA) Scale. Participants were asked to rate on a 5-point Likert scale (1 = “very slightly or not at all” to 5 = “extremely”) to what extent they felt the way described by the item at the moment. A high PA score indicates that a person is highly energetic, concentrated, and positively engaged. A low PA score indicates that a person is sad and lethargic. On the other hand, a high NA score suggests that a person experiences at least one of the many negative mood states, such as anger and disgust. A low NA score suggests that a person is calm and at peace. These scales are shown to be sensitive to current mood fluctuations. They also have high reliability ($.86 \leq \text{alphas} \leq .90$ for PA and $.84 \leq \text{alphas} \leq .87$ for NA).

Body Dissatisfaction. The Body Dissatisfaction Subscale from the Eating Disorders Inventory (BDS-EDI; Garner, Olmsted, & Polivy, 1983) was used to access levels of body dissatisfaction. It contains nine items. An example of the items is as follows: “I think my stomach is too big.” Participants were asked to rate on a 6-point Likert scale (1 = “never” to 6 = “always”) how often the statements applied to them. Five items were reverse coded. Mean scores were calculated such that higher scores reflect higher levels of body dissatisfaction. The reliability of the scale is satisfactory ($\alpha = .92$ for college women). The BDS-EDI is a well-validated measure that has been broadly used by body image researchers (Thompson, 1996).

State Self-Esteem. The State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991) was used to examine three subareas of self-esteem including performance, social, and appearance self-esteem. It is composed of 20 items. Examples of the items are: “I feel confident about my

abilities” and “I feel satisfied with the way my body looks right now.” Participants were asked to rate on a 5-point Likert scale (1 = “not at all” to 5 = “extremely”) to what extent they agree with the statements. Thirteen items were reverse coded. Mean scores were calculated for each subject such that lower scores are associated with lower levels of state self-esteem. The reliability of the scale is satisfactory ($\alpha = .92$). The SSES can be used together with the BDS-EDI to measure the effects of media exposure because the correlation between body dissatisfaction and self-esteem is $r = -.42$ (Cusumano & Thompson, 1997), which is not a strong correlation.

Procedures

Testing sessions were conducted individually in a laboratory room. Participants were told that the study was a research study that aimed to identify psychological factors that might affect consumer behavior. They were then asked to sign the informed consent after listening to a brief introduction of the study. After signing the informed consent, participants completed the Zajonc’s card-sorting tasks under guidance. Once this self-schema measure was completed, the experimenter randomly selected an envelope from a stack of opaque envelopes, each containing a condition code. The envelope was opened outside of participant’s view and the appropriate set of advertisements (either the thin-ideal set or the control set) was selected. Each advertisement was presented on a computer for 10 seconds. Following the presentation of an image, participants were asked to answer the following questions: “To what extent do you want to purchase the product being advertised?” and “How effective do you think this advertisement is?” (see Appendix C). Participants responded using a scale ranging from 1 (“not at all”) to 5 (“extremely”). The participants were then given, in order, the PANAS, BDS-EDI, and SSES to complete. Finally, participants were asked to fill out a purchasing habits survey that consisted of six questions (“How often do you shop in a typical week?”, “How often do you shop for

yourself?”, “How often do you purchase an item after viewing its advertisement on television?”, “How often do you purchase an item after viewing its advertisement in a magazine?”, “What is your favorite store?”, and “What is your favorite restaurant?”) (see Appendix D). Participants recorded their answers to the first four questions using a scale ranging from 1 (“never”) to 5 (“very often”) and answered the last two questions in words. The testing sessions were ended with a detailed debriefing. Each session lasted approximately 90 minutes.

Results

Preliminary Analyses

Half of all participants were in the experimental (thin-ideal) condition ($N = 40$), and the other half were in the control condition ($N = 40$). In order to ensure that participants of different races were approximately equally distributed among conditions, a Pearson chi-square test was conducted to examine how the 2-level categorical variable of condition (thin-ideal or control) was related to the 5-level categorical variable of race (Caucasian/European American, Asian American, African American, Latino/a, other). The Pearson chi-square statistic was not significant, $\chi^2(4, 80) = 8.15$, n.s. It appears that participants of different races were approximately equally distributed among conditions. In addition, in order to ensure that groups did not differ on age, and BMI, independent samples t-tests were performed. The two groups did not significantly differ in age. However, the two groups did significantly differ in BMI, $t(52.73) = -2.89$, $p < .01$. Participants in the control condition ($M = 24.60$, $SD = 5.95$) had higher BMI compared to participants in the experimental condition ($M = 21.64$, $SD = 2.54$). Because the group differences in BMI were significant, BMI was used as a covariate in the analyses of the effects of the media exposure and the effects of the moderators.

Cronbach's alphas were computed for the adapted SCCS, PA Scale, NA Scale, BDS-EDI, SSES and all its subscales. All of the measures exhibited satisfactory reliability (alpha = 0.80 for adapted SCCS, alpha = 0.90 for PA Scale, alpha = 0.88 for NA Scale, alpha = 0.88 for BDS-EDI, alpha = 0.94 for SSES, alpha = 0.87 for SSES Performance subscale, alpha = 0.87 for SSES Social subscale, and alpha = 0.88 for SSES Appearance subscale). Table 2 provides a summary for each dependent variable.

