University of Alberta

Extrinsic contingency focus and reactions to idealized body images in advertising media

by

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A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Department of Psychology

Fall 2009
Edmonton, Alberta

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Dedication

I would like to dedicate this dissertation to my loving family.

to Mom and Dad for the unconditional love and support;

to Trish and Tom for your kindness and encouragement;

to Terry, Michelle and Thomas for all of the trips, rides, beer and love;

to Tammy for always looking out for her baby brother and insisting that he become a doctor (I hope you didn't mean medical doctor???).

and to Rachel, for her endless love, understanding and commitment.

Abstract

Using a recently developed measure of extrinsic contingency focus (ECF; Williams, Schimel, Hayes & Martens, 2009), four studies were conducted to examine the relationship between extrinsic contingency focus and the extent to which individuals strive to meet the social ideals shown in advertising media. In Study 1 it was found that ECF predicted participants' desire for the image oriented aspects of consumer products. Study 2 demonstrated the moderating effects of ECF on women's food consumption and preference for healthy foods following exposure to thin models. Study 3 showed that ECF also moderated reactions to idealized body images among males who were exposed to idealized images. Study 4 extended the results of the previous studies, by demonstrating that reactance to idealized images among low ECF women can be limited by affirming the intrinsic self. The implications of these findings relative to a multifaceted conceptualization of self-esteem and the use of idealized images in media are discussed.

Acknowledgement

I would like to thank Jeff Schimel for his excellence as both a supervisor and as a friend. My committee members, both past and present, have provided me with valuable feedback and support over the years. As such, I would like to thank Kim Noels, Michael Gillespie, Leo Mos, John Precejus, Elena Nicolidas, Harvey Krahn, Don Kuiken, Clay Routledge and Takahiko Masuda. I am especially grateful to Mike Gillespie who, since my undergraduate days, has always made time for me as his student and friend. And finally, I would like to thank Joe Hayes and Eric Faucher, my brothers in the lab.

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Introduction

It is undeniable that today's advertising media relies on the use of attractive models to peddle a wide variety of products ranging from peri peri sauce to palm pilots. Although the pressure for men and women to meet societal standards of physical attractiveness is hardly a recent phenomenon, there has been a growing concern about how exposure to highly idealized body images affects people's well being and behavior, especially that of women who are chronically exposed to ultra thin, unrealistic body ideals. In fact, in the past few decades, female models have become progressively thinner and often exceed the 15% underweight criterion for anorexia nervosa (Spitzer, Henderson, & Zivian, 1999). Many contend the extensive use of idealized images promotes an exaggerated and unattainable standard of thinness that adversely impacts women's body image and eating behaviors. Some research supports this contention. Exposure to such images in the media has been linked to a host of negative outcomes including excessive dieting practices (Stice, Mazottie, Krebs & Martin, 1998), eating disorders (Harrison, & Cantor, 1997; Stice, Schupak-Neuberg, Shaw, & Stein, 1994; Thompson, Coovert, Richards, Johnson & Cattarin, 1995), body dissatisfaction (Anderson, Huston, Schmitt, Linebarger, & Wright, 2001; Stice et al., 1994), and higher levels of negative affect (Pinhas, Toner, Ali, Garfinkel & Stuckless, 1999; Stice & Shaw, 1994).

While the ubiquity of idealized body images in the media may play a central role in producing these negative outcomes, a more comprehensive review of the experimental literature on this topic reveals that the relationship between exposure to idealized images and negative outcomes is not a simple one. Although a number of experimental studies

support the idea that exposure to idealized body images leads to the internalization of unrealistic ideals and a general dissatisfaction with one's own body (Anderson et al., 2001; Harrison & Cantor, 1997; Heinberg, Thompson, & Stormer, 1995; Richins, 1991; Rodin, Silberstein, & Striegel-Moore, 1984), other studies suggest that exposure to such images does not lead to negative outcomes and, in some cases, actually has psychological benefits (Cusamano & Thompson, 1997; Henderson-King, Henderson-King & Hoffman, 2001; Joshi, Herman, & Polivy, 2004; Mills, Polivy, Herman, & Tiggemann, 2002; Myers & Biocca, 1992; Sedon & Berry, 1996). These mixed findings have led researchers to explore whether individual differences moderate this relationship.

Of particular interest is whether differences in the types of contingencies that people pursue in order to gain self-esteem affect the way they react to idealized body images in the media. Indeed, a growing body of recent theoretical and empirical work has converged on the idea that differences in the way people derive their self-esteem can have a profound influence on how they respond to information and events in their social environment (e.g., Arndt, Schimel & Cox, 2006; Crocker & Wolfe, 2001; Deci & Ryan, 2001; Kernis, 2003). Specifically, research has shown that the more people are focused on living up to extrinsic contingencies for self-esteem, that is, standards for self-esteem that are largely socially (vs. personally) determined such as physical appearance and the approval of others, tend to be more vigilant and defensive in response to social feedback and are more likely to engage in behaviors aimed at bolstering their social image even if such behaviors are unhealthy (Arndt et al., 2009; Crocker, 2003; Henderson-King et al., 2001; Ip & Jarry, 2007; Patrick, Neighbors & Knee, 2004; Williams et al., 2009). Given that high levels of extrinsic contingency focus (ECF) are associated with a general

strategy of maintaining self-esteem by living up to socially prescribed expectations and normative standards (Williams et al., 2009) and that body images in the media represent these standards (Garner, Garfinkel, Schwartz & Thompson, 1980), it is hypothesized that exposing high ECF individuals to idealized body images in advertising media will increase attitudes and behaviors aimed at meeting the standards conveyed by these images. Individuals with a lower focus on extrinsic contingencies are expected to respond differently to idealized body images. Because low ECF individuals are more likely to base their self-esteem on meeting personally defined standards, they may show little or no response to idealized media images. However, if the body images are perceived as a source of pressure to conform to social ideals, then low ECF individuals may show reactance to the images (Brehm & Brehm, 1981) and take on attitudes and behaviors aimed at reasserting their sense of freedom and uniqueness.

In light of the controversy concerning the effects of exposure to idealized media images on people's well-being, and the unexplored possibility that ECF may moderate this relationship, the current research tests the aforementioned hypotheses by examining people's health related behaviors following exposure to idealized body images in advertisements. To clarify the role of ECF in how people respond to idealized body images, a review of the research literature on people's reactions to these images in the media is provided. Because of the large volume of work on this topic, I have limited my review to empirical works that have been conducted in the past 15 years. While this review includes correlational research on the topic, there is a greater emphasis on experimental, quasi-experimental and meta-analytic findings because of the greater control and inferential power afforded by these techniques. In this review, I have also

chosen to include studies that have assessed any aspect of health or body image in order to provide a broader understanding of how exposure to idealized images affects well-being. Examples of this include, but are not limited to, the following: affect, body esteem, body dissatisfaction, self-esteem, depression, eating disturbances and exercise behaviors. Following this review of the research on the use of body images in the media, I provide an overview of the theory and research related to ECF. I then discuss how this facet of self-esteem may provide insight into a number of the important issues that have arisen in the media and body image literature. Four studies that assessed the moderating role of extrinsic contingency focus on men and women's reactions to media images are then described.

Exposure to Idealized Body Images and Well-being

A great deal of research has examined the use of idealized body images in advertising media, yet there is little consensus about how exposure to these images affects people's well-being. While a number of correlational studies suggest that idealized body images in media may be responsible for general body dissatisfaction among young women (Botta, 1999; Harrison & Cantor, 1997; Hofschire & Greenberg, 2002; Stice et al., 1994), others have found no relationship between exposure to media and body image (Borzekowski, Robinson, & Killen, 2000; Cusumano & Thompson, 1997; Stice, 1998). Experimental research, where exposure to idealized body images is administered in a controlled environment, has also yielded mixed results. A number of experiments have shown that exposure to idealized body images leads to negative consequences such as body image disturbance and bulimic symptomatology (Irving, 1990; Waller, Hamilton & Shaw, 1992). It has also been found that exposure to thin

models leads to increases in depression, self-consciousness and overall body dissatisfaction (Crouch & Degelman, 1998; Kolodner, 1997; Stice & Shaw, 1994).

There are, however, also a number of experiments that have failed to find significant effects of media exposure on women's body image. Martin and Kennedy (1993) found no significant difference in levels of self-perceived attractiveness between adolescent females who viewed highly attractive models, normally attractive or advertisements without body images (also see: Richins, 1991). Champion and Furnham (1999) exposed young women to thin, normal or heavier models that were taken from popular women's magazines. Their analysis, which controlled for participants' weight and self-perceived attractiveness, showed that while age was positively related to body dissatisfaction, there were no differences between the advertisement conditions in any of the age groups sampled (ranging from 12 to 18 years). Using a university aged sample of women, Irving (1990) found no differences between exposure to thin, average or heavier models in advertising on women's self-esteem and body image.

Confusing matters further, a number of researchers have reported that exposure to idealized images actually increases some aspects of well-being. For example, Myers & Biocca (1992), drawing from a pool of nearly 800 commercials, compiled four, 26 minute television segments that were designed to resemble regular television programming. These television segments consisted of a program that was either high (vs. low) in idealized body image content and commercials that were either high (vs. low) in idealized body image content. The program genres (i.e., sitcom/drama) and product types (i.e., soda/laundry detergent) in the commercials were matched between conditions. Pre-measures of participants' level of positive and negative affect, depression and body-

image distortion were taken in order to control for individual differences. Their results showed that exposure to the idealized images (in either the program or commercials) increased women's level of body distortion such that the women felt thinner after viewing the idealized body images. Furthermore, it was found that women experienced higher levels of positive affect and lower levels of depression after being exposed to the idealized body images. In light of these results, Myers & Biocca propose that idealized images may serve a 'therapeutic' value for some women by increasing their perception that they are meeting social standards of thinness.

In another interesting study, Mills et al., (2002) under the guise of market research, exposed restrained and unrestrained eaters to thin, heavy or neutral (product only) advertisements and assessed the participants' appearance and state self-esteem. They found that while restrained eaters reported higher levels of state self-esteem and appearance esteem following exposure to thin models, unrestrained eaters did not change on these dimensions after exposure. A similar study by Joshi, Herman & Polivy (2004) examined whether the duration of exposure to idealized images further moderated the results observed by Mills et al. (2002). In this study Joshi et al. (2004) had restrained and unrestrained eaters engage in a signal detection task in which they were exposed to advertisements that contained thin models for short (150ms) or long (7s) intervals. The control condition exposed participants to advertisements that did not contain body images for a long interval (7s). The results of this study replicated the findings of Mills et al. (2002), by showing that unrestrained eaters were unaffected by exposure to thin models but restrained eaters showed significantly higher levels of appearance and social esteem following exposure to thin models (both short and long intervals). The findings of Mills

et al. (2002) and Joshi et al. (2004) indicate that because attaining an idealized body image is not a central concern among unrestrained eaters, their appearance and social esteem remain unaffected when they are exposed to these ideals. However, among restrained eaters who place an emphasis on meeting a particular body ideal, idealized images in advertisements may reinforce a 'thin fantasy' (also see: Lockwood & Kunda, 1997; Myers & Bioca, 1992). Also consistent with the idea that idealized images may be inspirational to some women, Henderson-King & Henderson-King (1997) found that exposure to idealized images led women who were thin (vs. heavier), or were high (vs. low) in self-monitoring, to feel more positive about their own physical condition.

In an effort to address the inconsistencies in the literature, there have been several meta-analyses to determine the aggregate effects of exposure to thin ideals on women's body image. Holstrom (2004) conducted a meta-analysis that included 34 correlational and experimental designs where exposure to thin women in media was manipulated or used to predict weight-based body image, feelings about thinness, or eating pathology. The results of this analysis revealed a small overall effect size (*d =.16)* of exposure to body images on women's overall body image such that women felt worse after viewing idealized images versus control images. Further analyses revealed that there were differences in effect sizes depending on the type of control condition that was used in the study. Specifically, it was found that the effect sizes in studies that used neutral control conditions (i.e., average weight woman (r =.11) or a non-human control (r =.03)) differed from those that used heavier models in the control conditions (r =.39). This difference implies that the relatively small overall effect size found was due to differences in women feeling better about themselves after viewing heavier body images, rather than feeling

worse about themselves after viewing thin models. Holstrom (2004) also found that the longer participants were exposed to idealized body images, the better they felt about themselves (r =-.07). While the overall relationship between exposure time and body image was quite weak, these results became much more pronounced when experimental (r =.-07) and correlational (r =-.39) studies were analyzed separately. Holstrom attributes the disparity in effect size to the relative differences in the duration/quantity of exposure to the idealized images. While the experimental designs exposed participants to the idealized images for a brief amount of time (45 seconds to 26 minutes), the correlational designs assessed much longer exposure times (generally hours per week). Holstrom's conclusion about these differences should be considered speculative, however, as there are several methodological differences (i.e., reliance on self-reported media consumption, lack of experimental control) that may also explain this difference. While Holstrom's (2004) analysis included more than 30 different measures related to various facets of body image, there were no substantial differences between studies that assessed importance of appearance (r =.03), body dissatisfaction (r =.05), eating pathology (r =.05) or endorsement of a thin ideal (r =.02). In summary, Holstrom's (2004) meta-analysis suggests there is little evidence in support of the idea that exposure to thin models aversely impacts women's body image. However, these meta-analytic findings do suggest that exposure to overweight models may lead to modest increases in women's body image satisfaction.

Groesz, Levine & Murnen (2002) conducted another meta-analysis that provides stronger support for the idea that idealized body images may affect women's level of body satisfaction. Groesz et al. (2002) analyzed 25 studies that included experimental

manipulations of exposure to a thin body image versus a control (average models, attractive non-models, overweight models or inanimate objects) and assessed one of the following: body/weight satisfaction, physical attractiveness or body size estimation. The results of this analysis, across the different facets of body image that were assessed, revealed a small overall negative effect of exposure to thin models on body satisfaction (d = -.30). The average effect size of viewing thin models was consistent across the different measures of body image, with weight satisfaction being most strongly effected (d = -.42), followed by body satisfaction (d = -.34), physical attractiveness (d = -.30) and body size estimation (d = -.23). Unlike the results of Holstrom's analysis, the average effect size did not differ substantially between studies that used average models (d = -.34), inanimate objects (d = -.30), or heavier model (d = -.29) control conditions. The meta-analysis of Groesz et al. (2002) does provide support for the idea that thin models in advertisements adversely impact women's body image. However, the strength of this relationship is much weaker than one would predict, particularly in light of the strong critiques that many have leveled at their use (Blood, 2005; Hesse-Biber, Leavy, Quinn & Joino, 2006; Thompson & Heinberg, 1999; Wolf, 2002; Wykes & Gunter, 2005). The combined findings of Holstrom (2004) and Groesz et al. (2002) challenge the idea that there is a straightforward relationship between media exposure and body image dissatisfaction among women and suggest that there may be individual differences that moderate this relationship.

