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Does Self-Referent Cognition act as a Mediator Between Mood and Body Image

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Thesis completed as requirement for the Master of Arts degree in Clinical Psychology

August 8, 1999



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Abstract

Depression and dysphoria have often been cited as emotional states that exacerbate both body size distortion and body dissatisfaction. The specific cause of this association has recently been the subject of empirical investigation. In fact, recent research suggests that women induced into a negative mood state report increased concern about their body image. The role of cognition, however, has not yet been specifically addressed by these investigations. The present study tested whether self-referent cognition acts as a mediator between subjective mood and body image evaluations. Eighty women were induced into either a positive or negative mood through brief exposure to either a self-referent or a non self-referent mood induction procedure (MIP). Self-evaluations for attitudinal and perceptual body image were examined for differential effects related to these MIPs. Results indicated that attitudinal body image self-evaluations and perceptual estimates of actual body size became more derogatory only after exposure to the negative MIP that was self-referent. Participants exposed to the positive self-referent MIP, as well as the negative non self-referent MIP, showed an overall unexpected trend toward improved self-evaluations on these measures. Participants who initially reported high self-esteem also showed a decrease in self-esteem after exposure to the negative self-referent MIP. These collective results support the cognitive priming perspective, which posits that cognitive sets, and not subjective mood per se, are responsible for the more negative self-evaluations reported after exposure to negative MIPs. The implications of the study's findings for cognitive theories are discussed.

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Does Self-Referent Cognition act as a Mediator between Mood and Body Image?

Body image is a topical construct popular in both culture and in psychological research. Numerous researchers have described the pervasive and sometimes harmful effects that body image concerns can have on an individual, including the potential for development of an eating disorder. Determining an operational definition of body image for psychological purposes is difficult for the term acts as an umbrella construct under which a great deal of varied research has been completed. The present study closely followed Cash and Pruzinsky's (1990) conception of body image. They define it as a multifaceted construct associated with a persons' perceptions, thoughts, feelings, and behaviours regarding the appearance of one's body.

Body image has also been conceived of as a mental construction that is encompassed within a person's self-schema (Markus, Hamill, & Sentis, 1987). As such, body image is a subjective evaluation that can deviate substantially from the person's objective physical characteristics. Consistently negative body image evaluations that are salient descriptors of an individual's sense of self can lead to the development of body image disturbances. Thompson (1992) describes body image disturbance, which is closely aligned with Cash and Pruzinsky's (1990) definition of body image, as a multifaceted disorder related to physical appearance that includes affective, cognitive, perceptual, and behavioural components.

Depression is a common clinical feature associated with body image disturbances (Cooper & Taylor, 1988). A significant association has been found between depression levels of patients with anorexia nervosa and their extent of body size

overestimation (Garfinkel & Garner, 1984). Another study (Freeman, Thomas, Solyon, & Miles, 1983) investigated perceptual disturbances of body size for patients with bulimia nervosa and found that depression was significantly associated with a high discrepancy between participants' perceived and desired body size. Body image perceptual disturbances have also been found to be related to low mood among women with no clear eating disorder (Cash, Winstead, & Janada, 1986; Fallon & Rozin, 1990).

Researchers have recently begun to investigate the association between dysphoric mood and body image disturbances. Three studies to date have investigated this association by experimentally manipulating mood and examining resulting changes on certain dimensions of body image. Taylor and Cooper's (1992) examined the effect of a negative mood induction on body size perception. Plies and Florin (1992) studied the effect of mood inductions on the body image of restrained eaters. Finally, Baker, Williamson, and Sylve (1995) investigated the effects of mood inductions on body image disturbances and memory biases. The methods and results of these studies will be examined and important similarities and discrepancies will be highlighted.

Taylor and Cooper (1992) investigated both a perceptual and an attitudinal dimension of body image. The perceptual measure required female participants to estimate both their actual body size and desired body size, before and after either a negative or neutral MIP. Velten's (1968) MIP was adapted for this study. The Velten uses self-referent statements that describe either positive self-evaluations "I feel that I am a nice person" or negative self-evaluations "I feel ashamed of things I've done". A visual analogue scale, developed to measure transient changes in mood, was used to compare participants' mood ratings pre- and post-MIP. Participants finished the

experiment by filling out the Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987), an attitudinal scale that assesses body dysphoria.

The MIP procedure had a significant effect on perception of body size. Participants in the low mood condition, which successfully manipulated mood, showed a significantly smaller desired size compared with participants in the control condition. For estimates of actual size, however, Taylor and Cooper stated that participants in the low mood condition showed a tendency to overestimate their actual size, $F(1, 70) = 1.37, p > .10$, compared to participants in the control condition.

An index of body size dissatisfaction was derived by subtracting participant ratings of their desired size from estimates of their actual size. Analysis of this index indicated that participants in the low mood condition were significantly more dissatisfied with their body image compared with participants in the control condition.

Taylor and Cooper re-analysed the data using a median split on BSQ scores to compare participants high and low in body shape concern. Results indicated that compared to participants low in body shape concern, for those with high body shape concern the induction of low mood led to a statistically significant increase in body size overestimation. Although not statistically significant, participants with high body shape concerns in the low mood condition showed a tendency towards greater body size dissatisfaction compared to low body shape concerned females.

A potential confounding factor in this study was that the BSQ was completed after the MIPs. This ordering of tasks did not allow for an accurate baseline measure of body shape concern independent of mood effects. A better research design would require participants to complete the BSQ before any mood manipulation. Despite these

limitations, this study helped to elucidate the connection between mood and certain elements of body image disturbances.

Plies and Florin's (1992) experiment investigated both perceptual body image and body dissatisfaction through a questionnaire. Their results largely support those of Taylor and Cooper (1992). Plies and Florin's experimental design divided female participants into two groups prior to any experimental manipulation: restrained eaters (RE) and unrestrained eaters (URE). The participants were subjected to a sequence of three conditions under which their body image was assessed: baseline, induction of negative mood, and finally induction of positive mood. Under each condition, the participants were asked to estimate their actual body width. Participants were administered the BSQ after the mood induction and body size estimates had been completed.