Effects of Media Exposure

Based on hypothesis 1, it was expected that participants in the experimental condition would have lower positive affect, higher negative affect, higher body dissatisfaction, and lower state self-esteem compared to participants in the control condition. To see if the two groups differed on these variables, univariate analysis of variance (UNIANOVA) were conducted with the PA scale, NA scale, BDS-EDI, and SSES and its subscales using BMI as a covariate. Table 3 provides a summary of the effects of media exposure to thin-ideal images. The results were contrary to the predictions of hypothesis 1. The experimental group and the control group did not significantly differ in negative affect, body dissatisfaction, total state self-esteem, performance state self-esteem, social state self-esteem, and appearance state self-esteem (all F 's < 0.87, all p 's > .35). However, they did differ marginally in positive affect in a direction opposite to the hypothesized direction, $F(1, 80) = 3.69, p < .08$. Participants in the experimental condition ($M = 2.51, SD = 0.84$) reported higher positive affect compared to participants in the control condition ($M = 2.26, SD = 0.75$). It appears that media exposure to thin-ideal images did not have effects on individuals other than increasing their levels of positive affect.

Content and Organization of Self-concept as Moderators of the Effects of the Media

The number of self-schemas (positive, negative, and neutral) and the interrelatedness among them were calculated according to directions provided by the measures' author. A summary of the results are provided in Table 1. Each variable was then categorized in two groups using a median split: high and low. Based on hypothesis 2, it was expected that number of valenced self-schemas (positive or negative) and level of interrelatedness among the self-schemas would moderate the effects of the media on affect, body dissatisfaction, and state-self-esteem. It was hypothesized that individuals who have a low number of positive self-schemas, a high number of negative self-schemas, and a highly interrelated self would be more susceptible to the media exposure to thin-ideal images. To examine the moderating effect of self-concept on the effects of media exposure to thin-ideal images on the dependent variables, 2×2 (thin-ideal vs. control condition by high vs. low number of positive self-schemas/ number of negative self-schemas/ number of net positive self-schemas/ interrelatedness among self-schemas) UNIANOVAs were conducted with the PA scale, NA scale, BDS-EDI, and SSES and its subscales using BMI as a covariate. Tables 4, 5, 6, and 7 provide summaries of the moderating effect of self-concept on the effects of the media exposure to thin-ideal images on the dependent variables.

Contrary to the predictions of hypothesis 2, the number of positive self-schemas, number of negative self-schemas, and the interrelatedness among self-schemas did not significantly moderate the effects of media exposure to thin-ideal images on any dependent variables (all F 's < 2.79 , all p 's $> .09$). However, the number of net positive self-schemas did marginally moderate the effects of the media exposure to thin-ideal images on body dissatisfaction, $F(1, 80) = 3.18$, $p < .08$. In the experimental condition, participants who had a low number of net positive self-schemas ($M = 3.51$, $SD = 1.09$) had marginally higher body dissatisfaction compared to those who had a high number of net positive self-schemas ($M = 2.86$, $SD = 0.64$). In contrast, in the

control condition, such a difference was not significant. This result was in concordance with hypothesis 2. It appears that after being exposed to thin-ideal images, individuals who have a relatively higher balance of positive selves are more likely to experience high levels of body dissatisfaction compared to individuals who have a relatively lower balance of positive selves.

Miscellaneous Results

Through conducting the 2×2 UNIANOVAs mentioned in the section above, some unhypothesized results were found. There were some connections between the content and organization of self-concept and the dependent variables regardless of media exposure condition. Participants who had high number of negative self-schemas ($M = 1.67, SD = 0.75$) had significantly higher negative affect than those who had a low number of negative self-schemas ($M = 1.40, SD = 0.48$), $F(1, 80) = 4.19, p < .05$. These participants ($M = 3.24, SD = 0.86$) also had significantly lower state self-esteem compared to their counterparts ($M = 3.70, SD = 0.67$), $F(1, 80) = 7.95, p < .01$. Similarly, participants who had a low number of net positive self-schemas ($M = 1.64, SD = 0.70$) had significantly higher negative affect than those who had a high number of net positive self-schemas ($M = 1.37, SD = 0.49$), $F(1, 80) = 3.97, p < .05$. These participants ($M = 3.32, SD = 0.80$) also had significantly lower state self-esteem compared to their counterparts ($M = 3.71, SD = 0.72$), $F(1, 80) = 5.20, p < .05$. Furthermore, in concordance with past research on the unity of the self-concept, participants who had high interrelatedness among schemas ($M = 1.66, SD = 0.75$) had significantly higher negative affect compared to those who had low interrelatedness among schemas ($M = 1.38, SD = 0.44$), $F(1, 80) = 4.38, p < .05$.

Discussion

This study examined effects of the thin-ideal media on body dissatisfaction, affect, and state-self esteem. Because past research has demonstrated inconsistent results on the effects of

the media, it might be possible that the effects of the media are moderated by some factors. I hypothesized that (1) media have negative effects on body dissatisfaction, affect, and state-self-esteem, and (2) the content and organization of self-concept are moderators of media effects. In particular, the prediction was that individuals who have few positive and many negative self-schemas and a self-concept characterized by high levels of interrelatedness are more likely to develop body dissatisfaction, negative affect, and low state self-esteem after acute exposure to images of thin-women. The results of this study did not support the first hypothesis, but they partially supported the second hypothesis.

Unlike some past research on media effects, the results in this study suggest that media exposure does not influence all women's body dissatisfaction, negative affect, and state-self-esteem. There are several possibilities as to why null results emerged. First, although the thin-ideal images were pretested, it is unclear whether or not the participants found the female models depicted in the advertisements presented particularly thin because manipulation checks were not performed. If individuals do not engage in upward social comparison, they probably will not be affected by the media because social comparison is what mediates media influences on body image, affect, and self-esteem (Bessenoff, 2006). Therefore, it is possible that the reason why negative media effects were not detected is that the thin-ideal advertisements presented did not trigger much upward social comparison.