Individual Differences and Women's Reactions to Idealized Body Images

It is evident that while nearly all women in Western culture are exposed to thin models on a regular basis, not all have negative body images or appear to suffer negative

consequences from viewing such media. Furthermore, it seems unlikely that if exposure to thin models has a consistent and uniformly negative effect among women, that media featuring these ideals would continue to sell (Groesz et al., 2002; Polivy & Herman, 2004). As Polivy and Herman (2004) argue, the idea that media creates body dissatisfaction and leads to negative outcomes among all women, is overly simplistic and ignores the dialectical relationship that exists between normative ideals and women's own body images.

A number of individual differences that moderate the relationship between exposure to thin models and outcomes for women have been identified. One difference that has been shown to clearly affect women's reactions to thin models is their level of body dissatisfaction. Studies have shown that women who are high in body image dissatisfaction have more negative reactions to idealized images than do women who have average or higher levels of body satisfaction (Heinberg & Thompson, 1995; Stice, Spangler & Agras, 2001). For example, Posavac, Posavac, & Posavac, (1998) conducted a series of three quasi-experiments in which participants who varied in their level of body dissatisfaction were exposed to slides of fashion models (vs. control conditions) that were taken from popular women's magazines. They were then given a measure of body esteem. Across the studies it was found that women who were dissatisfied with their bodies reported lower body esteem following exposure to idealized body images, but not following exposure to images of cars (Studies 1 & 3) or models with realistic body images (Study 2). However, women who were satisfied with their bodies did not report differences in their level of body esteem following exposure to idealized body images. In a similar vein, Bessenhoff (2006) found that a greater discrepancy between women's

actual and ideal body images was related to a higher number of depressive symptoms following exposure to idealized body images. Differences in adolescent women's reactions to thin models have also been found to differ across their level of Body Mass Index (BMI), such that individuals who were high in BMI reported lower levels of body satisfaction following exposure to idealized body images in advertisements (Durkin & Paxton, 2002). Taken together, these findings indicate that women's overall satisfaction with their bodies moderates the effects of exposure to thin ideals in advertising media. In particular, the results of these studies show that exposure to idealized body images is harmful to women who are unsatisfied with their bodies but are not quite as detrimental to women who are satisfied with their physiques.

The research that has been reviewed thus far shows that a direct link between exposure to idealized body images and well-being is tenuous. Furthermore, it highlights the importance of examining how individual differences affect people's reactions to idealized body images. Individual differences that moderate the relationship between exposure to idealized body images and well-being range from whether an individual is dieting (e.g., Myers & Biocca, 1992), is satisfied with their current body image (e.g., Stice et al., 2001), is high in self-monitoring, or is thin (Henderson-King & Henderson-King, 1997). However, there is a common theme that spans across these findings: the extent that a person feels she or he is progressing toward the salient ideal plays a key role in determining whether exposure to idealized body images will lead to positive or negative outcomes. In all of the studies reviewed, individuals who were either happy with their body image (Heinberg & Thompson, 1995; Posavac et al., 1998; Stice et al., 2001) or who demonstrated behavior that was oriented toward attaining a thin ideal (i.e. Durkin

& Paxton, 2002; Myers & Biocca, 1992), experienced more positive outcomes following exposure to idealized images than those who were unhappy with their body image or who were not engaged in behaviors aimed at meeting the social standard. Thus, the degree to which individuals feel 1) as though their personal body image goals are consistent with the social standard and 2) they are successfully regulating their behavior in a way that is congruent with the attainment of this ideal, may be related to whether they feel inspired or disheartened by idealized images.

These overall trends in the literature have implications for how self-esteem processes are related to people's reactions to idealized body images. If women acquire self-esteem by meeting socially prescribed standards of thinness and beauty, then reminders of these standards may serve to affirm and motivate those who feel as though they are currently meeting or exceeding the standard. However, for those who endorse the thin ideal but feel as though they are falling short of the standard, idealized body images may lead them to experience lower levels of well-being. Moreover, if women acquire self-esteem by adhering to personal standards that diverge from or stand in opposition to the social ideal, then reminders of this ideal may lead to negative feelings and resentment of the normative standard. With these possibilities in mind, I now review evidence that has examined the relationship between self-esteem processes and reactions to idealized body images more directly.

Importance of the Thin Ideal and Body Image Satisfaction

Based on the evidence reviewed thus far, it seems reasonable to infer that the more women feel as though being thin and physically attractive is important for their self-concept, the more they will be affected by exposure to idealized body images. Consistent

with this assumption, an impressive body of literature has investigated three variables theoretically related to whether women derive self-esteem from attaining the cultural standard of thinness: The degree to which women internalize the thin ideal, are aware of the ideal, and feel pressure to live up to it. Internalization refers to the acceptance of a particular ideal as relevant to a person's core values and the modification of their behavior in order to attain this ideal. Awareness on the other hand, is the recognition or acknowledgment of socially defined appearance norms. Unlike internalization, awareness does not encompass an acceptance of, or behavioral changes in pursuit of the thin ideal (Cafri, Yamamiya, Brannick & Thompson, 2005; Thompson, Heinberg, Altabe, & Tantleff-Dunn., 1999; Thompson & Stice, 2001; Thompson, van den Berg, Roehrig, Gaurdia & Heinberg, 2004). Pressure to meet social ideals refers to the pressure that one feels to conform to thin standards and encompasses an awareness of these standards, but does not necessarily lead to behavioral changes in pursuit of these ideals. There are a number of measures that have been developed that assess these different facets of attitudes towards appearance (i.e.: Cash, Flemming, Alindogan, Steadmon & Whitehead, 2002; Cash & Szymanski, 1995; Cash & Lebarge, 1996; Cusumano & Thompson, 1997; 2004; Keery, Shroff, Thompson, Wertheim & Smolak, 2004; Heinberg et al., 1995; Stice, Nemeroff & Shaw, 1996; Stice, Ziemba, Margolis & Flick, 1996) and research that has used these measures indicates that these three factors uniquely predict body image satisfaction among women. Cafri, Yamamiya, et al. (2005) conducted a meta-analysis that included the results of 22 studies to examine the relationship between these three socio-cultural factors and women's body image. This analysis revealed medium to large effect sizes of internalization of a thin ideal (r = .50), awareness (r = .29), and perceived

pressure (r = .48), such that higher levels of each was related to higher levels of body dissatisfaction. While awareness of social ideals was a moderately strong predictor of body dissatisfaction, the degree that women feel pressured to meet the thin ideal and internalize the ideal, was strongly related to their level of body dissatisfaction.

A number of studies provide further support for this idea by showing that greater internalization of social ideals is associated with more negative outcomes following exposure to thin models (Cusumano & Thompson, 1997; Dittmar & Howard, 2004a; 2004b; Halliwell & Dittmar, 2004; Heinberg et al. 1995; Stormer & Thompson, 1996; Thompson, Heinberg, Altabe, & Tantleff-Dunn 1999). For example, Heinberg & Thompson (1995) exposed females to 10 minutes of commercials containing idealized body images versus non-appearance related stimuli. They found that women who had higher levels of internalization experienced the most negative affect following exposure to the appearance related video. A study by Stice & Shaw (1994) yielded similar results, with women who were high on internalization showing the greatest severity of bulimic symptoms following exposure to thin models. Durkin & Paxton (2002) exposed adolescent women to magazine images that featured idealized models or fashion accessories alone. They found that internalization of thin ideals led to increases in body dissatisfaction, negative affect and depression. Thus, while the awareness of a thin ideal was moderately related to negative outcomes, the internalization of, and perceived pressure to meet these ideals were strong predictors of body dissatisfaction and negative affect. These findings raise an important question: Why would greater internalization and endorsement of the thin ideal lead to greater body dissatisfaction for women?

According to social comparison theory (Festinger, 1954), people seek social comparison with similar others because this comparison information is relevant to their self-concept. Thus, situational or individual differences that affect the level of perceived similarity between oneself and a thin model should lead to differences in the extent that one feels the social ideal is self-relevant. Several studies provide support for this notion. For example Cash, Cash & Butters (1983) and Henderson-King and Henderson-King (1997) both found that cueing participants to the unrealistic nature of idealized images ameliorated the negative impact of viewing these images. The *relevance* of the normative ideal to the individual's basis of self-worth may therefore affect the outcome of the exposure to that ideal. While ultra-thin models in advertising media may represent an ideal that some women feel is important, other women may consider this ideal to be unrelated to their basis of self-worth. In so far as a woman considers being thin important, salient media images may serve as a basis for social comparison. For almost all women who consider thinness as central to their self-worth, the ideal that is embodied in advertising images is virtually unattainable and failure to meet the ideal leads to negative psychological outcomes. However, a minority of women who embrace the thin ideal and who either feel as though they are meeting this ideal (Durkin & Paxton, 2002; Henderson-King & Henderson-King, 1997) or are successfully regulating their behavior in a manner consistent with it (e.g.: Ip & Jarry, 2007; Lockwood & Kunda, 1997; Myers & Bioca, 1992) may be inspired by thin images and experience positive affective consequences. Women who do not consider thinness to be an important component of their self-worth avoid using these ideals as a basis for social comparison and as a consequence remain comparatively unaffected by exposure to these ideals.

Research by Ip & Jarry (2007) supports this idea. They found that women who were highly invested in their body image as a source of self-definition reported higher levels of body image dissatisfaction following exposure to thin models than women who did not rely on their body image for their self-definition. In a similar vein, Henderson-King et al. (2001, Study 2) found that the level of importance that individuals place on attractiveness was negatively related to their level of body esteem and feelings of attractiveness after viewing slim models. Other research by Melnyk, Cash & Janda (2004), while not explicitly examining media exposure, investigated the variability in women's body image over the period of a week using an automated telephone system. They found that investment in appearance and appearance-fixing coping strategies predicted greater variability in women's body images. In a similar vein, Kernis (2003) posits that investment in appearance and other extrinsic domains such as social approval can lead to an unstable form of self-esteem that will fluctuate in response to social evaluation. Thus, both empirical research and theory suggest that the extent to which attractiveness and slimness are relevant to an individual's self-esteem predicts the likelihood that one will be adversely impacted by idealized images.

If living up to the cultural standard of thinness is associated with negative outcomes for women, then an important question is why some women endorse the thin ideal more than others? As suggested earlier, one possibility has to do with people's tendency to focus on extrinsic versus intrinsic contingencies in acquiring self-esteem. Because the goal of maintaining a thin physique is largely extrinsic, people who are generally more focused on extrinsic contingencies of self-worth should be more likely to internalize and endorse media generated standards of physical appearance.

Self-Esteem and Extrinsic Contingency Focus

The notion that an individuals' sense of self-worth affects how they interpret and interact with the social world has been an axiomatic assumption among psychologists for a great number of years (Adler, 1927; Arndt & Schimel, 2003; Becker, 1971; Crocker, Luhtanen, Cooper & Bouvrette, 2001; Horney, 1937; Rogers, 1951; Sullivan, 1953). As Crocker et al. (2001, p.1) argue, "Self-esteem is a central aspect of the subjective experience and quality of life." Level of global self-esteem has been shown to be strongly related to a number of important measures of well-being, including positive affect (Brockner et al., 1983; Pelham & Swann, 1989) and life satisfaction (Diener, 1984; Myers & Diener, 1995). Furthermore, several longitudinal designs have revealed that global self-esteem predicts mental and physical health, economic prospects, and criminal behavior (Mruk, 2006; Solomon, Greenberg & Pyszczynski, 1991; Trzesniewski et al., 2006).

While global self-esteem is related to a myriad of different psychological outcomes (for a review see Mruk, 2006), the causal direction of these relationships is often ambiguous. Although some have argued that "many, if not most, of the major problems plaguing society have roots in the low self-esteem of many of the people who make up society" (Mecca, Smelser, & Vasconcellos, 1989), others suggest that there is little or no evidence to suggest that self-esteem is a cause, rather than a symptom, of these social problems (Crocker & Wolfe, 2001; Dawes, 1994). In fact there are even a handful of studies suggesting that high levels of self-esteem can lead to negative behaviors such as defensiveness (Baldwin & Sinclair, 1996; Seligman, Reivich, Jaycox & Gillham, 1995), self-destructiveness (Crocker & Park, 2004), anxiety (Crocker, Karpinski, Quinn

& Chase, 2003; Crocker, Sommers, & Luhtanen, 2002), self-deception, aggression and violence (Baumeister, 2001; Baumeister, Smart & Boden, 1996).

In an effort to clarify the nature of the relationship between self-esteem and social behavior, researchers have begun to examine the idea that beyond global levels of self-esteem, the manner through which self-esteem is acquired is an important factor in determining its overall quality (e.g.., Crocker & Wolfe, 2001; Deci & Ryan, 1995; Kernis, 2003; Schimel, Arndt, Pyszczynski, & Greenberg, 2001). For example, Kernis (2003) has emphasized the importance of authenticity in the development of stable self-esteem. According to Kernis, authentic self-esteem is characterized by a trust in one's personal desires and feelings coupled with an awareness of one's strengths and weaknesses. When individuals are able to receive feedback from others who are supportive and honest they are able to develop an authentic form of self-regard, which is characterized by a close match between their conception of self and the feedback they receive. However, if individuals engage in social interactions that do not foster continuity between their inner experiences and positive regard from others, they may develop contingent self-esteem which leads to a preoccupation with meeting expectations and a denial of one's inner experiences and feelings. Deci and Ryan (1995) also make a distinction between 'true' and 'contingent' self-esteem, with the former being reflective of a stable and socially independent self-esteem and the latter of instability and approval-seeking self-esteem. They contend that true self-esteem emerges from a child's engagement in self-determined activity in combination with unconditional and genuine acceptance from parental figures. Conversely, Deci and Ryan argue that contingent self-esteem emerges when the child feels a constant pressure to conform to the expectations of

the parent and refrains from engagement in self-determined activities because they fear that their parents will withdraw their love and affection if they do not approve of these behaviors. Similarly, Schimel and colleagues (Arndt & Schimel, 2002; Schimel, Arndt, Pyszczynski & Greenberg, 2001) have made the distinction between extrinsic and intrinsic self-esteem. Extrinsic self-esteem arises from sources that are perceived as coming from outside the self, such as interpersonal acceptance for one's accomplishments and living up to socially defined expectations. In contrast, intrinsic self-esteem is acquired from sources that are perceived as coming from within the self, such as acceptance for expressing one's core personality traits and following self-determined standards.

While there are more nuanced distinctions between how each of these theorists conceptualize the development and function of self-esteem, they all converge on the idea that individuals differ in the extent that they are focused upon meeting socially defined (extrinsic) versus personally defined (intrinsic) contingencies in acquiring their self-esteem. These theorists also tend to agree that these bases of self-esteem emerge from early socialization experiences and extend into our adult years (Becker, 1971; Horney, 1937; Rogers, 1951). For example, a child whose parents withdraw their love and affection when they fail to meet their expectations will become highly focused on meeting external standards. Alternatively, a child whose parents provide unconditional acceptance, yet are able to provide firm guidelines for what is acceptable and unacceptable, will develop a higher level of independence and will consequently be able to place more emphasis on meeting personally defined expectations. Thus, a greater

emphasis on meeting self-determined standards will allow the child to function more autonomously and allow them to feel less pressure to meet social standards.