Rather than using the Velten, Plies and Florin's MIP procedure manipulated mood through recall of autobiographical events of either positive or negative content. Once these events were recalled, participants were encouraged to try and re-experience their emotional quality. A Likert scale administered at baseline and after each mood induction asking participants to rate their agreement with the statement "I feel sad" suggested that the MIPs were effective in altering mood. Mood effects were equal for the RE and URE groups. Plies and Florin's results for body image evaluations share some overlap with Taylor and Cooper's (1992) study. Overall, RE gave significantly higher estimations of their body width than URE. However, both groups reported higher estimates of their body width under the negative mood condition than after both baseline and positive mood induction. Interpretation of body image dissatisfaction scores, which were measured by the BSQ, was likely confounded by the study's experimental design.

The within-subjects design, which required participants to evaluate their body image under both a negative and positive mood, does not allow for a clear understanding of a specific mood effect on this attitudinal variable.

Baker, Williamson, and Sylve (1995) examined three aspects of body image disturbance in their research design. The first aspect, body dysphoria, represented negative feelings about one's body size or shape. The second aspect, body dissatisfaction, was defined as a disparity between a person's perceived current body size and his or her ideal body size. The third aspect was body size perceptual distortion. The BSQ was used as a screening measure to select and divide female participants into groups high and low on body image dysphoria. It is important to note that groups differed on levels of depression before any experimental manipulation. Participants with high body dysphoria had higher Beck Depression Inventory (BDI; Beck, Steer, & Garbin, 1988) scores than low body dysphoric participants. Baker et al. (1995) stated that they did not believe that this difference was important to the findings of interest in their study. However, the argument can be made that when the experimental manipulation targets mood, baseline group differences on levels of depression are relevant.

An initial screening session required participants to complete a package of measures. This package included the Eating Disorders Inventory (EDI; Garner, Olmstead, & Polivy, 1983), which includes a sub-scale assessing body dissatisfaction; a perceptual measure, and the Body Image Assessment Scale (BIAS; Williamson, 1989), which uses silhouettes of female body shapes ranging from very thin to obese. This scale assesses current body size, ideal body size, and the disparity between ideal and current body size. The BDI and the BSQ were also administered.

A week or two after the screening session selected participants returned to the laboratory and were asked to rate their mood using a Subjective Units of Distress Scale (SUDS; Wolpe & Lazarus, 1967), and the Depressive Adjectives Checklist (DACL; Lubin, 1967). Each group of participants was randomly assigned to either the negative or neutral mood induction condition and then reassessed on the SUDS and DACL to evaluate mood change. Mood was manipulated via a Velten-type MIP, which required participants to read either 30 negative or neutral self-referent statements. The dependent measures of interest, the BIA, BSQ, and the body dissatisfaction scale of the EDI, were subsequently administered to determine the impact of the induced mood.

Analysis of the SUDS and DACL scores indicated significantly more dysphoric affect at post-MIP, which suggests that the procedure was effective. Groups did not differ in their responses to the neutral mood induction. Analysis of the body image measures at post-MIP provided further support for the associative link between affect and body image evaluations. Current body size (CBS) estimates yielded a significant Group x Mood interaction, with high body dysphoric participants evidencing higher CBS estimates in the negative mood condition when compared with the neutral condition. Low body dysphoric participants did not differ on CBS scores when the two mood conditions were compared. However, estimations of ideal body size were not affected by the negative MIP for participants in either low or high body dysphoria groups. This apparent stability of participants' ideal body size estimates contrasts with the results of Taylor and Cooper (1992) who reported that participants in a negative mood condition showed significantly smaller desired size compared to participants in a control condition.

A significant interaction for Group x Mood condition was also found for BSQ scores. Participants high in body dysphoria in the negative mood induction had higher BSQ scores than those in the neutral mood condition. Participants low in body dysphoria, however, did not report increased body dysphoria in the negative mood condition when compared to the control condition. No Group x Mood interaction was found for the EDI Body Dissatisfaction scale. Although the lack of group differences for body dissatisfaction contrasts with the conclusions proposed by Taylor and Cooper (1992), one must remember that Taylor and Cooper used perceptual estimations, an index of perceived size minus ideal size, as a measure body size dissatisfaction.

Similarities and differences of the three studies reviewed (Baker, Williamson, & Sylve, 1995; Plies & Florin, 1992; Taylor & Cooper, 1992) are important to summarize. Mood induction procedures were shown to be effective in altering mood in each study. Only female participants were used and they were divided into groups high and low on some measure of body image concern. For participants low in body image concerns, mood change did not result in changes in body image self-evaluations. One exception to this overall trend was that unrestrained eaters in Plies and Florin's study (1992) made significantly higher actual body estimates after a negative mood induction. A possible explanation of this result is that females who were not restraining their eating may, nevertheless, still have had high levels of body concern but these concerns were not being expressed in their behaviour. For participants with high body image concerns, negative mood was shown to influence some aspect of perceptual estimations in each of the three studies. Consistent results were not found for the impact of mood on body image dissatisfaction. This lack of consistency may be explained by the use of different measures. Taylor and Cooper (1992) used perceptual measures while Plies and Florin

(1992) and Baker et al. (1995) used attitudinal measures to operationally define body image dissatisfaction. Another potential factor to explain inconsistent findings among the studies was the use of research designs that did not allow for a clear examination of mood effects on body image evaluations.

Stability of the self-schema

How does one explain the observed shifts in body image evaluations demonstrated by the three experiments? For certain individuals, induction of a negative mood state is associated with an increased concern in body image perceptions and attitudes. This apparent instability of the body image construct, which is an integral part of an individuals' self-schema, runs counter to a recent review of schema research in depression (Rector, Segal, & Gemar, 1998). This review defines self-schema as a relatively stable body of stored knowledge which pertains to aspects of the self. This definition does allow for some flexibility and perhaps "relative" factors exist which affect the stability of body image. Myers and Biocca's (1992) conception of body image is aligned with this consideration. They view body image as an elastic construct that is unstable and responsive to external cues such as media exposure and social influences. Further support for the notion of an elastic body image has been offered by Markus and Nurius (1986) who argue that while self-schema research usually assumes that an individual's self-concept is a stable structure, it is also possible that self-schema are influenced by more momentary variations in external circumstances and internal states.

Myers and Biocca (1992) suggest that mood may be a potential factor influencing body image. This explanation seems plausible in light of the experimental manipulation of mood used in the three studies reviewed. However, could there be other factors or internal states that could have an influence on body image concerns? Recall

that in addition to “feelings”, “thoughts” are also an important aspect in the definition of body image (Cash & Pruzinsky, 1990). Cognition represents an additional internal state that has been argued to influence peoples’ self-schemas (Beck, 1976; Riskind, 1989; Segal, Gemar, Truchon, Guirguis, & Horowitz, 1995). Perhaps cognition represents a factor that affects the relative stability of one’s self-schema, in particular one’s body image.