Second, individuals in the experimental group might not be particularly susceptible to the effects of the media. Because a between-subject design was used to avoid suspicion about the actual purpose of the study, baseline levels of body dissatisfaction, affect, and state-self-esteem were not measured. Women in the experimental group might differ from those in the control group in baseline body dissatisfaction, affect, and state self-esteem even though random

assignment was used. This was quite likely the case because the two groups differed significantly in BMI. Hence, it is possible that the reason why negative media effects were not detected is that the experimental group differed significantly from the control group in crucial respects from the beginning.

Another unexpected result is that participants in the experimental group had marginally higher positive affect compared to those in the control group. This is contrary to results normally found in the literature, which show that exposure to thin-ideal images is associated with an increase in negative affect (e.g., Cattarin, Thompson, Thomas, & Williams, 2000; Pinhas et al., 1999). One reason why participants might have experienced an increase in positive affect but not body satisfaction and state-self-esteem after being exposed to thin-ideal images is that the thin-ideal set of advertisements might be more interesting than the control set of advertisements. An alternate explanation could be that the mere presence of a human figure in advertisements leads to an increase in individuals' positive affect. These hypotheses should be tested in future studies.

Regarding the second hypothesis, this study shows that the number of positive and negative self-schemas did not moderate media effects. This is reasonable because a person who has a high number of positive self-schemas can also have a high number of negative self-schemas. In this case, the overall sense of self may not be as positive as one would expect. On the other hand, the number of net positive self-schemas did seem to moderate the effects of the media. Having a higher number of net positive self-schemas appears to lower one's susceptibility to developing body dissatisfaction after media exposure to thin-ideal images. Although the moderating effects of the number of net positive self-schemas were not significant for other dependent variables, they all were in the predicted direction. One of the reasons why not many significant results were found is probably that not enough participants were recruited. This is a

substantial limitation of this study because the average size of media effects is not large (Grabe et al., 2008; Groesz et al., 2002), which implies that more participants are needed to detect the moderating effects of the content and organization of self-concept. Furthermore, because the variability of the number of negative self-schemas reported was low (more than half of the participants did not report having any negative attributes), it was hard to make comparisons between the high negative self-schemas group and the low negative self-schemas group. These, together, potentially explain why null results were obtained.

The interrelatedness among self-schemas also did not moderate the effects of the media. This may be because unlike some research on self-concept (e.g. Stein & Corte, 2007), this study did not use a clinical sample. An average individual does not necessarily possess a body weight self-schema. Therefore, exposure to thin-ideal images may not trigger activation of a series of body weight-related negative self-schema if a body weight self-schema is not there to begin with. Thus, the negative effects of media exposure may not be enhanced by a narrow sense of self.

Taken together, the results of this study are consistent with past research which is inconsistent in showing whether the thin-ideal media have effects on body image, affect, and self-esteem. These findings further support the idea that some factors are moderating the effects of the media. This study demonstrates that the number of net positive self-schemas one possesses can potentially be a moderator of media effects. Future research should continue to explore the role of self-concept in moderating the effects of the media. This is an important area of study because both identity impairment and thin-ideal media exposure are associated with eating disorder symptomatology (Grabe, Hyde, & Ward, 2008; Stein & Corte, 2007).

Researchers have looked at how well self-concept properties and frequency of media exposure can predict disordered eating attitudes and behaviors separately. However, almost no

research known to the author has looked at how identity impairment interacts with media exposure in causing eating disorders. It is possible that people who have a negative sense of self are more likely to engage in upward social comparison when exposed to thin-ideal images in the media, and hence more likely to develop body dissatisfaction, negative affect, and low self-esteem, which are precursors of eating disorders. The possibility of a link like this is worth further study. If such a link exists, identity intervention could potentially help in preventing the development of eating disorders by reducing individuals' susceptibility to the effects of thin-ideal media exposure.

Limitations

There are several limitations to this study. One limitation is that participants' baseline levels of body dissatisfaction, affect, and state-self-esteem were not measured because it could have made the participants aware of the true purpose of the study. Based on the same concern, manipulation checks were not conducted. The downside of not performing baseline measurements and manipulation checks is that it is more difficult to know whether the differences observed between the experimental and control group were due to exposure to the thin-ideal advertisements selected. Future studies should try to incorporate both procedures.

Another limitation is that all thin-ideal advertisements used in this study only depict models of Caucasian/European descent. There is a possibility that participants who were not Caucasian/European might react differently to the thin-ideal images presented compared to their Caucasian/European counterparts. Moreover, an additional issue regarding the thin-ideal advertisements used is that they could be more interesting compared to control advertisements. In future, researchers should pretest the media materials in greater detail to ensure not only that

the models depicted in the advertisements are thin enough but also that the thin-ideal advertisements are not more entertaining than the control advertisements.

In addition, there are two major limitations to the generalizability of the results of this study. First, because only female participants were recruited for this study, the results found cannot necessarily be generalized to males. Second, because 75% of the participants were Caucasian/European American, the findings in this study may not apply to non-Caucasian/European Americans.

Furthermore, as mentioned in earlier sections, the major limitation of this study is that not enough participants were recruited due to the limited time for data collection. Future studies with larger sample size are needed. Researchers could also consider splitting the experiment into two parts because it takes on average 45 minutes for an individual to complete the Zajonc's card sort.

Conclusion

The effects of the media on body dissatisfaction are not always detected because they are moderated by a complex combination of factors. This study shows that the content of the self-concept could potentially be one of them. Future research should continue to focus on finding moderators of media effects and identifying the populations most at risk of experiencing the negative effects of the media. It may be even more important to study how susceptibility to media effects can be reduced because thin-ideal media images are the background cause of eating disorders (Polivy & Herman, 2002), which afflict millions of individuals at any time (American Psychiatric Association, 2005). With the knowledge of what moderates the effects of the media, appropriate interventions that target specifically vulnerable populations can be designed.