If the means through which people acquire self-esteem is rooted in childhood experiences, then there should be stable individual differences in the extent to which they are focused on meeting extrinsic contingencies. To assess these differences, Williams et al. (2009) recently developed a measure of extrinsic contingency focus (ECF; See Appendices). In addition to validating the general psychometric properties of this instrument, Williams et al. (2009) tested the general hypothesis that individuals who were high in ECF would be more defensive in response to threat. Williams and colleagues (2009) found that individuals who scored high on the extrinsic contingency focus scale (ECFS) were more defensive in response to negative feedback regarding their level of social sensitivity (Study 2) and, when given reminders of death, were less forgiving of an individual who had committed a crime against their university (Study 3). Leboeuf and Losier (2008a; see also 2008b), using a French version of the ECFS, found similar results: When concerns of mortality were salient, high ECF individuals demonstrated higher levels of worldview defense than low ECF individuals.

Recently, Arndt and colleagues (Arndt et al., 2009) used the ECFS to investigate whether investment in extrinsic contingencies would lead to predictable shifts in people's attitudes toward health related behaviors in response to existential threat. When concerns about mortality were made salient, Arndt et al. (2009; Study 2) found that the more individuals smoked for social reasons, the more they found anti-smoking commercials that emphasized the negative social consequences of smoking to be compelling. They also found that when mortality was salient, primes that focused individuals on extrinsic

(vs. intrinsic) contingencies increased their interest in tanning following exposure to advertisements that glamorized a tanned complexion, but decreased their interest in tanning after viewing advertisements that emphasized a fair complexion (Study 3). In their final study, Arndt et al. (2009; Study 4) demonstrated that following reminders of death, individuals who were high in ECF reported higher levels of self-esteem from exercise after they had visualized someone who exercised regularly (vs. control). Martens, Williams & Schimel (2009) conducted another study using the ECFS and a daily diary technique to examine the extent to which individuals' level of self-esteem fluctuated over a period of 14 days. The results showed that ECF was positively related to the amount of fluctuation in people's self-esteem and that this effect was strongest when the individuals perceived their circle of friends as unsupportive. Taken together, these findings suggest that investment in extrinsic contingencies leads individuals to attend carefully to social feedback. This increased attentiveness to social feedback leads to a greater amenability to social persuasion (Arndt et al., 2009), higher levels of defensiveness in response negative social feedback (Williams et al., 2009; Lebouf & Losier, 2008), and greater fluctuations in day-to-day levels of self-esteem, particularly if one does not perceive their close friends as supportive (Martens et al., 2009).

Research that has used the contingent self-esteem scale (CSES; Paradise & Kernis, 1999), a similar measure to the ECFS, has shown that higher levels of contingency focus (in general) can lead to both a greater concern with social evaluation and more vigilance in response to negative social feedback. For example Kernis and colleagues found that contingent self-esteem predicted the intensity and desire to express anger following ego threat (Kernis & Paradise, 2003). Another study by Kernis, Paradise

& Goldman (1999) found that individuals whose self-esteem was highly contingent on having power over others reported a greater tendency to experience anger. In further examining the relationship between CSE and concern with social evaluation, Neighbors, Larimer, Geisner & Knee (2004) found that students with contingent (versus non-contingent) self-esteem reported drinking higher amounts of alcohol as a means of enhancing their mood, improving their social functioning, and preventing rejection from their peers.

Research using the ECFS and CSES postulates that individuals differ in the extent to which they are focused on externally defined expectations and that this emphasis generalizes across the various domains of self-worth (e.g., an academic who was high in ECF would engage in research to publish in prestigious journals and impress their peers whereas a low ECF academic may be more focused on pursuing research out of an intrinsic desire to examine a phenomenon, regardless of the likelihood of their work being accepted by the scientific community). However, other researchers (for a review see Crocker & Park, 2004) contend that a focus on meeting social expectations is only one of many different domains of self-worth and that each individual stakes their self-worth in specific areas that they deem to be central to their self-definition. In order to achieve a sense of worthiness, they argue that individuals strive to achieve success in their respective domain(s) of self-worth (be that as a runway model or a particularly adept sandwich artist). From this perspective, our self-esteem becomes contingent on a select few domains that we monitor closely. As a result, people strive to maintain a positive sense of self-worth in each of these domains and will respond defensively when threatened in any of these domains. In order to measure the domain-specific

contingencies that individuals commonly invest in to acquire their self-worth Crocker, Luhtanen et al. (2003) developed the contingencies of self-worth scale (CSWS). The CSWS measures peoples' investment in seven different domains of self-worth, which can be ordered on a continuum from external to internal in nature: others' approval, physical appearance, competition, academic competence, family support, virtue, and God's love. Most of the research that has examined investment of self-esteem in specific domains has shown that investment in more extrinsically defined domains is related to a host of negative consequences (for a review see Crocker, 2002; Crocker & Park, 2004). For example, in a longitudinal study of over 600 first year university students Crocker (2002) found that investment in the extrinsic domain of physical appearance was related to greater stress, aggression, drug and alcohol use, and symptoms of disordered eating than basing self-esteem on more internal domains (i.e.: virtue or God's love). In interpreting the results of this study, the authors conclude that the contingencies of self-worth that individuals invest in determine how they spend time in their daily lives and furthermore, that basing one's self-esteem on external contingencies may come at a cost to our mental and physical health (p.608, Crocker, 2002).

In summary, the majority of research findings that have emerged from research that has used one of these three measures of contingency focus (CSES, CSWS & ECFS), has shown that self-esteem derived from extrinsic sources is more susceptible to the evaluations of others. As a number of theorists contend (Arndt & Schimel, 2003; Deci & Ryan, 1995; Kernis, 2003; 2006), basing one's self-esteem on sources of self-worth that are susceptible to the evaluations of others (extrinsic), can lead individuals to experience more fluctuations in their overall level of self-esteem. It is further argued that for

individuals who are highly focused on extrinsic contingencies, positive feelings of self-worth are contingent upon satisfying the expectations of others. This in turn can lead to a heightened concern and vigilance with defending and maintaining their feelings of self-esteem (Kernis, 2003). Conversely, basing one's self-esteem on more intrinsic sources of self-worth, affords individuals a greater perceived level of control over their feelings of self-worth and which leads to a more stable and secure form of self-regard (Crocker, Luhtanen, Cooper & Bouvrette, 2003; Deci & Ryan, 1995; Kernis, 2006; Williams et al., 2009).

ECF and Exposure to Idealized Body Images

If individuals with high ECF have a greater orientation towards meeting social standards, then one would expect ECF to moderate their reactions to idealized body images in media. Indeed there have been a number of researchers who have begun to explore whether contingency focus moderates the effects of idealized body images on women's perception of their bodies. In addition to the research that has already been reviewed, which found lower levels of body esteem and body image dissatisfaction among women who were highly invested in their body image (Henderson-King et al., 2001, Study 2; Ip and Jarry, 2007), Patrick et al. (2004) conducted two studies that examined the effects of contingent self-esteem (CSE) on women's reactions to idealized body images. In their first study, Patrick et al. (2004) randomly assigned women who varied in their level of contingent self-esteem to either rate the attractiveness of the model or the quality of the advertisement for ten magazine advertisements. The results of this study revealed that, regardless of whether participants were instructed to rate the model or advertisement, women who were higher in their level of CSE experienced greater

decreases in positive affect and higher levels of body shame and body surveillance following exposure to the idealized images. It was also found in both rating conditions that low levels of self-perceived attractiveness (SPA) exacerbated the emotional consequences of viewing the advertisements, with the combination of high CSE and low SPA leading to the greatest decreases in positive affect and the highest levels of depression. The results of this study indicate that individuals with high CSE are more likely to experience negative affect following exposure to idealized body images, particularly if they perceive themselves to be unattractive.

In their second study Patrick et al. (2004) examined whether the amount or type (e.g., upward vs. downward) of social comparisons that women engaged in varied with their level of CSE. Social comparisons are a primary way for people to use others as a source of self-evaluation (Festinger, 1954). The types of comparisons that people engage in are often broadly categorized as "upward" (comparing oneself to someone who is superior) or "downward" (comparing oneself to someone who is inferior). It has generally been argued that upward social comparison is a non-defensive motive aimed at self-improvement (Wood, 1989) and that downward social comparison is a defensive motive to bolster ones sense of well-being (Wood, Taylor, & Lichtman, 1985; also see: Suls, Martin & Wheeler, 2002). The results of this study, which used a daily diary procedure to record women's social comparisons over a period of 10 days, showed that while CSE was not related to the amount of comparisons that women made with others, it predicted higher levels of negative affect following social comparisons. Further analyses revealed that this relationship was mediated by the direction of social comparison and was not due to differences in SPA between high and low CSE women. These findings

suggest that the negative consequences of viewing idealized images on women who possess highly contingent self-esteem are likely due to their tendency to engage in upward social comparison.

While there have only been a few studies that have investigated the relationship between extrinsic contingency focus and exposure to idealized body images (Henderson-King et al., 2001; Ip and Jarry, 2007; Patrick et al., 2004), they all indicate that if individuals place a great degree of emphasis on living up to social standards as a means of acquiring their self-esteem, then they may experience a host of negative psychological consequences when these normative ideals are made salient. Conversely, individuals who do not place an emphasis on meeting social standards (i.e., low ECF or CSE), while still likely to compare themselves to the idealized images, will feel less pressure to conform to these ideals and, as a consequence, experience fewer negative consequences. In the case that the salient social standard is an air-brushed and unrealistically thin model, this may cause a high ECF individual to experience a wave of negative emotion upon realizing that she is failing to meet this standard. While low ECF individuals are still likely to compare themselves to this model (see: Patrick et al., 2004) the relative detachment of this standard from their self-esteem allows them to escape the negative emotions that accompany the pressure to meet this ideal. On a theoretical level, these findings may be central in explaining the relatively weak relationship that has been observed between exposure to idealized body images and levels of global self-esteem. These findings provide support for the idea that exposure to ultra-thin models will lead to lower levels of self-esteem, but only among individuals who consider thinness as central

to their self-esteem and feel as though they are not successfully regulating their behavior in accordance this standard.

Methodological Limitations of Past Research

One of the methodological limitations of previous research investigating ECF and idealized body images in media is the almost exclusive use of self-report measures of affect, body image, or body-esteem following exposure to the images. While most of the measures used in past research possess good psychometric properties, it is generally evident, from the perspective of the participant, what these items are measuring. As Patrick et al. (2004) point out, most people are aware of the link between media images and body image. Participants' awareness of the effects of media, when combined with a procedure in which participants are exposed to idealized images and administered a self-report measure of well-being may lead to strong demand characteristics.

Furthermore, the nature of this demand may affect high and low ECF participants differently, such that individuals high in ECF may have been more likely to respond in a way they felt was expected of them. A study by Mills et al. (2002) directly assessed the impact of demand characteristics on women's mood following exposure to thin body images in advertisements. In their study (Mills et al., Study 3), women who viewed thin (vs. neutral) advertisements were exposed to either an implicit, explicit or minimal demand condition and asked to report their mood. The results of this study showed that when demand characteristics were explicit there was a systematic bias for women to report that viewing the thin advertisements made them feel bad. In the implicit demand condition, a similar pattern of results appeared but only for women who were restrained (vs. unrestrained) eaters. There were no differences in self-reported mood in the minimal-

demand condition. The findings of Mills et al. (2002) demonstrate that women appear to hold implicit theories regarding the effects of viewing idealized images and underscore the importance of reducing demand characteristics and the need to use behavioral measures in assessing this phenomenon. In order to address these issues, the current research was designed to go beyond simple self-report measures and assess participants' behavioral responses to media images in a way that would be less susceptible to experimental demand.

The Current Research

Existing research on ECF and exposure to idealized images has provided valuable insight into the affective consequences of exposure to idealized body images. While this research deepens our understanding of the relationship between self-esteem and reactions to social ideals, it also raises several important theoretical questions. As described earlier, there is a considerable amount of research that has focused on the relationship between the internalization of socio-cultural ideals and women's body image (for a review see Cafri et al., 2005). The current research seeks to extend past findings by providing a clearer understanding of how people's self-esteem is connected to social expectations and, in doing so, shed light on *why* individuals differ in the degree to which they internalize normative standards of beauty. This research will advance our understanding of the nature of ECF in relation to normative standards and provide a clearer understanding of the motivational forces that contribute to people's tendency to internalize or reject social standards. Additionally, because ECF has been found to be relatively stable across gender (Williams et al., 2009), the current research provides an

investigation of the differences and similarities between men and women's reactions to idealized body images.

In addition to addressing issues in the body image and media literature, this research also advances a multi-faceted understanding of self-esteem. Past research has generally found that people who are highly focused on extrinsic contingencies respond more defensively to social threat (see Crocker & Park, 2004 for a review; Kernis et al. 1999; Williams et al., 2009) and experience a greater degree of fluctuation in their overall levels of self-esteem on a day-to-day basis (Kernis et al., 2006; Martens et al., 2009). This has led most researchers to conclude that high ECF leads to an increased vulnerability to threat and consequently a less stable, more fragile form of self-esteem, and conversely that low ECF leads to a more stable and secure form of self-esteem (for a review see: Arndt et al., 2006). Evidence in support of this idea comes from several studies that have used priming techniques to focus individuals on intrinsic (vs. extrinsic) bases of self-esteem. Studies that have primed participants with intrinsic bases of self-esteem have generally found lower levels of defensive responding, such as lower levels of: self-handicapping (Arndt et al., 2002), distancing from a social misfit (Schimel et al. 2001), and defensive bias in counterfactual thinking (Schimel et al. 2001). Conversely, studies that have primed participants to extrinsic bases of self-esteem have found that this leads to more defensive responding in the form of increased sensitivity to associations between failure and rejection (Baldwin & Sinclair, 1996) and an increased tendency to engage in downward social comparison (Schimel et al., 2001). Research by Patrick et al. (2004, Study 2), however, showed that individuals who were high in CSE made more upward social comparisons whereas low ECF individuals made more downward social

comparisons. Given that upward social comparison generally reflects the non-defensive goal of self-improvement whereas downward social comparison generally indicates defensive distancing, the results of Patrick et al. (2004) appear to be at odds with the conclusion that higher levels of ECF leads to greater defensiveness. It should be noted that Patrick et al. (2004) did find that high CSE participants experienced lower levels of positive affect following exposure to idealized images, which is consistent with the idea that high CSE individuals are more *vulnerable* to social feedback (Baldwin & Sinclair, 1996; Crocker, 2002; Crocker, Luhtanen, Cooper & Bouvrette, 2003). However, the fact that high CSE individuals tended to engage in more upward social comparison suggests that this vulnerability does not necessarily reflect defensiveness but a broader social orientation in acquiring their self-esteem. Furthermore, the finding that low CSE individuals engaged in more downward social comparison suggests that while they are less vulnerable to the pressure of meeting social ideals, they may engage in defensive distancing as a way of maintaining a sense of personal freedom from these ideals.

The possibility that high ECF does not always lead to defensiveness and that low ECF may lead to increased levels of defensiveness in some circumstances has not been investigated previously and merits further investigation. Furthermore, while low ECF individuals have not been found to report negative affective changes in response to idealized images, it would be remiss to conclude that they are not affected behaviorally or in other ways. The lack of significant findings among low ECF individuals may reflect the self-report methods in past investigations or unwillingness among these individuals to report such differences. Therefore, it is also important to examine whether other aspects

of low ECF individuals attitudes and behavior are affected by idealized images in the media.