Subjective Mood Versus Cognitive Priming

Two opposing theoretical perspectives, mood-based versus cognitive priming, have been developed to account for the observed effects of mood on memory. These perspectives offer different explanations for the results of the three mood induction experiments reviewed (Baker et al., 1995; Plies & Florin, 1992; Taylor & Cooper, 1992) The mood-based perspective proposes that subjective mood, or “feeling”, is the causal factor influencing memory, whereas the cognitive priming perspective proposes that “thoughts” are the cause of the observed effects (e.g., Riskind, 1989).

The mood-based perspective is largely predicated on the theoretical conception of mood-congruency effects. This conception posits that mood states act as cues for selective recall of mood-congruent information. Participants with significant body image dysphoria are argued to have fluctuating perceptions and attitudes concerning their body. These conceptions may lie on a range from good to bad. A mood-congruent effect would occur if a subjective negative mood activates the related negative body image evaluations. Participants without body image concerns may possess more stable body image conceptions and, therefore, the negative mood has no corresponding negative body image evaluation. Riskind (1989) argues that although the mood-based perspective is “theoretically elegant”, a substantial amount of research provides

contradictory results. Most damaging is the observation that in mood-induction studies, mood change and memory change are frequently not correlated (Riskind, 1989; Blaney, 1986). The lack of consistent correlations between mood and memory argues against the mood-based perspective's basic premise of congruency between mood state and selective recall and retrieval.

The cognitive priming perspective argues that, independently of subjective mood, the cognitive information provided by mood-evoking events can directly prime memory. As such, mood-incongruent memory results are accounted for by the process of cognitive priming that accompanies mood-producing events. Riskind (1989) summarizes this discussion in context of schema theory:

Firstly, when individual schemas or categories are primed by a mood-induction, such priming would enhance retrieval of schema-congruent material. Second, priming by a mood-producing event may increase the encoder's readiness to elaborate schema- or category-congruent material. Accordingly, the cognitive priming of schemas or categories can enhance learning of congruent material and explain mood congruent encoding effects as well. In contrast to the mood-based perspective, in the cognitive priming perspective, the subjective mood state induced by a mood-inducing event may not mediate either mood congruent encoding or retrieval. (p.175.)

Further support for the causal effects of cognition on self-schemas is derived from Beck's (1967, Beck et al., 1979) cognitive theory which argues that depressogenic schemas remain latent until triggered by stressful life events which mirror the content of the schema. Many negative themes are made accessible by this activation of self-schema which then create a pattern of negative self-reference information that induces depression. Cognition has been argued to include verbal and "visual" representations of the nature of the self (Riskind, 1989). One can readily see the connection between perceptual estimations of body size and visual representations of the self. Lazarus (1982) has argued that cognition is not always conscious and may frequently be evaluative. This assumption establishes an explicit connection between cognition and body image evaluations.

Does evidence exist in the literature that supports or refutes one of these opposing theoretical perspectives? Beck's (1967; Beck, Rush, Shaw, & Emery, 1979) cognitive theory refers to self-referencing information and it is this aspect of cognition which has been used to clarify the results of mood and memory studies. Rholes, Riskind, and Lane (1987) report somatic statements that describe bodily sensations associated with depression are as effective in changing mood as negative self-referencing statements but the latter are more effective in facilitating access to emotional memories. Furthermore, negative self-referencing statements can still promote access to emotional memories even when they fail to produce negative affect change.

Brown and Taylor (1986) offer support for the increased availability of personally relevant material. They reported that after inducing participants into either a negative or positive mood via a self-referencing MIP, mood-congruent encoding effects for participant ratings of negative or positive personality trait adjectives were found only if a

self-referent rating task was used (i.e., "Does this word describe you?"). If participants were asked to make non-self-referencing, phonemic ratings (rhyming), the mood-congruency encoding effects disappeared. Particularly informative in context of clarifying the mood versus cognition controversy is Kuiper, Olinger, MacDonald, and Shaw's (1985) research which failed to find mood-congruency effects in depressed persons who lacked a depressive cognitive style. A potential explanation argues that negative affect alone does not lead to a congruence between mood and memory. Negative cognition associated with the self must be additionally present. Self-referencing should not be an important factor in mood-congruency effects if subjective mood is the only necessary factor. The results of Brown and Taylor's (1986) study, however, suggest the opposite. Accordingly, the evidence which highlights the importance of self-referencing in mood and memory results is a constraint for the mood-based perspective and its emphasis on the role of subjective mood.

The cognitive priming perspective accounts for the role of self-referencing information by assuming that if the typical experimental mood-induction is self-referential, then cognitive priming of self-referent schemas occurs and there is a greater depth in processing of the information. This increased semantic involvement leads to increase in recall of schema-congruent self-referential information. This perspective also posits that mood inductions that are not self-referent will have much less impact on memory about the self. Consequently, schema-congruent retrieval would not be expected for self-memories (Riskind, 1989). This advances Blaney's (1986) earlier proposal that mood-congruence effects are impossible or difficult to obtain when stimulus exposure occurs under mood inductions that are non-self-referencing.

The Velten MIP, which was used or adapted in two of the body image studies reviewed (Baker et al., 1995; Taylor & Cooper, 1992) has been criticized in studies of mood and memory by cognitive theorists (Blaney, 1986; Brown & Mankowski, 1993; Brown & Taylor, 1986; Rholes, Riskind, & Lane, 1987). This criticism supports the cognitive priming perspective by arguing that the Velten's focus on self-referent statements influences more than just mood. The substantial cognitive aspects of the Velten (Martin, 1990) are often ignored and instead subjective mood becomes the focus. This criticism is important in light of the fact that the Velten procedure has been reported to be the most widely used method of experimentally inducing mood (Martin, 1990; Westermann, Spies, Stahl, & Hesse, 1996). Cognitive theorists reiterate that the direct priming of valenced cognition, rather than mood itself, influences people's self-appraisals (Blaney, 1986; Brown & Taylor, 1986; Rholes, Riskind, & Lane, 1987) such as body image. Velten's MIP acts as a priming mechanism that activates the negative self-schemas discussed in Beck's (1967; Beck et al., 1976) cognitive theory. This theory purports that negative self-referent cognition precipitates symptoms of depression rather than being mere symptoms themselves. Perhaps the results of the three body image studies reviewed (Baker, Williamson, & Sylve, 1995; Plies & Florin, 1992; Taylor & Cooper, 1992) are caused by the negative thoughts induced about the self by the MIPs, which prime negative themes associated with the self and subsequently guide self-evaluations. The three experiments reviewed, however, make no reference to the potential influence that cognition may have had on their results. Although Plies and Florin (1992) did not use the Velten MIP, their mood induction required participants to recall negatively toned emotional experiences from their past. This procedure could have easily primed negative self-schema.