References

- American Psychiatric Association. (2005). Let's talk facts about eating disorders. Retrieved March 2, 2009, from <http://www.healthyminds.org/multimedia/eatingdisorders.pdf>
- Aubrey, J. S. (2006). Exposure to sexually objectifying media and body self-perceptions among college women: An examination of the selective exposure hypothesis and the role of moderating variables. *Sex Roles, 55*, 159-172.
- Bearman, S.K., Presnell, K., Martinez, E., & Stice, E. (2006). The Skinny on body dissatisfaction: A longitudinal study of adolescent girls and boys. *Journal of Youth and Adolescence, 35*, 229-241.
- Bessenoff, G. R. (2006). Can the media affect us? Social comparison, self-discrepancy, and the thin ideal. *Psychology of Women Quarterly, 30*, 239-251.
- Birkeland, R., Thompson, J. K., Herbozo, S., Roehrig, M., Cafri, G., & van den Berg, P. (2005). Media exposure, mood, and body image dissatisfaction: An experimental test of person versus product priming. *Body Image, 2*, 53-61.
- Borzekowski, D. L. G., Robison, T. N., & Killen, J. D., (2000). Does the camera add 10 pounds? Media use, perceived importance of appearance, and weight concerns among teenage girls. *Journal of Adolescent Health, 26*, 36-41.
- Brownell, K. D. (1991). Dieting and the search for the perfect body: Where physiology and culture collide. *Behavior Therapy, 22*, 1-12.
- Bruch, H. (1981). Developmental considerations of anorexia nervosa and obesity. *Canadian Journal of Psychiatry, 26*, 212-217.

- Campbell, J. D., Trapnell, P. D., Heine, S. J., & Katz, I. M. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology, 70*, 141-156.
- Cattarin, J. A., Thompson, J. K., Thomas, C., & Williams R. (2000). Body image, mood, & televised images of attractiveness: The role of social comparison. *Journal of Social and Clinical Psychology, 19*, 220-239.
- Champion, H., & Furnham, A. (1999). The effect of the media on body satisfaction in adolescent girls. *European Eating Disorders Review, 7*, 213-228.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Corte, C. (2007). Schema model of the self-concept to examine the role of the self-concept in alcohol dependence and recovery. *Journal of the American Psychiatric Nurses Association, 13*, 31-41.
- Corte, C., & Stein, K. F. (2005). Body-weight self-schema: Determinant of mood and behavior in women with an eating disorder. *Journal of Applied Social Psychology, 35*, 1698-1718.
- Cusumano, D. L., & Thompson, J. K. (1997). Body image and body shape ideals in magazines: Exposure, awareness, and internalization. *Sex Roles, 37*, 701-721.
- Evans, P. C. (2003). "If only I were thin like her, maybe I could be happy like her": The self-implications of associating a thin female ideal with life success. *Psychology of Women Quarterly, 27*, 209-214.
- Garner, D. M., Olmsted, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders, 2*, 15-34.

- Grabe, S., Ward, L. M., & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin, 134*, 460-476.
- Groesz, L. M., 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.
- Harrison, K. (2006). Scope of self: Toward a model of television's effects on self-complexity in adolescence. *Communication Theory, 16*, 251-279.
- Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology, 60*, 895-910.
- Higgins, E.T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*, 319-340.
- Hintze, J. L. (2005). PASS 2005 User's Guide. Kaysville, Utah: Number Cruncher Statistical Software.
- Holmstrom, A. J. (2004). The effect of the media on body image: A meta-analysis. *Journal of Broadcasting & Electronic Media, 48*, 196-217.
- Jacobi, C., Hayward, C., de Zwaan, M., Kraemer, H.C., & Agras, W. S. (2004). Coming to terms with risk factors for eating disorders: Application of risk terminology and suggestions for a general taxonomy. *Psychology Bulletin, 130*, 19-65.
- Kendzierski, D. (2007). A self-schema approach to healthy eating. *Journal of the American Psychiatric Nurses Association, 12*, 350-357.
- Kendzierski, D., & Sheffield, A., (2000). Self-schema and attributions for an exercise lapse. *Basic and Applied Social Psychology, 22*, 1-8.

- Knauth, D. G., Skowron, E. A., & Escobar, M. (2006). Effect of differentiation of self on adolescent risk behavior. *Nursing Research, 55*, 336-345.
- Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology, 35*, 63-78.
- Markus, H., Hamill, R., & Sentis, K. (1987). Thinking fat: Self-schemas for body weight and the processing of weight relevant information. *Journal of Applied Social Psychology, 17*, 50-71.
- Markus, H., Smith, J., & Moreland, R. (1985). Role of the self-concept in the perception of others. *Journal of Personality and Social Psychology, 49*, 1494-1512.
- Ng, C. H. (2005). Academic self-schemas and their self-congruent learning patterns: Findings verified with culturally different samples. *Social Psychology of Education, 8*, 303-328.
- Nichter, M., & Nichter, M. (1991). Hype and weight. *Medical Anthropology, 13*, 249-284.
- Ogden, J. (2003). *The psychology of eating: from healthy to disordered behavior*. Malden: Blackwell Publishers Ltd.
- Paxton, S. J., Schutz, H. K., Wertheim, E. H., & Muir, S. L. (1999). Friendship clique and peer influences on body image attitudes, dietary restraint, extreme weight loss behaviors, and binge eating in adolescent girls. *Journal of Abnormal Psychology, 108*, 255-266.
- Pinhas, L., Toner, B. B., Ali, A., Garfinkel, P. E. & Stuckless, N. (1999). The effects of the ideal of female beauty on mood and body satisfaction. *International Journal of Eating Disorders, 25*, 223-226.
- Pipher, M. (1997). *Eating Disorders: What every woman needs to know about food, dieting and self-concept*. New York: Ballantine Books.
- Polivy, J. & Herman, C. P. (2002). Causes of eating disorders. *Annual Reviews of Psychology,*

53, 187-213.