If high ECF is related to a general concern with meeting social expectations, then the body image ideal presented in the advertisements should prompt high ECF individuals to pursue this ideal. It is less clear how low ECF individuals will respond to the social ideals in advertisements. On one hand, the emphasis that low ECF individuals place on meeting personally defined standards in acquiring their self-esteem may allow them to remain unaffected by the idealized images in the advertisements. On the other hand, if low ECF individuals perceive the images as a threat to their sense of autonomy or individuality, they may react to the ideals that are conveyed by the advertisements and alter their attitudes and behaviors in a way that rejects the social ideal, and in doing so, re-establish their sense of freedom and personal choice (Brehm & Brehm, 1981; Brewer, 1991).

To test these hypotheses, four experiments were conducted to examine the role of ECF in individuals' food consumption and intensions to exercise following exposure to idealized body images. The first study tested the general assumption that high ECF individuals would be more focused on image-oriented aspects of advertisements and product features. In this study individuals who varied in levels of ECF viewed advertisements for several consumer products and then rated these products on a number of different social and practical dimensions. In the second study, females who differed across levels of ECF were exposed to a series of advertisements that featured idealized body images or the products alone. The amount of snack food that they subsequently consumed and their self-reported preference for health foods was then assessed. The third

study exposed males who varied in ECF to idealized body images (versus products alone) and measured their intention to exercise in the upcoming month. Extending the results of Studies 2 and 3, Study 4 examined the role of self-affirmation on women's investment in eating behavior following exposure to idealized images.

Study 1

My first step in examining whether ECF moderated women's reactions to idealized body images was to establish whether high (versus low) ECF individuals would tend to focus on the socially oriented aspects of consumer products. Previous research has shown that higher levels of ECF lead to increased sensitivity to negative social feedback (Kernis, 2003; Williams et al. 2009) and that investment in external contingencies predicts the extent to which individuals engage in a variety of social and image-oriented behaviors including joining a sorority, partying, drinking, exercising, grooming and shopping for clothes (Crocker, Luhtanen, Cooper, & Bouvrette, in press; Luhtanen & Crocker, 2005). These findings in combination with the moderate to high positive correlations that have been reported between the ECFS and measures of social orientation (i.e., competition, appearance, social approval; see Appendix C) suggest that high ECF individuals should be more attentive to the socially oriented features of consumer products. To directly test this idea, participants who varied in level of ECF were given several advertisements featuring consumer products and asked to rate these products on a number of social versus practical dimensions. It was predicted that high (versus low) ECF individuals would show a greater preference for the socially oriented aspects of the consumer products.

Method

Participants

The participants were 72 University of Alberta undergraduates (24 males and 48 females) who received partial credit towards a course requirement. One participant was excluded due to suspicion leaving a total of 71 participants. All participants had previously taken part in a mass testing session in which they completed a measure of their global self-esteem (GSE; Rosenberg, 1965). Participants were run in groups of up to four by a single experimenter.

Procedure and Materials

Upon arrival at the laboratory, participants were greeted and told that they would complete two unrelated studies. [1] The experimenter explained that the first study involved completing a reading task that investigated their reactions to literature. The participants were told that the purpose of the second study was to record university students' impressions of consumer products for research that was being done in conjunction with the Faculty of Business. After assurance that all responses would be kept anonymous, participants were led into private cubicles and given the questionnaire packets. The first questionnaire packet included the extrinsic contingency focus scale (ECFS; Williams et al. 2009; See Appendices for scale items and psychometric properties) and materials from an unrelated study. Upon completing the first packet participants were given a second packet that was designed to record their impressions of several consumer products. On each page of the packet was a grey-scale computer image of the consumer product they were to evaluate. Each participant viewed the featured products, which were a sport-utility vehicle (SUV) prototype and a recent model cell phone. All brand names and

company logos were removed from the images with digital editing software. Below each item was a series of statements that measured participant's preference for the product based on a number of different attributes. For the SUV, participants were given 12 questions that asked them to rate the extent to which they liked and would purchase the product, because of its: appearance, safety, versatility, durability, and its image enhancing and attention drawing characteristics. For the cell phone participants were given a series of 18 questions that asked them to rate the extent to which they liked, and would purchase the product based on a nine different dimensions. Participants rated the phone on its size, convenience, utility, durability, image, style, status, appearance, and the extent to which it would enhance their social connectedness. Upon completion of the product evaluation packet, participants were given a final questionnaire that asked them if they owned or recognized either of the products. Participants were then probed for suspicion, verbally debriefed, and thanked for their participation.

Results

Evaluation of the Sport Utility Vehicle

None of the participants owned or recognized the SUV depicted in the digital image, therefore all of the participants were included in the data analysis. To examine the evaluation items in more detail, a principal component analysis was conducted on the 12 evaluation items for the SUV. Bartlett's test of sphericity revealed a significant result, χ^2 (66, N =72) = 740.48, $p < .001$. The Kaiser-Meyer-Olkin measure of sampling adequacy revealed a value of .74, indicating a good ratio of inter-item correlations to partial correlation coefficients. Overall, the items were found to be quite homogeneous and therefore suitable for a principal components analysis. The scree plot (Cattell, 1966) and

component matrix of the principal components analysis revealed two factors with eigenvalues of 5.89 and 2.52 respectively. All 12 items loaded heavily (range .49 to .83) on the first factor, which explained 49% of the overall variance. An examination of the items revealed that this factor was indicative of participants' overall preference for the vehicle. The second factor, which explained 21% of the overall variance, represented the image-oriented versus the practical aspects of the vehicle. The component matrix showed that the six items that assessed participants' preference for the appearance, image enhancing, and attention drawing characteristics of the SUV all loaded negatively (range -.36 to -.52) on this factor while the six items that assessed participants preference for the safety, versatility and durability characteristics of the vehicle all loaded positively (range .37 to .63). Based upon the distinct clustering of these items, composite measures of participants' preference for the practicality (α = .88) and image oriented (α = .94) features of the SUV were formed.[2] In order to examine the relationship between ECF and preferences for the SUV, these composites were regressed on participants ECFS scores while controlling for GSE. Consistent with my predictions, higher scores on the ECFS predicted a greater preference (β=.35, $p < .01$) for the image oriented characteristics of the SUV but was not predictive of participants' preference for its practical features ($p >$ .79).

Evaluation of the Cell Phone

None of the participants recognized or owned the cell phone depicted in the digital image, therefore all participants were included in the data analysis. To examine the differences and similarities among the 18 cell phone evaluation items, another principal components analysis was conducted. Bartlett's test was significant (χ^2 (153, N

=72) = 1228.23, $p < .001$) and the Kaiser-Meyer-Olkin was indicated a good ratio of inter-item correlations to partial correlation coefficients (.72). The component matrix and scree plot revealed three principal components. Like the SUV, all items loaded positively on the first component (eigenvalue = 6.61, all factor loadings between .42 and .77) which explained 37% of the overall variance. The common theme that united these items was participants' overall preference for the cell phone. The second component (eigenvalue = 3.25) explained 18% of the overall variance, and was reflective of participant's preference for the image oriented aspects (e.g., fits my style, keeps me socially connected, enhances my image/status) versus practical aspects of the cell phone (e.g., convenience, utility, durability). The eight items that assessed image oriented aspects of the cell phone all loaded positively (factor loadings between .14 and .79) on the second factor, and formed a reliable composite of image orientation ($\alpha = .88$). The 10 items that assessed preference for the practical characteristics of the product all loaded negatively (factor loadings between -.10 and -.57) and formed a reliable composite of practicality ($\alpha = .89$). The principal components analysis did show a third component with an eigenvalue greater than one (eigenvalue = 2.18), however a careful inspection of the items and their factor loadings did not reveal a cohesive thread. This factor is not discussed further.

To examine if ECF predicted participant's preferences for different aspects of this product, participants preferences for the image-oriented and practical aspects of the cell phone were regressed on their ECFS scores while controlling for GSE. The results of these analyses were consistent with the initial predictions, showing that higher levels of ECF were related to greater preference for the image-oriented aspects of the cell phone

(β=.34, p = .01) but were unrelated to preferences for the practical aspects of the phone (p > .78).

Discussion

The results of Study 1 support the general hypothesis that high ECF individuals are more focused on the socially oriented aspects of consumer products. These results show that the ECFS is predictive of individual's preferences for the image oriented aspects of the consumer products but do not predict their preferences for the practical features of the products. These findings not only provide descriptive information about the aspects of consumer products that high ECF individuals emphasize, but also demonstrate that ECF affects individuals outside of an interpersonal domain. ECF appears to be not only predictive of how individuals respond to social feedback (Kernis, 2003; Williams et al., 2009), but also the extent that they are focused on the social ramifications of their decisions and environment.

Study 2

If high (vs. low) ECF individuals are more focused on maintaining a positive social image, then they should strive to attain the salient social standards that are presented in advertising media. While previous research has examined the role of contingent self-esteem on women's self-reported affect, body image, and body-esteem in response to idealized images (Patrick et al. 2004), to date there has been no investigation of how exposure to idealized images affects women's actual eating behavior. Given that past experimental research has commonly used exposure/self-report paradigms, which are susceptible to demand characteristics (see Mills et al. 2002), it seems particularly important to investigate both self-report and behavioral measures of women's eating

behavior. Thus in Study 1, I recruited women who varied in their level of ECF to participate in a study that was described as a market research project. They viewed a series of advertisements featuring different products that displayed either an idealized body image along with the products or the products alone, and were given an opportunity to sample a snack food that was ostensibly being tested by a health foods manufacturer. The amount of snack food that they consumed was covertly measured and they were asked to report their preferences for healthy foods. I predicted that high ECF women would restrict their food intake and report increased preference for health foods following exposure to idealized body images versus the products alone. For low ECF women, I predicted that they would either be 1) unaffected by the body ideal presented in the ad, or 2) if their sense of autonomy was threatened by these images, that they would resist the ideal presented in the advertisements by consuming more snack food and reducing their preference for healthy foods. Thus, I expected that low ECF women would either not change in their level of food consumption and preferences for health foods, or consume more of the snack food and report decreased preferences for healthy foods.

Method

Participants

The participants were 70 female University of Alberta undergraduates who received partial credit towards a course requirement. Two participants were excluded due to suspicion and one participant was excluded for not following the instructions leaving a total of 67 participants. All participants had previously taken part in a mass testing session in which they completed the ECFS and a measure of GSE (Rosenberg, 1965).

Participants were run in groups ranging from two to five people and were randomly assigned to body image (prime versus product alone) conditions.

Procedure and Materials

Upon arrival at the laboratory, participants were greeted and told that they would be participating in a market research study that was investigating students' impressions of various advertisements and products. They were told that they would view a series of advertisements and give their impressions of the various products that were featured. The experimenter further explained that in the final part of the study, they would have an opportunity to try a particular product and give their impressions of it. Participants were then led into private cubicles and were given a folder containing five advertisements that were each followed by a page of evaluative statements pertaining to the product. The advertisements, which were printed in color on glossy paper, were created by modifying product images from the manufacturer's website. The advertisements featured the following products: L'Oreal firming and moisturizing lotion, a Mercedes-Benz sport-class roadster, Cointreau alcoholic beverage, Lego software tool package, and Oakley Juliet model sunglasses. Participants in the body image condition viewed firming lotion and alcoholic beverage advertisements that, in addition to the product itself, featured a partially-clad, thin female. Participants in the control condition received parallel advertisements that featured the products alone, without a body image. The evaluation statements that followed each advertisement instructed participants to rank on a six-point scale (1= strongly disagree, 2 = moderately disagree, 3 = slightly disagree, 4 = slightly agree, 5 = moderately agree, 6 = strongly agree) the extent to which they agreed to a series of statements concerning the product. Participants were instructed to respond to the

statements as though they had sufficient funds to purchase the item. The statements read as follows: “I like this product”, “I would buy this product”, “I believe this product is of high quality”, “I like the packaging of this product”[3] and “I like the advertisement for this product”.

When participants had finished evaluating the advertisements, the experimenter informed them that they could sample a new snack food that was being tested by a health food manufacturer. It was further explained that the manufacturer was interested in people’s impressions of the food and that the snack, while “high in fat”, was “very nutritious”. They were told that they could “eat as much or little as they wanted to form an accurate impression of the snack”. The experimenter then gave participants a bowl with 190 grams of a chocolate-covered peanut and yogurt-covered raisin snack mix and an evaluation form which asked them to evaluate the snack on a number of dimensions, including their willingness to purchase the product, its quality, flavor, nutrition, scent, freshness and suitability for serving to others. Following the evaluation items for the snack was a series of shopping preference questionnaires that assessed participants’ preferences for healthy foods and helped maintain the cover story. Using the same six point scale described above, the first section of the shopping preferences questionnaire assessed participant’s agreement with the following statements: “I like to eat healthy foods”, “I would pay more for a healthy snack food”, “I like to buy organic foods”, “I buy what food tastes best, regardless of ingredients”, “I usually buy what is on sale”, “I will not eat fatty foods, even if they are nutritious” and “I feel it is best to eat foods that do not contain preservatives”. The remainder of the shopping questionnaire consisted of a series of open-ended questions that were designed as a delay in order to give participants

sufficient time to sample the snack food. When participants were finished with this task, they were given a page with three manipulation check items. Again, using the six-point scale described above, participants ranked the extent to which they agreed with the following sentences: "the advertisements in this study have displayed idealized body types" and "the advertisements in this study have made me think about my own body", "the advertisements in this study make me want to improve my image". Upon completing this manipulation check, participants were probed for suspicion, fully debriefed and thanked for their participation.

Results

Manipulation Checks

To ensure that the advertisement effectively primed an idealized social standard, the manipulation check items were regressed separately on centered ECFS scores, prime (body image =1 vs. product alone = 0) conditions, and the interaction vector of the two while controlling for global self-esteem. [4] No significant main effects or two-way interactions were detected (*p-values* > .25), so independent groups t-tests were conducted on each manipulation check item using prime condition as the grouping variable. For the first item, "the advertisements in this study have displayed idealized body types" there was a significant difference between prime conditions $t(65) = 9.86$, $p < .01$, such that participants in the body prime condition reported greater agreement with the statement ($M = 5.07$) than participants in the control condition ($M = 1.86$). For the second item, "the advertisements in this study have made me think about my own body" there was also a significant difference between prime conditions $t(65) = 2.72$, $p < .01$, such that participants in the body prime condition reported greater agreement with the statement

(M = 3.77) than participants in the control condition (M = 2.69). The analysis on the third and final manipulation check item, "The advertisements in this study make me want to improve my image" again revealed difference between prime conditions $t(65) = 3.62$, $p < .01$, such that participants in the body prime condition reported greater agreement with the statement (M = 3.68) than participants in the control condition (M = 2.44). These analyses indicate that the prime manipulation was effective in priming participants with idealized standards of thinness and increased their desire to improve their own body image. The absence of an ECFS X prime interaction suggests that the advertisements affected both high and low ECF participants similarly. Thus, regardless of their level of ECF, participants found the models in the advertisements to be highly idealized and to increase their desire to improve their own body images.