Perhaps due to the recency of using MIPs to study the connection between affect and body image disturbances, these preliminary investigations are necessary to empirically document the observed association between mood and body image concerns. Conclusions of specific causal effects, however, can not be made until the roles of cognition and subjective mood have been clarified. A focus on cognition as a possible mediator between mood and body image evaluation would take into consideration the criticisms levied against the Velten MIP and other self-referent MIPs.

A theoretical question arises from these criticisms and consideration of the opposing positions of the mood-based and cognitive priming theoretical perspectives. Do moods that arise from experiences that do not directly prime the self have a direct and significant impact on self-evaluations? Heatherton (1998) suggests the following,

Mood states that do not hold implications about the self should not affect self-image, ... non-self-referent (MIPs) may affect our moods, but they should not change the way we view ourselves. (p. 302.)

Heatherton et al. (1998) also investigated the issue of self-referent versus non-self referent mood inductions in a series of studies examining self-restraint in dieters and non-dieters. Dietary restraint is a behavioural correlate of body image dysfunction. Herman, Polivy, and Heatherton (1993) state that self-regulatory failure in relation to distressing experiences occurs only if they have negative or unflattering implications for the self. To focus on the issue of self-reference, Heatherton et al. (1998) adapted Wenzlaff's (1988) MIP to produce a MIP that could be other directed and as such was not self-referent in

nature. Wenzlaff's imaginal procedure requires participants to visualize an individual in either a neutral or very negatively charged story. In the self-referent condition the participant is the individual in the story, whereas in the non-self-referent condition the individual is a member of the opposite sex to the participant. The non-self-referent method is hypothesized to induce negative affect via an external focus, which avoids reference to the self.

Using this adapted procedure, Heatherton et al. (1998) reported that the two MIPs were effective in increasing negative affect and had similar effect sizes for mood change. Furthermore, disinhibited eating was higher in the negative story condition compared to the neutral condition but this occurred only for participants in the self-referent condition. Participants in the non-self-referent neutral and negative conditions reported no differences in food intake. Heatherton et al. concluded that emotional distress that is not self-referent does not appear to disinhibit the restraints of chronic dieters. The maintenance of dietary restraints suggests that the negative mood induced by the non-self-referent MIP did not prime negative implications of the self. Heatherton et al.'s (1998) study highlights the differential effects of self-referent versus non-self-referent MIPs on self-evaluations. Their research methodology was adapted in the present study to investigate the potential differential influences of self-referent and non self-referent MIPs for body image attitudinal and perceptual self-evaluations.

Due to the clinical utility of investigating factors related to depression, most past research has focused on the impact of negative MIPs. What are the implications for self-evaluations of a positive MIP that is self-referent? Wood, Saltzberg, and Goldsamt (1990) have argued that inducing positive mood does not increase self-focussed attention. They suggest that since peoples' baseline state (i.e., neutral) is generally more positive

negative self-schema that subsequently influence self-evaluations. Based on this model, only the negative self-referent MIP should lead to more derogatory self-evaluations. The positive self-focused MIP would not influence self-evaluations because positive mood does not increase self focus (Wood, Saltzberg, & Goldsamt, 1990). Furthermore, the other-focused MIPs should hold little implication for the self and, therefore, should not prime self-schema or influence self-evaluations. Specific expected results for the separate domains of body image self-evaluations were addressed. The three experimental studies reviewed (Baker et al., 1995; Plies & Florin, 1992; and Taylor & Cooper, 1992) focused largely on perceptual body image. Cash and Szymanski (1995) propose that body image involves two relatively distinct modalities of psychological importance; a perceptual dimension (body size estimation) and an attitudinal dimension.

Perceptual domain. The current study replicates past body image research through its investigation of the effects of self-referent MIPs on perceptual measures. The inclusion of a non self-referent MIP extends past research through examination of the role of cognition. Consistent trends have emerged in the literature which suggest that estimates of actual body size increase under a negative self-referent condition. Participants ratings of their ideal body size under negative self-referent conditions have varied, however, with some studies indicating stability (Baker et al., 1995), while others have documented a significant decrease (Taylor & Cooper, 1992). The principal hypothesis of the current study predicted that only the negative self-referent condition would influence perceptual estimates, leading to an increase in participants' actual estimates and a decrease in their ideal estimates.

Attitudinal domain. The current study extends past body image research through the exploration of MIP effects on the attitudinal domain. This domain has been

subdivided into three components of body image: evaluation, affect, and investment (Brown, Cash, & Mikulka, 1990; Cash, 1994; Muth & Cash, 1997). The evaluation component refers to satisfaction-dissatisfaction with one's physical attributes, as well as evaluative thoughts and beliefs about their appearance. These evaluations largely originate from self-perceived discrepancies between actual self-evaluations and internalised physical ideals. The affect component is related to the evaluative component but focuses on discrete emotional experiences that these self-evaluations may elicit in specific situational contexts. The cognitive-behavioural investment component encompasses the schematic salience, or centrality of one's appearance with regard to one's schema of self-evaluation, and the behaviours involving the management or enhancement of appearance (Cash & Jacobi, 1992, Cash & Labarge, 1996). Past research has not adequately addressed the influence of MIPs on these attitudinal dimension and, therefore, any predictions are based largely on theory. The current study's principal hypothesis predicts that only the negative self-referent MIP would influence attitudinal measures causing them to increase.