- Posavac, H., Posavac, S., & Posavac, E. (1998). Exposure to media images of female attractiveness and concerns with body weight among young women. *Sex Roles, 38*, 187-201.
- Rieger, E., Schotte, D. E., Touyz, S. W., Beumont, P. J. V., Griffiths, R. & Russell, J. (1998). Attentional biases in eating disorders: A visual probe detection procedure. *International Journal of Eating Disorders, 23*, 199-205.
- Smith, J. R., Hogg, M. A., Martin, R., & Terry, D. J. (2007). Uncertainty and the influence of group norms in the attitude-behaviour relationship. *British Journal of Social Psychology, 46*, 769-792.
- Stein, K. F. (1995). The organizational properties of the self-concept and instability of affect. *Research in Nursing and Health, 18*, 405-415.
- Stein, K. F., & Corte, C. (2003). Reconceptualizing causative factors and intervention strategies in the eating disorders: A shift from body image to self-concept impairments. *Psychiatric Nursing, 17*, 57-66.
- Stein, K. F., & Corte, C. (2007). Identity impairment and the eating disorders: Content and organization of the self-concept in women with anorexia nervosa and bulimia nervosa. *European Eating Disorders Review, 15*, 58-69.
- Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychology Bulletin, 128*, 825-848.
- Stice, E., Schupak-Neuberg, E., Shaw, H.E., & Stein, R. I. (1994). The relation of media exposure to eating disorder symptomatology: An examination of mediating mechanisms. *Journal of Abnormal Psychology, 103*, 836-840.

Stice, E., Spangler, D., & Agras, W. S. (2001). Exposure to Media-Portrayed Thin-Ideal Images Adversely Affects Vulnerable Girls: A Longitudinal Experiment. *Journal of Social and Clinical Psychology, 20*, 270-288.

Thompson, J. K. (1996). Assessing body image disturbance: Measures, methodology, and implementation. In J. K. Thompson (Ed.), *Body image, eating disorders, and obesity: An integrative guide for assessment and treatment*. Washington, DC: American Psychological Association.

Thompson, J. K., & Stice, E. (2001). Thin-ideal internalization: Mounting evidence for a new risk factor for body image disturbance and eating pathology. *Current Directions in Psychological Science, 10*, 181-183.

Tiggemann, M. (2003). Media exposure, body dissatisfaction and disordered eating: Television and magazines are not the same! *European Eating Disorders Review, 11*, 418-430.

Watson, D., & Clark, L. A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

Appendix A

Zajonc's Card-Sort Task 1

Purpose of the instrument: to measure knowledge about the self stored in memory. Based on premise that information is already conceptualized and stored in memory. Goal of the task is to measure number of elaborated self-knowledge structures (schemas) and their organization.

Key principle is to tap what is already in memory without priming knowledge structures. Priming is usually defined as the unconscious activation of a knowledge structure such that the structure is in working memory and influences the measurement. Knowledge structures may be primed in a variety of ways: 1) informal conversation prior to the measurement, 2) the administration of other questionnaires prior to the open-ended measure, and 3) providing participant specific examples of self-descriptions. The protocol is set up to avoid these unintended priming activities. Please remember that you should not offer your own examples, if the participants probes you for additional examples, please repeat the examples offered in the verbatim text.

Implications for data collection:

In this study, we do explicitly tell participants that the purpose of the study is related to their eating, weight control, tobacco and alcohol use behaviors. However, at the start of the data collection session, avoid all discussion of body weight, weight control behaviors, alcohol and tobacco use, or food. When you greet the study participant, do so in a friendly manner but avoid high levels of informal conversation. Stay focused on the tasks at hand and try to avoid both discussion of the study and small talk.

The order of administration of the study measures is critical. The Zajonc card-sort task is to be administered first in the session. There must be no exceptions.

Task 1

Begin the administration of the measure by stating:

For the first task I am going to ask you to tell me about yourself. The instructions for the task on written on this form. I will give you a copy and ask you to read along with me as I read the instructions aloud .

[Remember that this task is new to the participant and you are providing many detailed instructions in this paragraph. Read it slowly and try to emphasize key points with your pace, pauses and emphasis].

For this task, I would like you to write down on the index cards in front of you, all of the characteristics that describe you.

The characteristics could include such things as physical descriptions, background characteristics, personality traits, personal experiences, roles, values, attitudes and interests that describe you. These descriptions may tell about how you are like other people or how you are different from them. They may be positive, negative, or neutral characteristics. There are no limits. Your task is to describe yourself as well as possible. Feel free to put down whatever seems important to you. There are no right or wrong answers! Do not worry about proper spelling.

Write down as many characteristics as you feel are necessary to describe yourself, but please put only one idea on each card. You may use a word, phrase, or sentence. If you're using the word "and" you probably could use another card. You may use as many or as few cards as you would like. There is no number that is either "right" or "wrong." If you have too many cards, lay the blank ones aside. When you start having trouble thinking of ideas, it usually indicates that it is a good place to stop. You don't need to pay attention to the letters on the cards, that is, the characteristics you write in do not need to begin with the letter on the card.