Snack Food Consumption

It was expected that high ECF individuals would be more heavily influenced by the presence of socially idealized body images in advertising media than low ECF individuals. Specifically, it was hypothesized that after seeing idealized body images, high ECF individuals would be more likely to reduce the amount of snack food they consumed. To determine the amount of the snack food that each participant consumed, we subtracted the weight of the snack food remaining at the end of the experimental session from the weight of the snack food that was measured prior to the session (190 grams). The difference between these weights was the dependent variable and reflected the amount of the snack food, in grams, that participants had consumed during the session. To assess the effects of ECF and body image prime upon food consumption, I used the regression techniques recommended by Aiken & West (1991) for testing

interactions between categorical and continuous variables. ECFS scores were first centered and then multiplied by prime (body image = 1 vs. product alone = 0) to compute a cross-product interaction vector. Snack food consumption was then regressed onto these three variables while controlling for BMI and global self esteem (Rosenberg, 1965). Although there were no main effects of ECF or condition (*p-values* > .05), the interaction between ECFS score and prime condition was significant (β = -.34, p < .05). To explore this interaction in more detail the simple slopes for the prime (body image vs. product alone) conditions were tested. As can be seen in Figure 1, participants in the body image condition differed significantly across levels of ECFS in the amount of snack food they consumed (β = -.44, p < .05) whereas participants in the product prime condition did not differ significantly across levels of ECFS in the amount of snack food they consumed (p > .40). As predicted, individuals who were high in ECF, and were in the body image prime condition, restricted their food consumption to a greater extent than low ECF participants, or participants who viewed the product alone. Interestingly, participants who were low in ECF consumed more of the snack food in the body image prime condition than in the product prime condition.

Preference for Health Food

If individuals who are high in ECF are motivated by the body image primes to pursue a thin ideal, then they should show a greater preference for healthy foods. My first step in exploring this relationship was to form a composite of participant's preference for and willingness to purchase, healthy foods. I first performed a principal component analysis on the shopping preference items.[5] A single factor emerged with an eigenvalue of 2.69, explaining 38.48% of the overall variance. All of the shopping preference items

loaded positively (>.34) on the factor, with the exception of the "I usually buy what is on sale" item (-.11). Because this item failed to load on the principal factor and did not appear to be as directly related to preference for healthy food, I excluded this question from the composite and subsequent analyses. The remaining items (α = .70) were summed to form a composite of participant's overall health food preference.

This composite was then regressed onto participants' centered ECFS scores, prime (body = 1 vs. product alone = 0) condition and the interaction of the two, while controlling for GSE. This analysis revealed no main effects of ECFS score or condition (*p-values* > .05), but the interaction between ECFS score and prime condition was significant (β = -.39, p < .05). To explore this interaction in more detail the simple slopes for the prime (body image vs. product alone) conditions were tested. As in the food consumption analysis, the simple slope of the body image prime condition revealed a marginally significant difference across levels of ECFS such that high ECF participants reported increased preferences for healthy foods and low ECF participants reported decreased preferences for healthy foods (β = .39, p < .06). Participants who viewed the product alone did not differ in their level of preference for healthy foods (p > .40). See Figure 2 for the pattern of results.

Discussion

The results of this study provide support for the hypothesis that exposure to idealized body images (versus products alone) would increase high ECF women's preference for healthy food and decrease their snack food consumption. Furthermore, these results show a reversal effect such that exposure to idealized body images actually increased food consumption and decreased preference for healthy food among low ECF

women. This finding, that high ECF women sought to attain the salient social standard, is in line with previous research which has shown that greater emphasis on meeting extrinsic contingencies is associated with an increased sensitivity and vigilance to socially evaluative information (Baldwin & Sinclair, 1996; Crocker, 2002; Williams et al. 2009). However, the finding that low ECF women engaged in behaviors that were counter to achieving the salient social ideal has not been found in previous research. What this may indicate, is that the idealized images that were presented in the advertisements elicited reactance among low ECF women, who sought to assert their independence from the ideal by engaging in behavior that contradicted the ideal. Past investigations that have examined the consequences of viewing idealized images on women have only shown affective changes among women who have contingent self-esteem (Patrick et al., 2004) or who are heavily invested in their appearance (Henderson-King et al., 2004; Ip & Jarry, 2007). The current results show that while low ECF women may not report changes in their affect or body image after being exposed to thin models, they do alter their level of food consumption and shopping preferences. Thus, while high ECF women may strive to meet salient social standards, their low ECF counterparts may feel that these ideals threaten their ability to personally define their body standards and as a consequence, express reactance against these ideals (Brehm & Brehm, 1981).

Study 3

An important question that emerges from the findings of Study 2 is whether ECF would also moderate men's reactions to idealized body images. While the majority of research on body image has been focused on women (Thompson et al., 1999) there has been a growing concern about body image disturbance among men in the past decade

(Cafri & Thompson, 2004). While early correlational research generally indicated that, compared to females, males possessed relatively low levels of body dissatisfaction (e.g. Pliner, Chaiken & Flett, 1990; Silberstein, Striegel-Moore, Timko & Rodin, 1988). The majority of studies have revealed similar levels of body dissatisfaction among men as those found among women (Drewnowski & Yee, 1987; Furnham, Badmin, Sneade, 2002). However, unlike women who almost exclusively seek to attain a slimmer physique, the behavioral manifestations of body disturbance among men are directed almost equally towards the attainment of muscular weight gain (i.e., excessive exercise, drug abuse) and weight loss (e.g., dieting, binging and purging) (Cafri, Thompson, Ricciardelli, McCabe, Smolak & Yesalis, 2005; Furnham et al. 2002; Garner, 1997; Leit Gray & Pope, 2002; Pope, Gruber, Choi, Olivardia & Phillips, 1997). Studies that have used a mixed gender sample have generally found that while exposure to idealized images have stronger negative effects on women's body image, males also feel less attractive and experience lower levels of body satisfaction after being exposed to idealized images (Elliot & Elliot, 2005; Grogan, Williams & Connor, 1996; Hargreaves & Tiggeman, 2004; Leit, Pope & Gray, 2002; Ogden & Mundray, 1996).

If men are also affected by exposure to body images in advertisements, one would expect that the extent to which they are focused on extrinsic contingencies will moderate their responses to these idealized images. To date, research involving the ECFS has not revealed gender differences in ECF. The factor structure and reliability of the ECFS has been invariant across genders in undergraduate samples (Lebouf & Losier, 2008a, 2008b, Williams et al., 2009), which suggests that the underlying dimension of ECF is similar between men and women. While subtle differences in the specific domains in which men

and women invest themselves have been reported (see Crocker, Luhtanen et al. 2003), I expect that a broad focus on extrinsic contingencies, as measured by the ECFS, would affect men and women similarly. Men who are highly focused on meeting extrinsic contingencies, like their female counterparts, are also expected to strive to meet salient social standards. Conversely, men who possess a low focus on extrinsic contingencies, and emphasize personal standards, are expected to resist the salient social ideal. However, because the idealized male body image tends to be more mesomorphic or 'hard-bodied', emphasizing broad muscular shoulders and a narrow waist (Connel, 1995; Kolbe & Albanese, 1996; Patterson & England, 2000), it is expected that males will alter their intensions to exercise as it is relates directly to the attainment of this ideal. To test this hypothesis, I used a design similar to Study 2 where males first viewed advertisements that featured idealized body images or the product alone and then completed an ostensibly unrelated measure of their intentions to engage in exercise behavior. Akin to the findings of Study 2, I predicted that males who were high in ECF would report increased intentions to exercise after viewing an idealized body image versus a product alone. Conversely, I expected that individuals who were low in ECF would report lower intensions to exercise after viewing idealized body images.

Method

Participants

The participants were 43 male University of Alberta undergraduates who received partial credit towards a course requirement for participating. One participant was excluded due to suspicion and another was excluded for not following instructions, which left a total of 41 participants. All participants had previously taken part in a mass testing

session in which they completed the ECFS and a measure of GSE (Rosenberg, 1965). Participants were run in groups ranging from three to five and were randomly assigned to body image vs. product alone prime conditions.

Procedure and Materials

The cover story and procedure for this study was identical to that of Study 2. However, in this study participants were not given snack food to sample but instead were given questionnaires that assessed their shopping preferences and demographic information. Embedded in these questionnaires was the dependent measure, which assessed the amount of time, money and energy that they sought to invest in exercise in the upcoming month. As in Study 2, participants were given folders containing advertisements and evaluation questionnaires for each product. The advertisements used in this study were oriented towards a male audience and again were taken from the internet and modified using digital image editing software. They featured the following products: a Mercedes-Benz sport-class roadster, Oakley Half Jacket sunglasses, Biotherm deodorant and shower gel, Lego software tool package, and Ralph Lauren Polo Sport cologne. Participants in the idealized body image prime condition received Biotherm and Ralph Lauren advertisements that contained an image of a partially-clad, lean, and muscular male. Participants in the control condition received advertisements that featured the products alone.

After rating their level of agreement with the evaluative statements about the products (see Study 2), participants were given a 'market research' questionnaire. This questionnaire was designed to maintain the cover story and ostensibly assessed their grocery shopping preferences, demographic information, and their intention to purchase

various foods. The last page of this questionnaire contained the dependent measure, which was designed to assess the amount of resources participants sought to invest in "working out or exercising" over the next month. In order to maintain the subtlety of this measure, exercise investment was embedded among various life domains including school, work, romantic partner, non-romantic friends, rest, and eating. Participants were asked to allocate the amount of their time money and energy (totaling 100 percent for each) [6] that they desired to spend on each of the domains. Upon completing this task, participants were given the manipulation check items that were used in Study 2, probed for suspicion, debriefed, and thanked for their participation.

Results

Manipulation checks

To determine if the body image prime was effective, each manipulation check item was regressed separately on the centered ECFS score, prime (body image =1 vs. product alone = 0) conditions and the interaction of the two, while controlling for GSE. There were no main effects of ECFS and the ECFS X prime interaction was not significant (*p-values* > .25). I thereby conducted independent group t-tests on the manipulation check items using prime condition as the grouping variable.[7] For the first item, "the advertisements in this study have displayed idealized body types", participants in the body prime condition reported greater agreement ($M = 5.29$) with the statement than participants in the control condition ($t(60) = 12.37$ $p < .01$; $M = 1.86$). For the second item, "the advertisements in this study have made me think about my own body", there was also a significant difference between the prime conditions ($t(60) = 3.01$, $p < .01$) such

that participants in the body prime condition reported greater agreement with the statement (M = 3.57) than participants in the control condition (M = 2.44). The analysis on the final manipulation check item, "The advertisements in this study make me want to improve my image", again revealed a difference between the idealized body and product alone conditions ($t(60)$= 2.57, $p = .01$) such that participants in the body prime condition reported greater agreement with the statement (M = 3.46) than participants in the control condition (M = 2.53). As in the previous study, these analyses indicate that the prime manipulation was effective in priming participants with idealized standards of thinness and increasing their desire to improve their own body image.

Exercise Investment

It was hypothesized that high ECF males would strive to meet the ideal presented in the advertisements, but that low ECF males would reject the social standard. To test this hypothesis an index of desire to exercise (α = .82) was formed by summing the amount of time, money and energy participants indicated that they wanted to invest in working out or exercising over the next month. ECFS scores were then centered and then multiplied by prime (body image = 1 vs. product alone = 0) to compute a cross-product interaction vector. Exercise investment was regressed onto these three variables while controlling for global self-esteem. There were no significant main effects (*p-values* > .20), but this analysis did reveal a significant interaction of ECF and prime condition (β = -.51, $p < .05$).[8] To explore this interaction in greater detail the simple slopes for the prime (body image vs. product alone) conditions were tested. As predicted, the simple slope of the body image prime was significantly different across levels of ECFS such that high ECF participants reported greater investment in exercise relative to low ECF participants

who reported lower levels of investment in exercise ($\beta = .43$, $p < .05$). The simple slope of the product prime condition did not differ significantly across levels of ECF ($\beta = -.29$, $p > .20$). See Figure 3 for the pattern of results.

Discussion

As predicted, high ECF males showed increased investment in exercise following exposure to idealized body images versus the product alone whereas low ECF males showed decreased levels of investment in exercise. As in Study 2, the manipulation checks indicate that participants' reactions to the advertisements were likely due to the social comparison between male's perceptions of their own bodies and the ideals that were represented in the advertisements. The finding that high ECF males sought the salient social ideal is consistent with the idea that meeting social contingencies is more central to the acquisition of their self-esteem. The decreased intention to exercise among low ECF individuals who were exposed to the idealized images indicates that these individuals are resistant to social pressure and may seek to define their own body image standards. This is particularly interesting in light of previous research, which shows that individuals who possess non-contingent self-esteem or who are not invested in their appearance, are less susceptible to the negative affective consequences of exposure to idealized images (Henderson-King et al. 2004; Ip & Jarry, 2007; Patrick et al., 2004). The results of Study 2 and 3 indicate that while low ECF individuals may not experience changes in mood or body image after viewing idealized images, their food consumption, preference for healthy foods, and intensions to exercise are affected. The pattern of results observed in these two studies suggest that while high ECF individuals are receptive to social ideals, low ECF individuals may perceive these images as a threat to

their freedom to define their own bodily standards. This perceived threat, in turn may motivate low ECF individuals to react against the ideals presented by the advertisements in order to restore their personal sense of freedom.

Study 4

In Studies 2 and 3, the attitudes and behaviors observed among low ECF participants suggests that these individuals may feel as though the salient ideal is threatening some aspect of their freedom and are seeking to re-establish this freedom by contradicting the salient social ideal. According to Brehm & Brehm (1981, p4), if individuals feel as though their freedom to engage in a particular behavior is threatened, either directly or by implication, they will attempt to re-establish freedom by enacting the threatened behavior. Furthermore, although the individual may not be conscious of their reactance, they will be motivated to resist or act counter to attempted social influence in order to overcome the threat and re-assert their autonomy. However, it has been shown that reactance can be dispelled through either a direct or an indirect restoration of the individual's freedom (Worchel & Brehm, 1971). For example, previous research has found that customers who were given high threat instructions demonstrate reactance, but that this effect disappeared when their ability to choose among different products was re-asserted by another customer (Regan & Brehm, 1972).

If low ECF participants considered the idealized body images a threat to their ability to define their own body standards, then they will express reactance to these images in an attempt to re-assert their autonomy. Previous research has shown that one way to reduce defensiveness in response to threat is by cuing individuals to intrinsic (vs. extrinsic) sources of self-esteem. This restoration of autonomous self-worth has been

shown to reduce general defensiveness such as distancing from a social misfit and the use of downward counterfactuals in response to a negative life event (Schimel et al., 2001). Similarly, Arndt et al. (2002, Study 1; See also Baldwin & Sinclair, 1996) found that participants who had visualized a non-contingently accepting other made less self-handicapping attributions on an impending test performance than those who were primed with a contingently accepting other. Furthermore, Schimel, Arndt, Banko & Cook (2004, study 2) found that an intrinsic (vs. extrinsic) self-affirmation increased women's performance on a math test under stereotype threat conditions. These findings show that an intrinsic self-affirmation is particularly effective in restoring a general sense of autonomy and intrinsic self-worth and is an effective means of reducing defensiveness, particularly in response to social threat. Therefore, if low ECF individuals are threatened by the social ideal presented in the advertisements, then restoration of their autonomy through the use of an intrinsic self-affirmation prime should eliminate the pattern of reactance observed in the previous studies.