Self-Esteem. The inclusion of self-esteem represented a secondary investigation of the current study to determine if any differential effects from the MIPs would occur in domains other than body image. Heatherton et al. (1998), examined the issue of self-relevance for effects of MIPs on self-esteem. Participants exposed to either task failure or a sad music MIP both reported lower self-esteem scores. The musical MIP was chosen to represent a non self-referent method, however, the researchers argued that music indirectly primes the self due to its ambiguous nature. A follow-up study found no change in self-esteem when participants were told that the music MIP would influence their mood. A final study failed to find self-esteem effects for either self-referent or non

self-referent Imaginal MIPs. Heatherton et al. (1998) argued that the nature of the imagery (killing someone in a car accident) was not a suitable method for influencing self-esteem. The current study predicted that only the negative self-referent MIP would influence participants' self-esteem ratings leading to more derogatory self-appraisals.

Method

Participants

Eighty female undergraduate students from Lakehead University, who were recruited from a larger study involving 262 students, took part in the post-Mood Induction Procedure phase of the current study. Ages ranged from 18 - 51 with a mean age of 21.6. Participants signed a consent form before exposure to the experimental manipulation (see Appendix A).

Design

The study consisted of a mixed within and between subject design with four conditions. The within-subject variable was time (pre- vs. post-MIP) and the between-subject variables were method of mood induction (self vs. other) and mood valence (positive vs. negative). All participants took part in the study twice and completed a set of measures before (pre-MIP) and after (post-MIP). The time interval between the conditions ranged from 7 – 14 days.

Measures

Participants completed three profile characteristic measures listed first below at pre-MIP only. Participants also completed the remaining seven dependent variable measures listed below before and after the experimental manipulation.

Beck Depression Inventory. The BDI (see Appendix B) was used to assess symptoms of depression. Participants who scored above 22 on this measure were

excluded from completing the post-MIP phase for ethical reasons. The BDI has well established internal consistency, Cronbach's alpha $r=.84$, and good test-retest reliabilities (.60-.83). Concurrent and construct validity of the BDI with other measures of depression are also reported (Beck, Steer, & Garbin, 1988).

Body Shape Questionnaire. Form B, one of the two shortened, alternate forms of the BSQ was used (see Appendix C). This questionnaire is a 16-item self-report measure of negative feelings about body size and shape (Cooper et al., 1987). High scores represent more negative feelings about body size and shape. The shortened BSQ forms have good internal consistency with alpha values in the range of .93 to .96. The shortened versions also display good validity and show significant correlations with the Eating Attitudes Test (.58 to .63), and depression scores (.41-.53).

Body Mass Index. [BMI; weight in kg/(height in m)²]

Depressive Adjectives Checklist. The DACL was chosen to assess change in mood related to the experimental manipulations. Participants were asked to fill out Form A (see Appendix D) of this assessment just prior to the experimental manipulation and then to fill out the alternate Form B (see Appendix E) directly after the experimental manipulation. This measure has previously been used to assess the effects of MIPs (Martin, 1990). This measure has good reliability (Lubin & Himmelstein, 1976) and concurrent validity (Lubin, 1967).

Visual Analogue scales. Participants were asked to rate the adjectives sad and happy for how closely they resembled their feelings at that precise moment in time on a scale from 'not at all' (0 mm) to 'extreme' (100 mm). The validity of visual analogue mood scales for assessing mood change has been established in previous studies (Folstein & Luria, 1973, Martin, 1990). Participants were also asked to rate their degree of

weight/size dissatisfaction on a scale that was anchored with 'None' (0 mm) to 'Extreme' (100 mm). This method of assessing body image dissatisfaction had been shown to be valid (Garner, Olmstead, & Polivy, 1983). The interpretation of these items was left up to the participants themselves.

Body-Image Ideals Questionnaire. Cash and Szymanski's (1995) development of the Body-Image Ideals Questionnaire (BIQ) (see Appendix F), provides a useful framework for studying potential MIP influences on body image. The BIQ incorporates the evaluative and investment attitudinal components of body image by measuring self-perceived discrepancies from, and importance of, internalized ideals for multiple physical characteristics. The BIQ is composed of two relatively distinct and internally consistent Discrepancy and Importance subscales, as well as their multiplicative composite.

The scope of much body image research is limited by the predominant focus on weight concerns. Other physical attributes, such as facial characteristics, height, muscle tone and body shape, contribute significantly to global body image attitudes but are largely ignored (Cash, 1989; 1990). The BIQ attempts to overcome this limitation by creating a composite body image satisfaction score based on multiple physical attributes that contribute to body image concerns. Ratings on this measure give a more global estimate of body image satisfaction, and determine the importance of the individual factors through assessment of the importance of each. A limitation for this newly developed measure is the lack of information concerning its test-retest reliability.

Concerns for Shape and Weight. The CSAW (Davis & Phillips, 1996) (see Appendix G) is a 40-item scale which measures a variety of personal opinions and feelings an individual holds towards their own body weight and shape. The CSAW is composed of two subscales; attitude and affect. The 22-item Attitudinal subscale reflects

composed of two subscales; attitude and affect. The 22-item Attitudinal subscale reflects the extent to which respondents idealize and value thinness with respect to their overall scheme of self-evaluation. The 18-item Affective subscale reflects the extent to which respondents project negative affect onto their own body image. The Attitudinal subscale includes 22 items and reflects the extent to which respondents hold negative attitudes towards their own body image. Items are evaluated on a five-point Likert scale ranging from "strongly disagree" through "strongly agree".

Two-week test-retest reliabilities for the instrument are high; $r = .94$ and $r = .85$, for the Affective and Attitudinal subscales respectively. Internal consistency is high. Cronbach's alphas for the Affective and Attitudinal subscales are .94 and .98 respectively. The subscales are highly intercorrelated, $r = .73$. Regarding concurrent validity, the Affective subscale correlates $r = .84$, and $r = .70$, with the widely used Eating Disorder Inventory (EDI-2; Garner, 1991) Body Dissatisfaction subscale and Drive for Thinness subscale. The Attitudinal subscale correlates $r = .66$, and $r = .70$, with these two EDI-2 subscales. Thus, the CSAW appears to be both a reliable and valid measure of the attitudinal and affective components of body image.

Body Image Assessment Scale. The BIAS (Gardner, Stark, Jackson, & Friedman, 1998) (see Appendix H) is conceptually similar to Stunkard, Sorneson, and Schlusinger's (1983) well-documented body size estimate measure. The BIAS requires participants to place a vertical mark at a point between two distorted figures (one very thin, the other very wide), placed 12.5 inches apart on legal sized paper, for their actual body size and their ideal body size. A contiguous line, with an intersection in the centre to indicate the average female (137.8 lb., 63.7 inches) connects the two figures. The scale was created by distorting the width of the median American female by +/- 30%. A separate scale is

perceived body size was calculated by the degree of correspondence between the individual's perceived and reported weight, $r(81) = .68$, and Body Mass Index, $r(81) = .74$. Three week test-retest reliability was high, $r = .89$.