[When you finish reading the instructions aloud, then go back and informally address the following points. I do not want you to read these instructions, but rather know them in sufficient detail that you can more informally address each point. You can use the list as a checklist to be sure that you are covering all of the points below in the order that they are listed.]

Let me just review of few key points:

- 1) For this task what we want to do is to learn about you. We want you to tell us about yourself. What is it that makes you, you? If you were to answer the question, "Who am I?" honestly, what would you say?
- 2) When writing your descriptors, single words or short phrases are ok. Some people find that they can best describe themselves by writing a single word or a couple of words on each card. Other people find that writing a short phrase or sentence is easier. Either way is fine, as long as you tell us about what is important to who you are.
- 3) Remember even if you do write a sentence, limit yourself to one idea on each card. If you find that you are tempted to write word "and" after your first thought, you probably need to go to another card.

- 4) Do not worry about the number of cards that you use. The important point for this task is that you write down all the things that are important to describe you.
- 5) You will notice that there are letters typed on the cards. Please ignore them for now. They will be used in the next tasks. In other words, write what describes you on the card and ignore the type written letters.
- 6) Once you find that you are having trouble thinking of something else important to say about yourself, it is probably a good time to stop.
- 7) If you think of something else that is important to describe you when we move on to another task, you can go back and add it to the next card and add it to the others.
- 8) Remember, we are trying to learn how we can help women live healthier lives. Our ability to do so depends on you. We are counting on you for your answers. For this project, you are the expert, so please be as open and honest as you possibly can. It is important that you remember that your answers are completely private. Your name will not appear on the cards or the answer sheets.

How does the data collector position herself to provide privacy? Bring something to read; push away from the table slightly. Occupy yourself with some written material but keep on eye on what the participant is doing.

What should data collector be looking for when participant completing descriptors? Participant is writing a single thought or idea per card; using cards in alphabetical order; not using alphabet to organize self-descriptors.

Demeanor of data collector to prevent influence on number of cards generated – be sure to keep expression of your feelings in check. Interviewer restlessness or concern that the participant did not do a complete job has the potential for influencing this measure. Be alert to your body language.

Task 2

For each characteristic that you wrote down on your cards, I am now going to ask you to make 3 different judgments.

First, we want you to decide how much each idea you wrote down actually does describe you. Although we are certain that all the ideas you wrote down do describe you, we would like you to now make a more careful evaluation about how much each item actually does describe you.

First begin by getting your cards in alphabetical order using the type-written letters on the cards. Now ask the question, how much does the item written on card A describe you? Are you very much like that? Is it very much you? Are you very much like that? If it very much describes you, then you would rate the descriptor somewhere around this end of the scale (point to the high end of the scale). If on the other hand, it does not describe you very much, you might want to rate it more towards this end of the scale (point to the low end).

Maybe if I give you an example, it will be clearer. I could have put on one of my cards, “always on time”. That would sometimes be true of me, but really most often I am late. So when it came to the “always on time” card, I would have to say it was somewhere around this end of the scale (point to the low end). If on the other hand, I wrote on another card, “usually late”, that is very much like me and I would have to rate that somewhere around this end of the scale (point to high end).

Task 3

For the second judgment, I would like you to decide how important each item is to you. That is, how much it matters to you. Some items you wrote down may matter very much...that is, they are very important to who you are – others may not matter so much...they may not be as important...they describe you all right, but you just don't care that much about that part of yourself – it's just not too central or important to who you are.

Let me give you an example that might help to explain. I could have written down on one card that my eyes are green. While that really does describe me, it is not very important to who I am. It is not what makes me, me. It is not central to who I am.

Sometimes things that you don't like about yourself or you think are bad are very important to who you are. For example, I may have written that I am short-tempered. While I don't think that it is a good characteristic, I may think that it describes me very much and that it is pretty important to who I am.

Task 4

For the third judgment, please decide whether the characteristic is something good about you, something bad about you, or something that is neither good nor bad...neutral.

For each, characteristic that you wrote, please make these 3 judgements...then move on to the next.

Appendix B

Zajonc's Card-Sort Task 2

It is possible that some of the characteristics that describe you are related to one another. That is, they depend on each other. If one changes, the other one changes also. For example, suppose that the table in front of you is bigger than it is now. Then it would also become heavier. This means that the weight of the table depends on its size. The relationships between the characteristics that describe you may not be so obvious and so simple. However, I would like you to try to decide whether such dependence exists. Begin this task by laying your cards out in front of you in alphabetical order according to the type written letter on the card.

LIST ALL THE CHARACTERISTICS WHICH WOULD CHANGE IF CHARACTERISTIC "A" WAS CHANGED, ABSENT, OR UNTRUE OF YOU:

(Please refer to the characteristic by the TYPE WRITTEN letter that appears on the card. DO NOT write the characteristic)

(Repeat the sentence for every card used)

Appendix C

Questions Regarding Advertisements Presented

Use the following scale to record your answers.

| | | | | |
|------------|--------------|------------|------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| not at all | a little bit | moderately | very | extremely |

- a. To what extent do you want to purchase the product being advertised?
- b. How effective do you think this advertisement is?

Answer

- | | |
|------|------|
| 1a. | 1b. |
| 2a. | 2b. |
| 3a. | 3b. |
| 4a. | 4b. |
| 5a. | 5b. |
| 6a. | 6b. |
| 7a. | 7b. |
| 8a. | 8b. |
| 9a. | 9b. |
| 10a. | 10b. |
| 11a. | 11b. |
| 12a. | 12b. |

Appendix D

Purchasing Habits Survey

Part A: Use the following scale to record your answers.

| | | | | |
|----------|----------|-----------|----------|------------|
| 1 | 2 | 3 | 4 | 5 |
| never | rarely | sometimes | often | very often |

1. How often do you shop in a typical week?
2. How often do you shop for yourself?
3. How often do you purchase an item after viewing its advertisement on television?
4. How often do you purchase an item after viewing its advertisement in a magazine?