To test this idea, I incorporated the use of an intrinsic self-affirmation prime in Study 4, in which female participants who varied across levels of ECF were randomly assigned to one of three conditions. In the first condition, participants viewed a series of advertisements that contained idealized body images and then completed an intrinsic self-affirmation. In the second condition, participants also viewed a series of advertisements that featured idealized body images, but did not complete an intrinsic self-affirmation. In the third condition participants viewed the advertisements that featured only consumer products and then completed an intrinsic self-affirmation. After viewing the

advertisements (body image vs. product alone) and completing the affirmation exercise (intrinsic vs. control), participants reported their desire to engage in eating behavior.

I predicted that if low ECF participant's autonomy was threatened by the idealized body images in the advertisements, then bolstering their sense of autonomy through the use of an intrinsic self-affirmation would reduce their need to react against the social standard. My prediction concerning the effects of an intrinsic affirmation on high ECF participants was less clear. If high ECF women are motivated to restrict their eating because the advertisements undermine the stability of their self-esteem, then affirming the intrinsic self should stabilize their self-esteem and reduce their need to meet the idealized standard of thinness primed by the advertisements. However, because high ECF women are chronically focused on meeting extrinsic contingencies (i.e., appearance, social approval), then exposure to the idealized images in the advertisements may simply prime the normative standard of thinness along with the action goals associated with the attainment of that standard (Bargh, 1990). In this case, the self-affirmation prime may have little or no effect on reducing high ECF women's intentions to restrict their eating habits because this behavioral intention would not stem from a defensive need to maintain self-esteem. Indeed, the presence of the idealized body images would be consistent with their worldview and may not be perceived as threatening (Arndt, et al., 2009).

Method

Participants

The participants were 143 female University of Alberta undergraduates who received partial credit towards a course requirement for participating. Three participants

were excluded due to suspicion and another was excluded for not following instructions, which left a total of 139 participants. All participants had previously taken part in a mass testing session in which they completed the ECFS and a measure of global self-esteem. Participants were run in groups ranging in size from three to five and were randomly assigned to the following conditions: body image/no affirmation, body image/intrinsic affirmation, product alone/intrinsic affirmation.

Procedure and Materials

On arrival to the laboratory, participants were greeted and told that they would be participating in a study that examined how their ability to visualize objects and events is related to their attitude towards that object or event. They were told that they would be completing several tasks in which they would visualize an object or event and report their impressions of it. Participants were first given an 'object visualization task' in which they viewed the advertisements that were used in Study 2. As described earlier, these advertisements featured a number of different consumer products that ranged from sunglasses to body lotion. In the body image prime condition, two of the five advertisements contained an idealized female body whereas the control condition featured the products alone. The instruction set that preceded the advertisements asked participants to take 30 seconds and visualize themselves owning and using the product. After visualizing each product, participants completed three questions that asked them to report (on a 7 point scale in which higher ratings indicated greater agreement) the extent to which the visualization was clear, easy to do and realistic. Following the visualization ratings, participants were given two questions that asked them to rate how much they liked and wanted to buy the product. After completing the 'object visualization task',

participants completed an 'interpersonal visualization task' in which they were asked to visualize someone who provided them with non-contingent acceptance (intrinsic self-affirmation) or was a casual acquaintance (control). This task was modeled after those used in previous research (Arndt et al., 2002; Baldwin & Sinclair, 1996) and has been shown to be effective in affirming participants' intrinsic self-esteem (Schimel et al., 2001). The intrinsic affirmation condition asked participants to think of a person who clearly liked them, was very accepting and non-evaluative of them, and simply accepted them for who they were. The control condition asked them to think of a person who was a co-worker or classmate with whom they interacted for business or academic purposes, but rarely or never interacted with socially. Participants who had viewed the idealized body images were randomly assigned to intrinsic affirmation and control conditions; participants who viewed the products alone all completed the intrinsic affirmation.

In both the intrinsic affirmation and control conditions, participants were given the following instructions:

> Now, we would like you to try to visualize this person, or picture them in your mind. You are going to read some instructions that may help you form a visual image of this person. First, focus your attention on the person. As you focus on this person, you may see a picture of the person's face. Try this now (Please feel free to close your eyes if this helps you form an image). You may see the person as if you were with them. As you get an image, you may notice the color of the person's eyes. You may notice the color of the hair. Try to picture them with you now. Next, as you think of them you may feel like they are right here with you. You may notice the tone of voice. Imagine the person is here with you. You may feel the feelings you have when around them. Try now to imagine them with you.

As in the object visualization task, participants reported the extent to which they found the visualization clear, easy to do and realistic. Participants then completed the

manipulation check, which asked them to evaluate three statements that assessed their impressions of the person that they had visualized. The statements, which were rated on a seven point scale (1 = strongly disagree, 7 = strongly agree), asked participants the extent that they felt the person was "someone that will always like me no matter what I do", "someone I would like to spend more time with" and "someone I find it easy to relate to". After completing these questions, the experimenter told participants that the next stage of the study involved an assessment of their visualization styles. It was further explained that in order to get a more accurate reading of their visualization style, they needed to clear their head from the previous task by waiting a few minutes. During this time, participants completed a survey that was ostensibly being pre-tested for future research. Embedded in this survey was the dependent measure that was used in Study 3 which asked them to report the amount of time, money and energy they sought to invest in a variety of different domains, including eating behavior, over the next month. In order to maintain the cover story and facilitate more in-depth probing for suspicion, participants were then given a "visualization strategy assessment" which was actually the Tellegen absorption scale (TAS; Tellegen & Atkinson, 1974). The TAS is a 34 item, five factor scale designed to measure the extent of an individuals' openness to absorbing and self-altering experiences (i.e.: "sometimes thoughts and images come to me without the slightest effort on my part."; "I can sometimes recollect certain past experiences in my life with such clarity and vividness that it is like living them again or almost so."). Upon completing the TAS, participants were probed for suspicion, fully debriefed and thanked for their participation.

Results

Manipulation Checks

To determine if there were differences in participant's ability to complete the self-affirmation task, a composite measure of the extent that participants found the interpersonal visualization task clear, easy to do and realistic was formed ($\alpha = .84$). I then dummy coded two vectors to represent the contrasts between prime conditions, centered ECFS scores, and computed the cross-product interaction vectors. Using the methods recommended by Aiken and West (1991), this composite was regressed onto the aforementioned variables in a two-step model. ECFS scores, GSE and the two vectors representing the three prime/affirmation conditions were entered into the first step. The two cross-product vectors that represented the ECFS X prime condition were then entered into the second step. This analysis did not reveal any significant differences (*p-values* >.09), which indicates that participant's ability to visualize others did not vary as a function of their level of ECF. Furthermore, participants' average level of agreement on the statements across prime conditions ($M = 5.96$), indicates that most participants found the visualization task very clear, easy to do, and realistic.

I then sought to determine if the affirmation manipulation was effective in focusing participants on unconditionally accepting versus neutral others. To examine this, a composite was formed to represent the extent to which participants rated the person they visualized as accepting, easy to relate to, and someone they would like to spend more time with ($\alpha = .88$). Using the step-wise procedure described above, this composite was regressed on centered ECFS and prime/affirmation conditions while controlling for GSE (Step 1) and the ECFS X prime/affirmation interaction (Step 2). This analysis

revealed that ECFS and the interaction of ECFS and prime/affirmation did not significantly affect participant's ability to visualize an unconditionally accepting (vs. neutral) other (*p-values* >.40). However, a contrast between affirmation conditions did reveal a main effect such that participants who were in the intrinsic self-affirmation conditions reported that the person they visualized was more intrinsically affirming (M = 18.54) than participants who were in the control condition (M = 11.33; $t(140) = 13.33$, p <.01). The results of this analysis indicate that the intrinsic prime conditions were more affirming of the intrinsic self than the neutral prime conditions, regardless of participants' level of ECF.

Investment in Eating

Parallel to the results of Studies 2 and 3, it was hypothesized that high ECF participants who viewed the idealized body images, regardless of the type of affirmation they received, would show the lowest levels of intentions to eat relative to participants who viewed the products alone. Also consistent with the results of the previous studies, it was predicted that low ECF participants would react against the idealized body images and report higher levels of investment in eating. However, I expected that an intrinsic self-affirmation would serve to restore low ECF participant's sense of autonomy and eliminate the reactant tendency to report higher levels of investment in eating behavior. To test these predictions, an index of participants' investment in eating was formed by summing the amount of time, money and energy that participants sought to invest in eating related behavior in the upcoming month (α = .75). Using a two-step model, this composite was regressed on centered ECFS and prime/affirmation conditions while controlling for GSE (Step 1) and the ECFS X prime/affirmation interaction (Step 2). The

contrasts between the prime/affirmation conditions were marginally significant among participants who viewed the idealized body images. Among these participants, those who received the intrinsic self-affirmation invested less in eating than those who did not receive an intrinsic affirmation (β = -.22, p = .08). However, none of the other contrasts between conditions were significant (*p-values >.20*), and this marginal difference was qualified by the predicted ECFS X prime interaction ($F(6,136) = 2.96$, p <.01). To examine this interaction in greater detail, the simple slope of each prime/affirmation condition were tested. The results of these tests show that the simple slope of the idealized body image/no affirmation condition was significant (β = -.53, p <.01). As in the previous studies, low ECF participants showed increased investment in eating when exposed to idealized images, whereas high ECF participants show decreased investment in eating. Also consistent with my predictions, participants in the product/self-affirmation prime condition did not differ (p > .90) across levels of ECFS. Participants in the idealized/self-affirmation condition showed only a marginally significant difference in eating investment across ECFS (β = -.27, p < .06). An inspection of the pattern of results (see Figure 4) shows that the intrinsic self-affirmation decreased reactance among low ECFS participants, and consequently weakened the impact of exposure to idealized images on participants' investment in eating. The non-significant slope of the product alone/intrinsic self-affirmation condition confirms that the intrinsic self-affirmation prime did not alter eating investment and that the changes in eating investment can only be due the combined influence of the body image/affirmation conditions.

Discussion

The results of Study 4 replicate the pattern of results found in Studies 2 and 3, which showed that the presence of idealized images elicited reactance among individuals low in ECF and adherence to the normative standard among high ECF participants. Furthermore, an intrinsic self-affirmation eliminated reactance among low ECF participants. From this pattern it can be inferred that the behavioral and attitudinal changes observed among low ECF individuals are motivated, at least in part, by a desire to maintain a personal sense of autonomy in the face of salient social norms. Conversely, the self-affirmation prime did not affect high ECF participants' tendency to conform to the ideals represented in the advertisements. In light of previous research showing that intrinsic self-affirmations generally reduce defensiveness through the restoration of autonomy and unconditional acceptance (Arndt et al., 2002; Baldwin & Sinclair, 1996; Schimel et al., 2001), the current findings suggest that the adherence to the social standards among high ECF participants is unrelated to defensive concerns and may reflect a more general orientation towards meeting social standards.

General Discussion

The results of these four studies add further clarity to the understanding of the relationship between self-esteem and individuals' responses to idealized body images. In exploring this relationship, these results demonstrate how ECF moderates people's attitudes toward, and engagement in, health-related behaviors when social standards are salient. Study 1 tested the general idea that a greater focus on extrinsic contingencies would lead people to attend to the aspects of consumer products that would bolster their social image. The results of this study supported this hypothesis. In Study 1, higher levels of ECF predicted the extent that individuals emphasized the image-oriented aspects of

several popular consumer products. Although previous research has shown that constructs like self-monitoring are positively related to preferences for image oriented advertisements (Snyder & DeBono, 1985; Snyder & DeBono, 1987), and that investment in the domain of appearance predicts the frequency that individuals shop for clothing (Crocker et al., 2003), the results of this study are unique in several respects.

While self-monitoring is a measure of the extent to which individuals regulate their behavior to adapt to a particular social situation, it is not related to the extent to which an individual bases her or his self-esteem on meeting the contingencies of the social situation. So while ECF and self-monitoring are positively related (r = .25; Williams et al. 2009), the tendency to act like a social 'chameleon' and mold one's behavior to social expectations does not necessarily reflect the degree to which individuals feel as though their self-worth is invested in meeting those expectations. Snyder and DeBono (1985; 1989) have observed more favorable responses to image oriented advertisements among high self-monitors and more positive responses to quality oriented aspects of products among low self-monitors. However the results of Study 1 show that ECF is only related to the image-oriented aspects of products, and does not distinguish between individuals' preferences for quality. Thus, while high (vs. low) ECF individuals are more concerned with the image-oriented aspects of products, this increased emphasis is not coupled with a decreased emphasis on quality or practicality. The results of this first study provide support for the idea that ECF reflects a general tendency to focus on social expectations, and furthermore, that this tendency generalizes beyond interpersonal contexts to consumer preferences.

In the second study, it was found that while high ECF females were more restrained in their snack food consumption, low ECF women actually ate more after being exposed to idealized body images. A similar pattern of results was found for participants' preference for health foods, which increased among high ECF women and decreased among low ECF women following exposure to idealized body images (vs. product alone). These results extend previous research on contingent self-esteem and exposure to media by demonstrating that the effects of viewing idealized body images not only effect participants' attitudes toward themselves (Patrick et al. 2004) but also impact their health-related behaviors and attitudes. In addition, this study provides preliminary evidence to suggest that low ECF individuals may express reactance toward salient social standards.

Study 3 extended the findings of Study 2 by demonstrating that ECF also moderates reactions to idealized images among men. This study examined the effects of exposure to idealized images on men's intentions to engage in health-related behavior. The results of this study showed that high ECF men sought to exercise more and low ECF men sought to exercise less following exposure to idealized images. In addition to providing a conceptual replication of Study 2, this study demonstrates that the desires of high and low ECF individuals to meet or reject salient social standards, generalizes across gender and extends into other health related domains. Study 4 replicated the pattern of results found in Studies 2 and 3, and further demonstrated that the effects among low ECF individuals could be ameliorated by affirming the intrinsic self. The findings of Study 4 challenge the assumption that low ECF is unequivocally associated with lower levels of defensiveness. Instead they suggest that the desire to maintain freedom from

social ideals may lead to defensiveness among low ECF individuals, particularly when these ideals are made salient.

There are, however, several limitations to the current line of research that should be noted. First, the selection of predominantly white middle class university students limits the extent to which these findings generalize to a broader population. Because young adults are voracious consumers of media and levels of eating disorders are highest in this age range (Cavanaugh, & Lemberg, 1999), I felt that my sample was appropriate for this research. However, further research should examine whether these effects generalize to other populations that differ in their attitudes toward media and health-related issues. Another limitation of the current research stems from the experimental context in which the data was collected. While administering this study in a laboratory environment provides us with a distinct advantage in controlling extraneous variables, this method affords only a snapshot of people's behavior at a given point in time. Longitudinal and naturalistic research designs are needed to determine if the relationship between ECF and exposure to idealized images generalize beyond the laboratory and over time. Similarly, it is important to keep in mind that the medium through which social ideals are primed may be an important factor in determining people's reactions to social messages. It may be that the reactance observed among low ECF individuals is specific to messages that are designed to be persuasive (i.e., advertisements) or to social ideals that are relevant to one's own body image. While the same pattern of results was found across gender and several different health-related domains, more research will be needed to effectively determine the extent to which these findings generalize to other domains and contexts.