State Self-Esteem Scale This 20-item index (SSES; see Appendix I) assesses momentary fluctuations in self-esteem (Heatherton & Polivy, 1991). Three subscales; performance, appearance, and social, investigate specific areas of self-esteem. Internal consistency is high (coefficient alpha = .92) and has been shown to measure temporary changes in self-evaluation. Psychometric studies have shown the SSES to be separable from mood (Bagozzi & Heatherton, 1994).

Rosenberg Self-Esteem scale The RSE (Rosenberg, 1965) (see Appendix J) is a well-validated measure of global self-worth. Ten items are answered on 4 point scales that range from "0", strongly disagree, to "3" strongly agree. This measure has test-retest reliability of .85 (Thompson & Heinberg, 1993).

Experimental Manipulation

Participants at the pre-MIP assessment period were recruited by the experimenter to partake in a supposedly separate study related to factors influencing peoples' perceptions. When participants returned to the laboratory they were randomly assigned to one of the four experimental conditions. Participants in all conditions were seated in a comfortable chair in a small room with soft lighting. After filling out the DACL, form A, participants were told to listen to a tape, played on a Sony TCM – 737 cassette recorder, which had the appropriate MIP instructions. Immediately following the MIP, participants filled out the DACL, form B, followed by the package of questionnaires they had filled out at the pre-MIP test phase.

Self-referent MIPs: positive-self and negative-self. A verbal self-referencing procedure developed by Seibert and Ellis (1991) was used to induce positive and negative affect (Appendix K and L detail these procedures respectively). This method was assessed with the DACL (Lubin, 1967), and was shown to be a valid and effective means of inducing happy and sad mood states. Self-referent mood statements have also been experimentally shown to be potent manipulators of mood as assessed by visual analogue scales (Teasdale & Fogarty, 1979). This procedure follows from Velten's (1968) well researched MIP but modernises the language for typical college undergraduates. There are no references to somatic states which allows the focus to remain on self-conceptions. These procedures required the participants to read aloud 25 statements at 20 second intervals. Participants were instructed not to resist the mood influences of the statements but attempt to experience them fully. Participant instructions for the self-referent MIPs are listed in Appendix M.

Non-self-referent MIP. The non-self-referent mood induction was based on an Imaginal mood induction procedure developed by Sedikides (1995). This procedure involved an other-directed, outward attentional focus. This other-directed focus required participants to think about another person as the target of an event. Outward attentional focus refers to thinking about another person's thoughts and feelings (Carlson & Miller, 1987). Sedikides (1992) states that the other-directed, outward attentional focus procedure was used to avoid increasing attentional focus on the self. As such, the present author suggests that this MIP approach avoided, or at the least minimised, cognitive priming of the self-schema. Instructions for the non self-referent MIPs are listed in Appendix N.

Positive-other. Participants were induced into a positive mood state by first imagining for 2 minutes that a friend of theirs had won a free trip to Hawaii. Participants

were given scenic pictures to aid them in their imagery. They then spent 3 minutes writing about the friend's feelings and thoughts when on the vacation in Hawaii. Participants were then asked to imagine for 2 minutes that their friend had also won \$1 million in the provincial lottery. Participants wrote about their friend's feelings and thoughts for an additional 3 minutes.

Negative-other. Participants were induced into a sad mood state by first imagining that a friend of theirs was burned in a fire and was in critical condition. They then imagined for 2 minutes how their friend would feel and think and were provided with photographs of burn victims to assist them in their imagination. Participants then spent 3 minutes writing about their friend's feelings and thoughts. Next, participants imagined for 2 minutes that their friend succumbed to the injuries and died. Participants were shown a picture of a funeral scene. Finally, participants wrote for 3 minutes about the feelings and thoughts that the friend's parents would experience at the funeral.

Results

Analytic strategy.

The participants' profile characteristics were analyzed using analysis of variance (ANOVA). Separate multivariate analyses of covariance (ANCOVAs) were conducted for each of the four dependent variable domains at post-MIP with method (self vs. other) and mood (positive vs. negative) representing between-subject variables. To focus on change in participants' ratings associated with the MIPs, pre-MIP dependent variable ratings were treated as covariates. The goal of this analytic strategy was to test the null hypothesis that all four experimental groups have the same dependent variable means at post- MIP after adjusting for preexisting differences. Contributions of the individual dependent variables to a significant MANCOVA were evaluated through follow-up

ANCOVAs. The inflated Type I error rate associated with conducting multiple univariate F tests was controlled for through the use of Holm's modified Bonferroni (Howell, 1997). Change from pre- to post-MIP for the dependent variables was also examined to assist in interpretation of significant differences.

Participant characteristics.

Table 1 lists the internal reliability of all dependent variable measures. The pre-MIP profile characteristics for all participants are shown in Table 2. Participants were comparable across all profile variables as no significant differences were found between the MIP experimental groups. Table 3 lists descriptive statistics for dependent variables at both pre-MIP and post-MIP. Preliminary analyses indicated that there were no significant group differences on these variables at pre-MIP. Table 4 lists the intercorrelations between profile and dependent variables at both pre- and post-MIP. Table 4 lists the internal reliability of all dependent variable measures.

Effect of Experimental Manipulation

Manipulation Check: Affect Domain

A 2 x 2 between-subjects MANCOVA was performed on three dependent variables associated with change in affect; VAS sad, VAS happy, and DACL. With the use of Wilk's criterion, the affect variables were significantly influenced by both method, $F(3, 71) = 5.45, p = .002$, and mood, $F(3, 71) = 15.62, p < .001$, as well as their interaction, $F(3, 71) = 3.14, p = .031$. To investigate the impact of each dependent variable on the main effects and their interaction, univariate F tests were performed. Results of these analyses are summarized in Table 5. Holm's modified Bonferroni

Table 1

Internal Reliabilities of Dependent Variable Measures

Measure	<u>M</u>	<u>SD</u>	Cronbach's α
CSAW Attitude subscale	31.2	(15.3)	.93
CSAW Affect subscale	34.6	(18.0)	.98
BIQ Importance subscale	17.3	(6.3)	.85
BIQ Discrepancy subscale	12.2	(5.1)	.80
Rosenberg Self-Esteem scale	31.9	(4.9)	.88
State Self-Esteem Scale	72.7	(13.3)	.93

Note. CSAW = Concern for Shape and Weight; BIQ = Body Image Ideals Questionnaire.