Part B: Answer the following questions in words.

1. What is your favorite store?

2. What is your favorite restaurant?

Author Note

Yee Lam Li, Department of Psychology, University of Michigan, Ann Arbor.

I would like to express my deepest thanks to Dr. Karen F. Stein and Dr. L. Monique Ward. Without the help and support from both of them I would not have been able to start and complete this study. Their guidance in experimental design and implementation, data interpretation, and manuscript writing has been exceptional. Thank you as well to Brittany N. Price, my research assistant, for aiding in data collection. I wish them all good fortune in their future endeavors.

I would also like to express my gratitude to my family members in Hong Kong who have loved and supported me throughout all my life. Thank you especially to my mother and father who have given me an opportunity to study abroad. I have developed a broader view of the world and life because of these two most important people in my life. A special thanks to my boyfriend and his family members who have been loving and caring for the past three years.

Correspondence concerning this manuscript should be addressed to Dr. Karen F. Stein, University of Michigan, School of Nursing, 400 North Ingalls Building, Room 2344, Ann Arbor, MI 48109-0482.

Footnotes

¹ PASS 2005 software (Hintze, 2005) was used for power analysis. In order to detect a medium sized squared multiple correlation ($R^2 = .13$) (Cohen, 1988), 77 participants would be needed.

Table 1

Descriptive Information for Participants

| Variable | Sample Mean(N=80) | Standard Deviation | Range |
|--------------------------------|-------------------|--------------------|-------------|
| Age | 18.4 | 0.621 | 18-21 |
| Height (in) | 64.6 | 2.99 | 54-71 |
| Weight (lb) | 137 | 31.3 | 98-295 |
| BMI | 23.1 | 4.78 | 16.9-47.7 |
| Number of Schemas | 12.6 | 7.20 | 1-39 |
| Number of Positive Schemas | 9.31 | 6.06 | 1-31 |
| Number of Negative Schemas | 1.25 | 2.07 | 0-9 |
| Number of Neutral schemas | 2.06 | 2.24 | 0-8 |
| Interrelatedness among Schemas | 0.129 | 0.075 | 0.024-0.409 |

Table 2

Descriptive Information for Dependent Variable Measures

| Variable | Sample Mean (N=80) | Standard Deviation | Range |
|------------------------------------|--------------------|--------------------|-----------|
| Positive Affect | 2.38 | 0.799 | 1-4.20 |
| Negative Affect | 1.51 | 0.621 | 1-4.40 |
| Body Dissatisfaction | 3.42 | 1.02 | 1.22-6 |
| State Self-Esteem | 3.50 | 0.786 | 1.60-4.90 |
| State Self-Esteem (Performance) | 3.60 | 0.820 | 1.43-5 |
| State Self-Esteem (Social) | 3.69 | 0.909 | 1.71-5 |
| State Self-Esteem (Appearance) | 3.17 | 0.941 | 1.33-5 |

Table 3

Effects of Media Exposure

| | Experimental Condition (Mean) | Control Condition (Mean) | Main Effect (F) |
|------------------------------------|----------------------------------|-----------------------------|--------------------|
| Positive Affect | 2.51 | 2.26 | 3.69 ⁺ |
| Negative Affect | 1.55 | 1.48 | 0.612 |
| Body Dissatisfaction | 3.18 | 3.66 | 0.861 |
| State Self-Esteem | 3.54 | 3.46 | 0.000 |
| State Self-Esteem (Performance) | 3.58 | 3.62 | 0.084 |
| State Self-Esteem (Social) | 3.69 | 3.70 | 0.152 |
| State Self-Esteem (Appearance) | 3.33 | 3.00 | 0.536 |

Note. ⁺p ≤.08, *p≤.05, **p≤.01

Table 4

Number of Positive Schemas (PS) as a moderator

| | Experimental Condition (Mean) | | Control Condition (Mean) | | Number of Positive Schemas (Regardless of condition) (Mean) | | Main Effect (Condition) (F) | Main Effect (Number of PS) (F) | Interaction (F) |
|--|----------------------------------|---------|-----------------------------|---------|---|------|-----------------------------------|--------------------------------------|--------------------|
| | Low PS | High PS | Low PS | High PS | Low | High | - | - | - |
| Positive Affect | 2.19 | 2.79 | 2.25 | 2.27 | 2.22 | 2.56 | 3.40 ⁺ | 2.83 | 2.78 |
| Negative Affect | 1.62 | 1.48 | 1.50 | 1.44 | 1.56 | 1.47 | 0.706 | 0.572 | 0.078 |
| Body Dissatisfaction | 3.40 | 2.99 | 3.61 | 3.73 | 3.51 | 3.31 | 0.773 | 0.894 | 1.51 |
| State Self- Esteem | 3.41 | 3.66 | 3.44 | 3.49 | 3.43 | 3.58 | 0.008 | 0.885 | 0.344 |
| State Self- Esteem (Performance) | 3.44 | 3.70 | 3.54 | 3.72 | 3.49 | 3.71 | 0.169 | 1.46 | 0.047 |
| State Self- Esteem (Social) | 3.56 | 3.80 | 3.73 | 3.66 | 3.66 | 3.73 | 0.156 | 0.189 | 0.533 |
| State Self- Esteem (Appearance) | 3.18 | 3.47 | 2.99 | 3.01 | 3.08 | 3.27 | 0.420 | 0.871 | 0.356 |