It is also important to point out that there are small psychometric differences between the measures of contingent self-esteem that were included in my literature review and the ECFS. The CSES, CSWS and ECFS are all moderately to highly correlated with each other (see Williams et al. 2009) and all assess the extent that individuals are reliant on socially defined contingencies in acquiring their self-worth. I felt that this commonality warranted a shared consideration of the evidence obtained from research using these measures, but it is also important to acknowledge that these measures may differ in subtle, but important ways (see Williams et al., 2009 for a discussion of these differences).

The Moderating Effects of ECF on Responses to Idealized Body Images

The results of the current research add to the growing number of studies showing that individual differences moderate the effects of exposure to idealized body images (Henderson-King et al. 2001; Heinberg & Thompson, 1995; Patrick et al., 2004; Stice et al., 2001). Unlike the majority of this research, which focuses on how idealized images can lead to changes in an individual's body image or mood (for a review see: Cafri et al., 2005; Groesz et al., 2002), the present studies examined how viewing idealized images affects health related behaviors and attitudes. The finding that high ECF individuals sought to attain the salient social ideal that was presented in the advertisements is consistent with past research, which found that these individuals were more likely to be affected by idealized body images than low ECF individuals (Patrick et al. 2004). Prior research has also found that low ECF individuals are less likely to experience negative body image and mood (Henderson-King et al. 2001; Ip & Jarry, 2007; Patrick et al., 2004). In contrast, the current findings (Studies 2-4) clearly showed that low ECF

individuals were affected by the presence of idealized images and, in terms of health-related behavior (e.g., eating and exercise), were as likely to be affected by these images as their high ECF counterparts. If low ECF individuals were truly independent from the social ideals conveyed by the advertisements, they would have remained relatively unaffected by them. Thus, while the effects of idealized images in advertisements are moderated by individual differences in ECF, the consequences of viewing idealized images extend, albeit in different ways, to a much broader segment of the population than past research indicates.

An important question that arises from these findings, with respect to previous research, is whether or not low ECF individuals are genuinely insulated from the negative consequences of engaging in upward comparison, or if the lack of significant changes in body image and affect reflects defensive concerns. It may be that low ECF individuals, because of their greater desire for autonomy, are simply less willing to admit that they are influenced by social ideals. As Polivy and Herman (2004) point out, self-report measures that are administered following exposure to advertisements may elicit a demand. Furthermore, low ECF individuals may be more sensitive (i.e., reactant) to this demand because they are reluctant to admit to themselves or others that they are influenced by popular ideals. While the current findings do not address this issue directly, they do suggest that both high and low ECF individuals engaged in social comparison processes. Indeed, the results of the manipulation checks in the second and third studies showed that both high and low ECF participants reported that the idealized advertisements (vs. product alone) increased awareness of and motivated them to improve their bodies. While these items do not assess social comparison processes directly, an awareness of one's

own body is necessary for such comparisons to take place, and a desire to improve one's own body is clearly consistent with an upward social comparison process. The absence of a moderating effect of ECF on awareness of and motivation to improve their bodies suggests that high and low ECF participants did not differ in their self-reported level of social comparison after viewing the idealized image. These findings are consistent with prior research showing that exposure to idealized images spontaneously and automatically elicit social comparison (Patrick et al., 2004; Richens, 1991; Smeesters & Mandel, 2006). However, these findings should also be interpreted with some caution as it has been shown that, when preceded by idealized images, self-report measures that are related to body image may simply reflect the participants' implicit beliefs of how the images should have affected them (Mills et al., 2002). So while the manipulation checks that were used in these studies did not reveal obvious differences in social comparison between high and low ECF individuals, it does not eliminate the possibility that subtle differences did exist.

Another possibility is that high and low ECF participants differed in the post comparison processes they made following an initial (upward) social comparison with the idealized image (Masters & Keil, 1987; Wood, 1989). Post comparison processes are aimed at the restoration of self-esteem and can involve reducing the importance of the comparison dimension (Taylor, Wood & Lichtman, 1983), distancing oneself from the target of comparison (Tesser, 1986), or comparing oneself to the target on a dimension that gives an advantage to oneself (Tesser & Campbell, 1980; Van Knippenberg et al., 1981). Thus, while the current findings suggest that exposure to the idealized images initially elicited upward social comparison among all participants, the reactance observed

among low ECF individuals may involve any number of post comparison strategies directed at the restoration of self-esteem.

The Nature of Extrinsic Contingency Focus

There is a great deal of research showing that individuals whose self-esteem is reliant on meeting the expectations of others (Kernis & Paradise, 2003; Lebouf & Losier, 2008a; Williams et al., 2009), or whose self-esteem is based on success in domains that are highly social in nature (Crocker et al., 2003), tend to be more defensive in response to threat. Indeed, if one is heavily reliant on meeting standards that are defined by others, rather than oneself, then a greater degree of vigilance is required to continually satisfy these external expectations and maintain positive feelings of self-worth. In so far as individuals are focused on social expectations in acquiring self-esteem, one would expect that they would seek to meet normative social standards, particularly if these ideals are salient. Consistent with this notion, the current research showed that high ECF individuals focused on the aspects of consumer products that could enhance their social image and altered their behavior in a way that indicated a desire to attain the body ideals represented in advertisements. However, unlike past investigations of defensiveness in response to threat, the results indicated that a greater focus on social ideals among high ECF individuals is not always linked to defensive responding. The findings of Study 4 showed that while high ECF participants sought the salient body ideal, their desire to eat less was unaffected by a positive self-affirmation prime. This suggests that high ECF participants' desire to lose weight was likely due to a more general orientation towards social standards rather than a defensive need to bolster their self-esteem. In fact, the presentation of the idealized body images may have been somewhat affirming for high

ECF individuals given that the attainment of such ideals is consistent with their worldview (Arndt, et al., 2009).

A consistent finding across these studies was that low ECF individuals were reactant to idealized body images (Studies 2-4); and, in Study 4 this pattern of behavior was ameliorated through the use of an intrinsic self-affirmation (Study 4). This finding is both unique and theoretically informative. It is well documented that individuals whose self-esteem is less reliant on socially defined contingencies fluctuate less in their day-to-day level of self-esteem and are less susceptible to social threat than their extrinsic counterparts (for a review see Arndt et al., 2006; Kernis, 2006). Yet, across three studies I found that low ECF individuals distanced themselves from the ideals in the advertisements by altering their health-related attitudes and behaviors. This finding suggests that low ECF individuals seek to maintain a high degree of autonomy from social ideals, and may even engage in unhealthy behavior as a means of asserting their self-perceived autonomy. However, the self-affirmation prime used in Study 4 demonstrates that reinforcing a sense of unconditional acceptance and autonomy can eliminate this reactance. Thus, individuals who possess a low focus on external contingencies may, in some cases, respond more defensively than individuals who are high in ECF as previous research indicates. While it is possible that the reactance observed in the current studies is specifically related to body image or advertising, I believe that these results would likely generalize to other situations in which individuals felt as though their freedom to determine their own standards was threatened. For example in other health-related domains it has been shown that general self-affirmation primes reduce defensive reactions to graphic cigarette warning labels (Harris, Mayle,

Mabbot & Napper, 2007), biased processing of health-risk information (Harris & Napper, 2005), and lead to changes in behavior following exposure to health related messages (Epton & Harris, 2008). While these studies demonstrate the generalizability and usefulness of self-affirmation primes, the current research suggests the effectiveness of these primes in health-related contexts may vary as a function of an individual's level of ECF. In light of this, I am optimistic that future investigations aimed at exploring the relationship between self-affirmation and ECF will provide a better understanding of how to reduce reactance to health related messages, particularly among low ECF individuals.

On the surface, it may seem as though the results of the current studies are at odds with the previous research that has shown that high ECF individuals generally exhibit higher levels of defensiveness in response to threat (for reviews see: Arndt et al. 2006; Kernis, 2006). However, an important difference between the current research and past research should be noted. Past research has been mainly focused on individual's reactions to negative social feedback and threats to their social group (Williams et al., 2009) or the extent to which individual's self-esteem fluctuates in response to negative life events (Crocker & Knight, 2005; Kernis, 2003). The current research explores individual's reactions to persuasion and normative ideals in advertising media, which at least on the surface, do not pose a threat to the individual. Instead, idealized images prime social and normative values, which may lead the individual to behave in a manner that is consistent with the attainment of the ideal. While the broad social orientation of high ECF individuals leads to a general acceptance of these ideals and behavior that is consistent with achievement of these ideals, low ECF individuals, because of their desire for independence and freedom from social pressure become reactant and engage in behavior

that rejects the social norm. Past research has shown that focusing one's self-esteem on meeting social expectations will increase one's sensitivity to direct threats, such as negative social feedback and failure (for reviews see: Arndt et al. 2006; Kernis, 2006). Furthering our understanding of this relationship, the current research demonstrates that the emphasis that low ECF individuals place on maintaining an independent sense of self-esteem increases their propensity to resist social pressure to conform to the status quo.

The findings of this research indicate that the relationship between ECF and defensiveness may be less clear-cut than prior research suggests (Crocker & Nuer, 2003; Deci & Ryan, 1995). While high ECF individuals are more vulnerable to negative social feedback and evaluation, low ECF individuals may be reactant and defensive in response to social pressure. In fact, the reactance found in Studies 2-4 suggests that the relative emotional detachment from social feedback that has been found among low ECF individuals (Deci & Ryan, 1995; Grolnick & Ryan, 1989; Kernis & Paradise, 2002) may come at a cost. The decreased emphasis that low ECF individuals place on social contingencies provides them with a more stable form of self-esteem, but also requires that they maintain their own standards of self-worth. It is this process of maintaining the perception of freedom from social norms and ideals that may fuel the need for low ECF individuals to distance themselves from the attitudes and opinions of others.

Many self-esteem theorists have stressed that becoming highly focused on extrinsic contingencies of self-esteem (Crocker & Park, 2004; Deci & Ryan, 1995; Kernis, 2003; Williams et al., 2009) can lead to a defensive and fragile form of self-esteem. The current research lends supports this idea, but also suggests that a decreased focus on extrinsic contingencies may also lead to defensive behavior in some

circumstances. This is not to argue that high and low ECF individuals *always* seek to conform with or distinguish themselves from social norms, but instead to suggest that ECF reflects a general tendency for people to conform to or reject social ideals as a means of earning self-esteem. The results of these four studies provide contradictory evidence to the idea that certain forms of self-esteem (i.e., purely autonomous) are completely detached from social expectations (Kernis, 2003) or that the pursuit of self-esteem is a conscious and mutable desire (Crocker & Nuer, 2003; see also Arndt & Schimel, 2003). The present research shows, ironically, that even those who seek to disentangle their self-esteem from the web of social ideals are still strongly influenced by their presence. Perhaps the development of a durable and non-defensive form of self-esteem is a dialectical process where the individual is able to strike a balance between meeting social expectations and maintaining an autonomous sense of self (Becker, 1971; Deci & Ryan, 1995; see also Brewer, 1991).

Conclusion

The means through which individuals acquire their self-esteem is an important factor in understanding the relationship between exposure to idealized body images and well-being. The current research contributes to the existing literature by providing experimental evidence showing that ECF moderates individual's reactions to idealized body images and preferences for consumer products. While the results of this research allow for a better understanding of how self-esteem is related to exposure to idealized body images, they also demonstrate the broad consequences that these images have on men and women. The mix of behavioral and attitudinal measures used in these studies demonstrate a congruence between attitudes and behaviors in how individuals respond to

social ideals, and calls into question the widely held notion that a lower focus on extrinsic contingencies is always associated with a lower level of defensiveness (Crocker & Park, 2004; Deci & Ryan, 1995; Kernis, 2003). It is my hope that this research will stimulate both applied research on the effects of idealized images in media and basic research on the multi-faceted nature of self-esteem.

Endnotes

1. Data for two studies was collected simultaneously during the session. By interspersing the materials for the two studies, demand characteristics were lowered and the cover-story was more easily maintained. To ensure that the manipulation used in the first study did not interfere with participants ratings on the products or interact with ECF, I controlled for this manipulation and its interactive effects in our analyses. I found no significant effects (all p-values >*.10*) and therefore, did not discuss this variable any further.

2. No differences between participants' the liking and buying preferences emerged on my analyses for either the SUV or the cell phone. Therefore, I did not discuss this distinction further.

3. This item was not included for the sunglasses or car, as no product packaging was evident from the advertisement. For the Cointreau alcoholic beverage, the statement read as follows, "I like the packaging (bottle) of this product".

4. Higher order interaction terms between the independent variables and GSE were tested for the analyses in Studies 2-4. No significant effects were found and are therefore not discussed further.

5. The "I buy what food tastes best, regardless of ingredients" item was reverse coded to indicate greater health related preference.

6. One participant was excluded for not following directions as noted above. This participant allocated more than 100 percent of their time, money and energy across the different domains.

7. In order to obtain the most sensitive test of the prime manipulation, I included all 62 participants who took part in the study but were not present for the mass testing sessions in which the measure of GSE was collected.

8. I collected data on 62 participants but because not all participants took part in the mass testing session earlier that semester, I was only able to obtain global self-esteem scores on 41 participants. An analysis of all 62 participants without controlling for global self-esteem revealed a very similar pattern of results with no significant main effects and a significant ECFS X prime interaction (β = -.37, p < .05).