N = 260 female participants from overall testing pool at Pre-Mood Induction Procedure.

Table 2
Descriptive Statistics of Participant Profiles at Pre-Mood Induction Procedure (MIP)

Profile measure	<u>Positive-self</u>		<u>Negative-self</u>		<u>Positive-other</u>		<u>Negative-other</u>		F
	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	
Age	19.5	(.6)	21.4	(8.3)	23.0	(6.9)	22.0	(7.0)	0.75
Body mass index	25.2	(3.7)	24.0	(4.4)	24.1	(3.3)	24.5	(5.0)	0.80
Beck Depression Inventory	9.3	(6.1)	7.8	(5.2)	7.2	(5.1)	6.7	(5.2)	0.84
Body Shape Questionnaire	46.4	(18.3)	48.1	(16.8)	43.5	(19.2)	40.3	(18.8)	0.71

Note. No significant differences between MIP conditions were found.

Table 3
Descriptive Statistics for Dependent Variables at Pre- and Post-Mood Induction Procedure (MIP).

Dependent variable	Positive-self				Negative-self				Positive-other				Negative-other			
	Pre-MIP		Post-MIP		Pre-MIP		Post-MIP		Pre-MIP		Post-MIP		Pre-MIP		Post-MIP	
	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Body image attitudinal variables																
CSAW Affect	35.7	(18.0)	31.9	(16.3)	38.6	(19.1)	43.0	(21.3)	27.7	(19.6)	29.5	(19.7)	33.5	(14.8)	30.1	(15.1)
CSAW Attitude	30.3	(15.9)	28.9	(16.1)	35.1	(17.6)	38.8	(17.9)	27.8	(17.9)	29.9	(17.8)	30.2	(15.1)	30.3	(10.7)
BIQ Importance	16.4	(7.1)	14.7	(7.0)	19.1	(6.0)	20.0	(5.1)	16.8	(5.3)	15.8	(6.7)	18.0	(5.2)	16.1	(4.7)
BIQ Discrepancy	11.4	(4.5)	9.9	(4.0)	13.8	(6.7)	14.1	(7.3)	12.3	(8.2)	11.5	(5.1)	12.6	(3.2)	12.1	(3.9)
Weight/Size Dissatisfaction	48.2	(27.4)	44.3	(25.3)	49.1	(26.5)	57.6	(32.5)	34.6	(32.3)	32.8	(30.4)	44.8	(26.9)	38.3	(26.8)
Body image perceptual variables																
BIAS Actual	126.6	(52.0)	121.2	(38.6)	125.4	(50.3)	132.2	(49.4)	126.0	(55.4)	127.0	(46.0)	132.3	(32.2)	130.4	(30.3)
BIAS Ideal	80.7	(34.6)	81.2	(33.0)	68.5	(41.3)	83.3	(42.0)	80.5	(36.7)	79.5	(30.4)	81.2	(34.0)	89.6	(33.7)
Affect variables																
VAS sad	22.3	(27.3)	12.3	(16.3)	6.6	(6.7)	21.3	(20.2)	14.1	(23.2)	15.0	(22.6)	16.9	(27.4)	53.0	(32.3)
VAS happy	59.7	(22.5)	63.4	(20.3)	70.2	(19.8)	46.1	(24.3)	67.3	(19.5)	64.5	(25.6)	69.8	(16.8)	20.6	(21.6)
DACL	7.8	(4.8)	6.1	(4.3)	5.2	(3.2)	10.6	(6.6)	4.5	(4.0)	7.1	(5.5)	5.8	(4.0)	13.9	(3.8)
Self-Esteem variables																
Rosenberg Self-Esteem	32.1	(4.7)	32.0	(5.0)	31.3	(5.2)	30.5	(5.3)	34.1	(4.3)	34.5	(4.8)	32.0	(6.7)	32.2	(7.0)
State Self-Esteem Scale	72.6	(12.2)	74.3	(14.7)	72.8	(13.3)	70.7	(12.7)	77.0	(13.2)	76.9	(14.5)	73.6	(9.6)	74.3	(11.8)

Note. CSAW = Concern for Shape and Weight; BIQ = Body Image Questionnaire. VAS = visual analogue scale; BIAS = Body Image Assessment Scale; DACL

= Depressive Adjective Checklist. $n = 20$ per condition.

Table 4
Intercorrelations Among Profile and Dependent Variables Pre- and Post-Mood Induction Procedure

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Profile variables																
1. Age	--	.28*	-.10	.02	-.02	-.07	-.10	.19	-.03	.14	.16	.10	-.13	.07	.30	.05
2. Body Mass Index		--	.03	.29†	.22	.05	-.08	.23*	.25*	.59†	.34†	.09	-.09	-.03	-.05	-.14
3. Beck Depression Inventory			--	.56†	.44†	.42†	.32†	.25*	.40†	.20	-.14	.31†	-.13	.25*	-.39†	-.42†
4. Body Shape Questionnaire				--	.86†	.78†	.39†	.60†	.71†	.55†	-.18	.33†	-.34†	.29†	-.58†	-.70†
Body image attitudinal variables																
5. CSAW Affect					--	.82†	.46†	.68†	.84†	.56†	-.13	.31†	-.38†	.40†	-.64†	-.78†
6. CSAW Attitude						--	.55†	.60†	.73†	.39†	-.28*	.31†	-.31†	.38†	-.64†	-.73†
7. BIQ Importance							--	.41†	.42†	.17	-.10	.14	-.13	.20	-.32†	-.33†
8. BIQ Discrepancy								--	.56†	.58†	-.01	.22	-.28*	.31†	-.46†	-.56†
9. Weight/Size Dissatisfaction									--	.53†	-.13	.29†	-.31†	.40†	-.55†	-.70†

(table continues)