Note. ⁺p ≤ .08, *p ≤ .05, **p ≤ .01

Table 5

Number of Negative Schemas (NS) as a moderator

| | Experimental Condition (Mean) | | Control Condition (Mean) | | Number of Negative Schemas (Regardless of condition) (F) | | Main Effect (Condition) (F) | Main Effect (Number of NS) (F) | Interaction (F) |
|--|----------------------------------|---------|-----------------------------|---------|--|------|-----------------------------------|--------------------------------------|--------------------|
| | Low NS | High NS | Low NS | High NS | Low | High | - | - | - |
| Positive Affect | 2.39 | 2.66 | 2.33 | 2.16 | 2.36 | 2.40 | 4.227* | 0.178 | 1.43 |
| Negative Affect | 1.43 | 1.70 | 1.35 | 1.63 | 1.40 | 1.67 | 0.769 | 4.192* | 0.005 |
| Body Dissatisfaction | 3.00 | 3.44 | 3.65 | 3.67 | 3.32 | 3.56 | 0.560 | 2.06 | 0.937 |
| State Self- Esteem | 3.77 | 3.24 | 3.63 | 3.25 | 3.70 | 3.24 | 0.038 | 7.95** | 0.162 |
| State Self- Esteem (Performance) | 3.80 | 3.28 | 3.79 | 3.41 | 3.79 | 3.35 | 0.209 | 6.09* | 0.152 |
| State Self- Esteem (Social) | 3.98 | 3.29 | 3.83 | 3.55 | 3.91 | 3.42 | 0.406 | 6.41* | 1.05 |
| State Self- Esteem (Appearance) | 3.49 | 3.13 | 3.23 | 2.71 | 3.36 | 2.91 | 0.467 | 6.17* | 0.234 |

Note. ⁺p ≤ .08, *p ≤ .05, **p ≤ .01

Table 6

Number of Net Positive Schemas (NPS) as a moderator

| | Experimental Condition (Mean) | | Control Condition (Mean) | | Number of Net Positive Schemas (Regardless of condition) (F) | | Main Effect (Condition) (F) | Main Effect (Number of NPS) (F) | Interaction (F) |
|--|----------------------------------|----------|-----------------------------|----------|--|------|-----------------------------------|---------------------------------------|--------------------|
| | Low NPS | High NPS | Low NPS | High NPS | Low | High | - | - | - |
| Positive Affect | 2.28 | 2.73 | 2.21 | 2.32 | 2.24 | 2.54 | 3.49 ⁺ | 2.47 | 0.875 |
| Negative Affect | 1.76 | 1.33 | 1.53 | 1.41 | 1.64 | 1.37 | 0.762 | 3.97* | 1.31 |
| Body Dissatisfaction | 3.51 | 2.86 | 3.65 | 3.67 | 3.59 | 3.23 | 0.874 | 2.72 | 3.18 ⁺ |
| State Self- Esteem | 3.27 | 3.82 | 3.36 | 3.59 | 3.32 | 3.71 | 0.016 | 5.20* | 0.939 |
| State Self- Esteem (Performance) | 3.34 | 3.81 | 3.47 | 3.82 | 3.41 | 3.81 | 0.192 | 4.87* | 0.114 |
| State Self- Esteem (Social) | 3.38 | 3.99 | 3.66 | 3.76 | 3.53 | 3.88 | 0.200 | 3.17 ⁺ | 1.70 |
| State Self- Esteem (Appearance) | 3.05 | 3.62 | 2.89 | 3.14 | 2.97 | 3.40 | 0.410 | 4.46* | 0.773 |

Note. ⁺p ≤ .08, *p ≤ .05, **p ≤ .01

Table 7

Interrelatedness among Schemas (IS) as a moderator

| | Experimental Condition (Mean) | | Control Condition (Mean) | | Interrelatedness among Schemas (Regardless of condition) (F) | | Main Effect (Condition) (F) | Main Effect (IS) (F) | Interaction (F) |
|--|----------------------------------|---------|-----------------------------|---------|--|------|-----------------------------------|-------------------------|--------------------|
| | Low IS | High IS | Low IS | High IS | Low | High | - | - | - |
| Positive Affect | 2.39 | 2.66 | 2.45 | 2.08 | 2.42 | 2.35 | 3.56 ⁺ | 0.034 | 2.46 |
| Negative Affect | 1.43 | 1.71 | 1.33 | 1.62 | 1.38 | 1.66 | 1.04 | 4.38* | 0.038 |
| Body Dissatisfaction | 3.29 | 3.17 | 3.78 | 3.55 | 3.53 | 3.37 | 0.525 | 0.451 | 0.065 |
| State Self- Esteem | 3.45 | 3.60 | 3.53 | 3.40 | 3.49 | 3.49 | 0.030 | 0.001 | 0.981 |
| State Self- Esteem (Performance) | 3.39 | 3.74 | 3.71 | 3.53 | 3.55 | 3.63 | 0.163 | 0.165 | 2.047 |
| State Self- Esteem (Social) | 3.61 | 3.71 | 3.77 | 3.64 | 3.69 | 3.67 | 0.280 | 0.011 | 0.486 |
| State Self- Esteem (Appearance) | 3.32 | 3.30 | 3.04 | 2.96 | 3.18 | 3.11 | 0.310 | 0.156 | 0.280 |

Note. ⁺p ≤ .08, *p ≤ .05, **p ≤ .01

Figure Captions

Figure 1. Examples of thin-ideal advertisements that were shown to participants.

Figure 2. Examples of control advertisements that were shown to participants.

Content and Organization of Self-Concept 47