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Figure 1: Effect of ECF and Prime on Snack Food Consumption

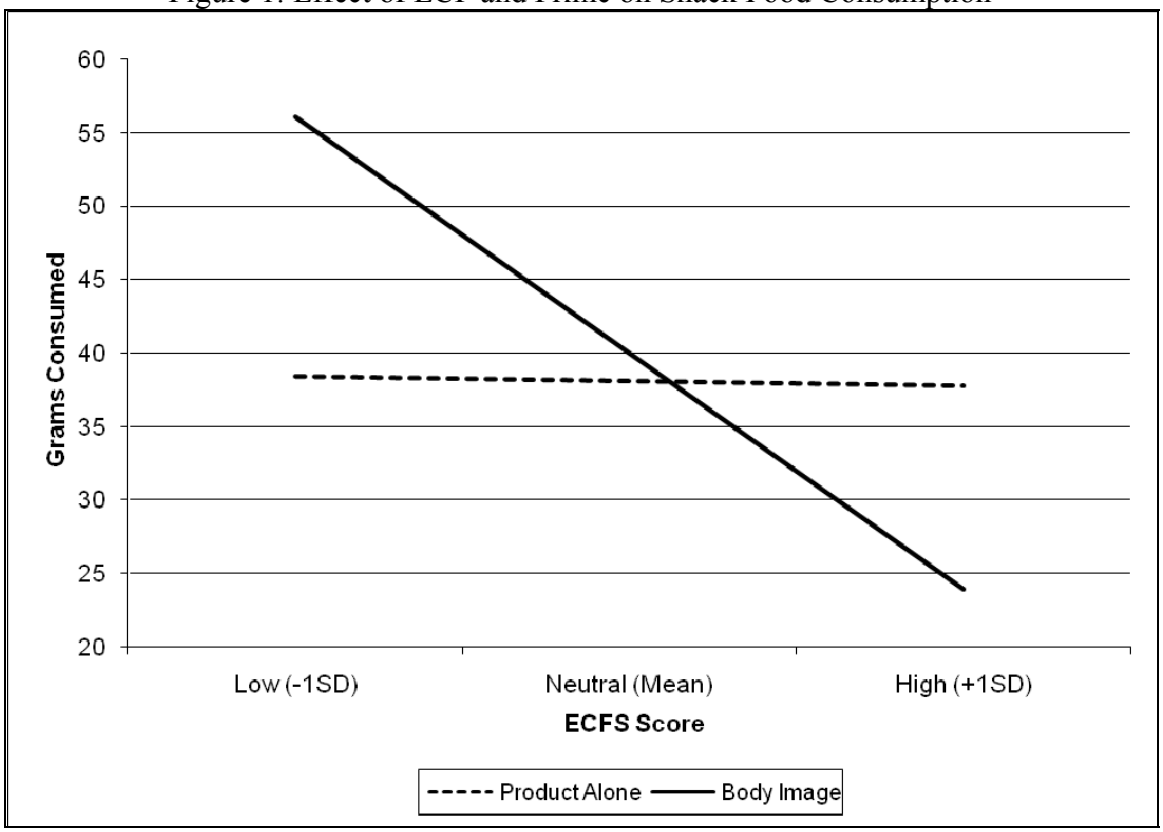


Figure 2: Effect of ECF and Prime on Health Food Preference

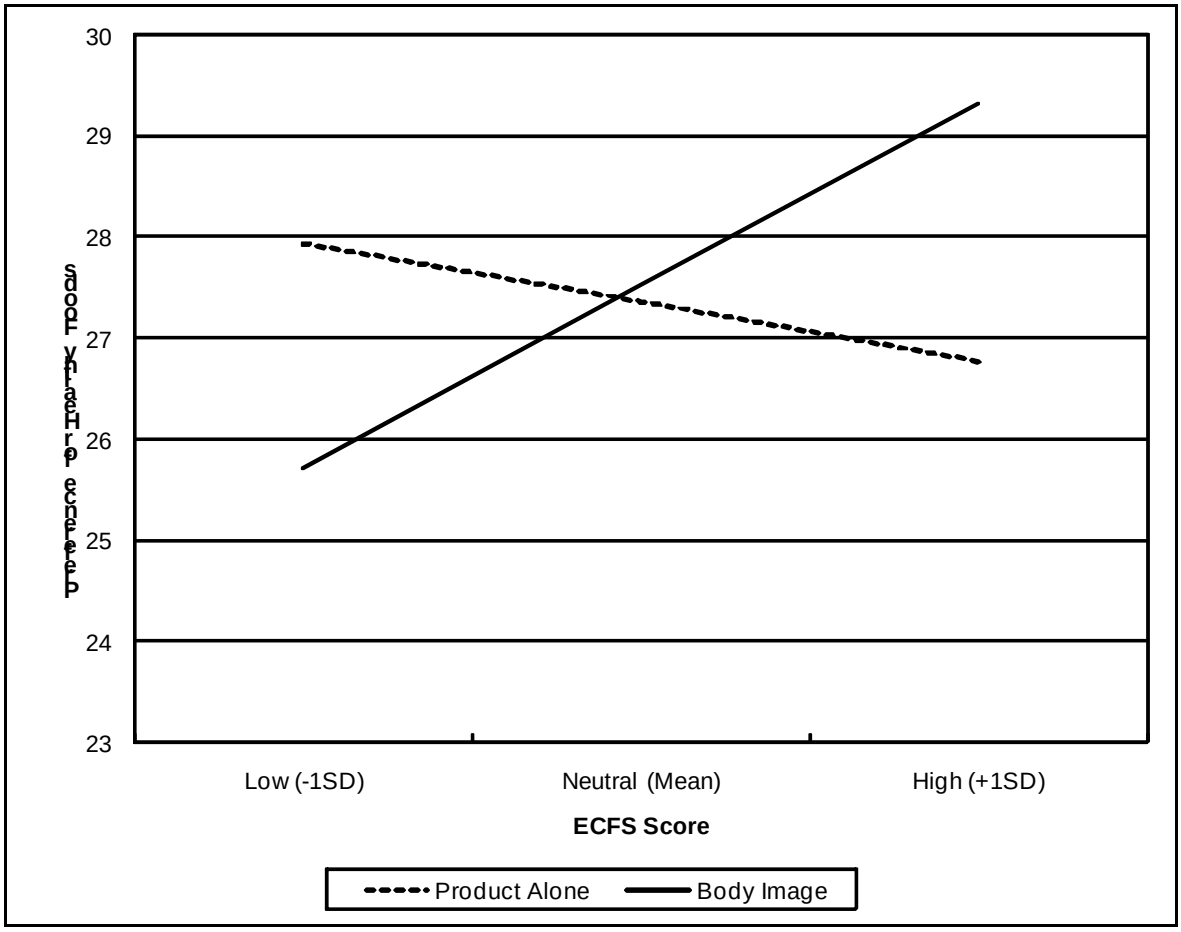


Figure 3: Effect of ECF and Prime on Investment in Exercise

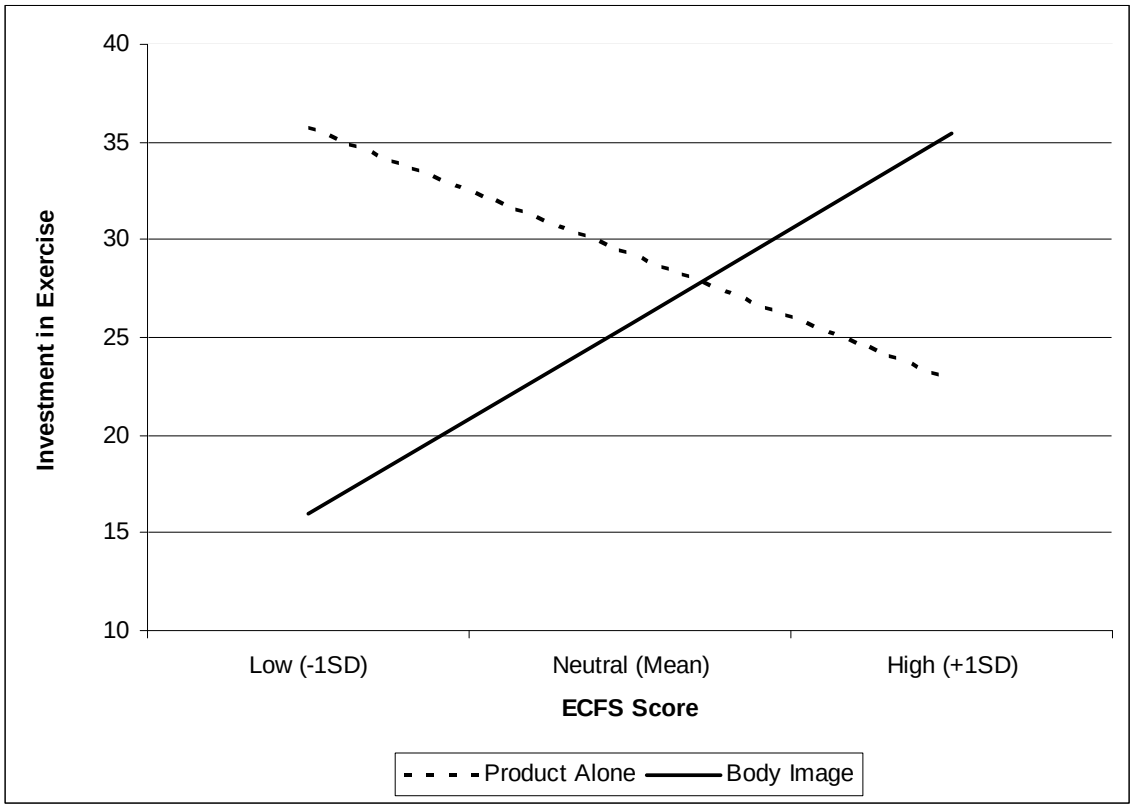
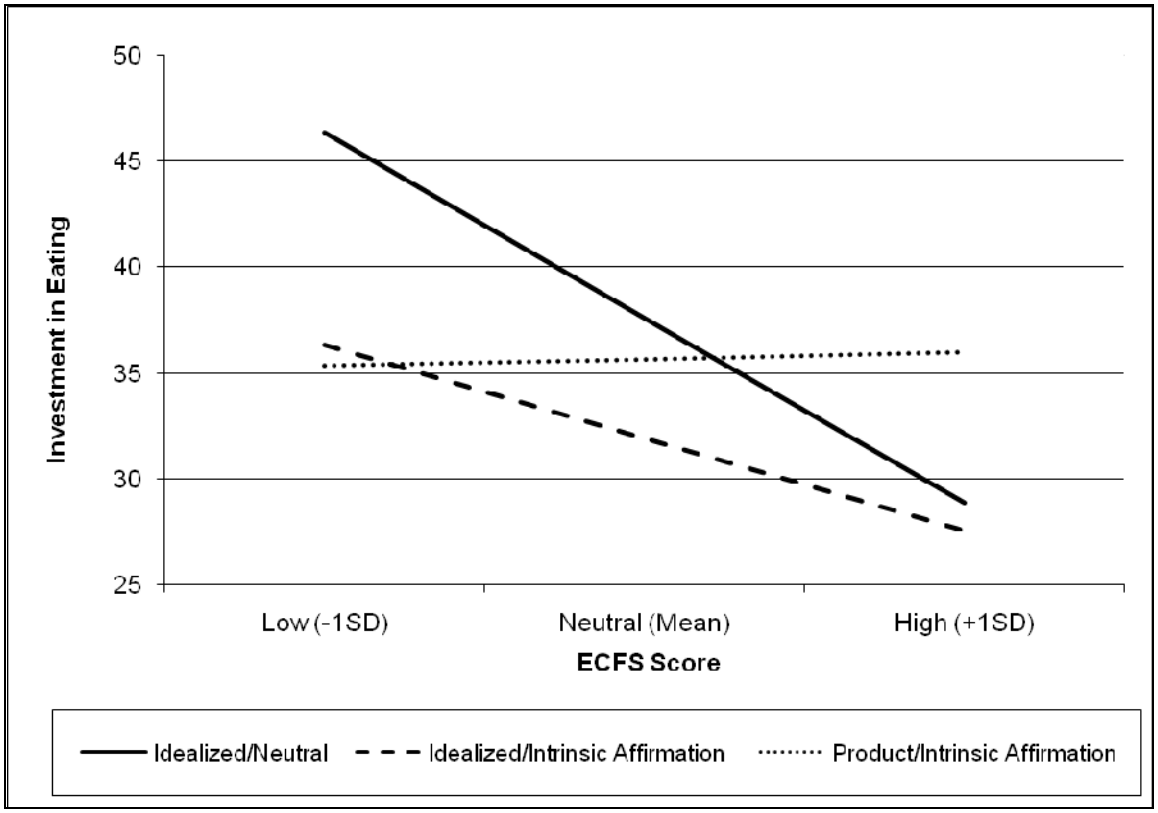


Figure 4: Effect of ECF and Prime/Affirmation Condition on Investment in Eating



Appendix A

Extrinsic Contingency Focus Scale (ECFS)

ECFS items, item factor loadings, corrected item-total correlations and split-half form numbers

Item		Factor Loading	*r*	Form
1	If I could just improve my performance in life, people would respect me more.	.60	.51	1
2	I often get concerned with how others are evaluating me.	.67	.57	1
3	I would compete in a public event, even if I knew I couldn't win. (R)	.35	.29	1
4	I work hard at things because of the social approval it provides.	.51	.44	1
5	I would not bother trying to learn a music instrument if I knew that I would never be able to play well enough to impress people.	.46	.39	1
6	In social gatherings I hardly ever think about how other people are judging me. (R)	.55	.46	1
7	Being recognized as a hero would be a very rewarding part of saving someone's life.	.41	.35	1
8	I exercise because it makes me more attractive to others.	.47	.40	1
9	When I have done a good job, it is important that my supervisor acknowledges it.	.50	.43	1
10	I feel as though people will respect me whether I am a success or failure. (R)	.46	.39	1
11	It is not important that I get recognition for the tasks I undertake. (R)	.35	.29	2
12	I find I have little interest in a task unless there is the possibility that I will get recognition for doing it.	.57	.50	2
13	When I know I'm being evaluated, I feel uneasy until I receive feedback.	.53	.43	2
14	I interact with people at social gatherings without thinking about how they might affect my reputation. (R)	.42	.35	2
15	I feel as though people like me less when I make mistakes.	.49	.41	2
16	Whenever I voice my opinion, I feel uneasy unless someone voices agreement.	.54	.45	2
17	I rarely think about how people are evaluating me. (R)	.60	.51	2
18	I have an image to maintain.	.49	.42	2
19	I immediately think of what others will think when I accomplish something great.	.50	.43	2
20	I would go to my high school reunion to show everyone how well I have done since then.	.43	.37	2

Note: "R" = Reverse scored

Appendix B

Psychometric Properties of the ECFS

Mean inter-item correlation	$r = .21$	$N = 5622$
Cronbach's Alph	$\alpha = .84$	
Principal Components Analysis and Scree test revealed a single component	Eigenvalue = 5.06 Explained Variance = 25%	
Split-Half Reliability	Form 1: α = .73 Form 2: α = .71 Form 1 and 2 Correlation: $r = .74$	
Test-Retest Reliability	16 weeks: $r = .74$	$N = 660$

Appendix C

Nomological Net of the ECFS

Correlations with ECFS

Scale	*r*	N
Global Self-Esteem (GSE)	-.39$_b$**	2078
Attachment Style (AS)		
Secure	-.22$_b$**	2141
Dismissing	-.09$_b$**	2140
Preoccupied	.29$_b$**	2140
Fearful	.24$_b$**	2141
Personal Need for Structure (PNS)	.35$_b$**	2118
Self-Monitoring Scale (SMS)	.25$_a$**	446
Contingent Self-Esteem Scale (CSES)	.60$_a$**	1954
Highly Extrinsic Contingencies		
Social Approval	.63 $_a$**	1956
Physical Attractiveness	.49 $_a$**	1954
Moderately Extrinsic Contingencies	.36 $_a$**	1956
Intrinsic Contingencies	.18 $_a$**	1956
Contingencies of Self-Worth Scale (CSWS)	.48 $_b$**	110
Others' approval	.60$_b$**	115
Appearance	.45$_b$**	115
Competition	.38$_b$**	115
Academic competence	.27$_b$**	115
Family support	.21$_b$*	115
Virtue	-.06$_b$	115
God's love	.06$_b$	110
Emotional Empathy (EE)	.06$_a$	459

Note: Higher scores on other scales indicate more of the trait in question; "*" = Correlation is significant at .05; "**" = Correlation is significant at .01; Subscripts *a* and *b* correspond with correlations computed with an earlier 18 item and the current 20 item version of the ECFS, respectively. The 18 item version (α = .85) had an identical factor structure to the current version, but did not include items, 3 and 14.