Table 3. (continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Body image perceptual variables																
10. BIAS Actual					.65 [†]	.47 [†]	.12	.47 [†]	.57 [†]	--	.41 [†]	.26 [°]	-.28 [°]	.24 [°]	-.27 [°]	-.41 [†]
11. BIAS Ideal					-.02	-.25 [°]	-.19	.02	-.10	.45 [†]	--	-.02	-.06	-.04	.21	.12
Affect variables																
12. VAS sad					.07	.13	-.06	.03	.03	-.05	-.08	--	-.64 [†]	.78 [†]	-.29 [°]	-.40 [†]
13. VAS happy					-.24 [°]	-.18	.04	-.18	-.17	-.01	.06	-.30 [°]	--	-.71 [†]	.34 [°]	.41 [†]
14. DACL					.48 [†]	.49 [†]	.14	.23 [°]	.37 [†]	.23 [°]	-.10	.26 [°]	-.21	--	-.39 [†]	-.49 [†]
Self-Esteem variables																
15. Rosenberg Self-Esteem					-.55 [†]	-.59 [†]	-.31 [†]	-.39 [†]	-.39 [†]	-.39 [†]	-.05	-.21	.06	-.31 [†]	--	.73 [†]
16. State Self-Esteem Scale					-.75 [†]	-.73 [†]	-.33 [†]	-.54 [†]	-.61 [†]	-.48 [†]	.06	-.19	.30 [†]	-.47 [†]	.63 [†]	--

Note. Decimals have been omitted from Pearson product moment correlations. Pre-MIP correlations appear in the lower triangle; Post-MIP correlations in the upper triangle. CSAW = Concern for Shape and Weight; BIQ = Body Image Questionnaire; VAS = visual analogue scale; BIAS = Body Image Assessment Scale; DACL = Depressive Adjective Checklist.

* $p < .05$. [†] $p < .01$.

correction of alpha is shown in the last column of Table 5 for each of the dependent variables.

The significant main effects of method and mood on the DACL (see Table 5) were due to participants in the negative conditions reporting more negative affect than those in the positive conditions, and participants in the other-referent conditions reporting more negative affect than those in the self-referent condition. A significant Method x Mood interaction was found for VAS sad and VAS happy affect variables (see Table 5). To determine the source of this interaction, post hoc tests contrasted the negative-self M with the negative-other M at post-MIP, with pre-MIP means covaried out. Bonferroni corrected alpha was set at .025 for each test. Participants in the negative-other condition reported significantly higher VAS sad scores, $F(1, 37) = 13.2, p = .001$, as well as significantly lower VAS happy scores, $F(1, 37) = 13.01, p = .001$, compared to the negative-self condition. Change in affect variables from pre to post-MIP was also examined. (see Table 6) No significant change was detected in either of the two positive mood conditions. Both negative mood conditions showed significant change on all three affect variables.

To summarize, it was predicted that a significant mood effect would result from the MIPs. This effect did emerge and was largely related to significant change in affect for participants in the negative conditions. An unexpected finding, however, was that the effects of the negative conditions were not of equal magnitude. Participants in the negative-other condition reported significantly greater levels of sadness and lower levels of happiness than participants in the negative-self condition.

Table 5
Analysis of Covariance for Method, Mood, and their Interaction for Affect

Source	Dependent Variable	Univariate F	df	p	α
Method	VAS sad	10.57	1/76	.002*	.017
	VAS happy	6.84	1/75	.011*	.025
	DACL	5.00	1/75	.028*	.05
Mood	VAS sad	19.85	1/76	<.001*	.017
	VAS happy	40.39	1/75	<.001*	.025
	DACL	26.30	1/75	<.001*	.05
Method by mood interaction	VAS sad	7.56	1/76	.007*	.017
	VAS happy	5.76	1/75	.019*	.025
	DACL	0.25	1/75	.616	.05

Note. VAS = visual analogue scale; DACL = Depressive Adjectives Checklist.

*p = significant at Holm's modified Bonferroni corrected α .

Table 6

Change in Affect, Pre- to Post-MIP

Dependent Variable	<u>Positive-self</u>			<u>Negative-self</u>			<u>Positive-other</u>			<u>Negative-other</u>		
	t	df	p	t	df	p	t	df	p	t	df	p
VAS sad	2.07	19	.052	-3.15	19	.005	-.13	19	.896	-3.69	19	.002
VAS happy	-0.56	19	.584	4.84	19	<.001	.48	19	.641	8.18	19	<.001
DACL	1.69	19	.108	-3.78	19	.001	-1.98	19	.062	-5.90	19	<.001

Note. VAS = visual analogue scale; DACL = Depressive Adjective Checklist. Negative t values indicate an increase in scores from pre- to post-MIP. Positive t values indicate a decrease in scores from pre- to post-MIP.

Body Image Attitudinal Domain

A 2 x 2 between-subjects MANCOVA was performed on five attitudinal dependent variables; CSAW affect, CSAW attitude, BIQ discrepancy, BIQ importance, and VAS weight/size dissatisfaction. With the use of Wilk's criterion, the attitudinal variables were not significantly affected by either method, $F(5, 67) = 1.42, p = .230$, or mood, $F(5, 67) = 0.73, p = .605$. A significant Method x Mood interaction was found, $F(5, 67) = 4.74, p = .001$.

Follow-up tests were performed through ANCOVA to examine the contribution of the individual variables to this interaction. To test the principle hypothesis that only the negative-self condition would influence participants' body image ratings, a priori comparisons were performed. These analyses compared the negative-self \underline{M} to the pooled \underline{M} of the other three conditions at post-MIP, with pre-MIP scores treated as covariates. Preliminary analyses suggested that this a priori comparison was an appropriate strategy because, except for the CSAW affect measure, there were no significant post-MIP differences between the \underline{M} s of the three pooled conditions. Consequently, the CSAW affect variable was examined separately. Results of the evaluative and investment dimension analyses are summarized in Table 7. Holm's modified Bonferroni correction of alpha is shown in the last column of Table 7 for each of the dependent variables.

Evaluative and investment dimensions. Three out of the four variables showed significant differences with the fourth, BIQ discrepancy, approaching significance. Examination of the change in \underline{M} s (see Table 8) indicated that, except for the CSAW attitude variable, these differences were not solely associated with an increase in the negative-self condition but also related to a decrease in the combined \underline{M} s.

Table 7

Analysis of Covariance for Body Image Attitudes with Pre-Mood Induction Procedure treated as the Covariate; A Priori Comparisons

Dependent variable	Negative-self ^a				Combined groups ^b				F	df	p	α
	Pre-MIP		Post-MIP		Pre-MIP		Post-MIP					
	M	(SD)	M	(SD)	M	(SD)	M	(SD)				
CSAW attitude	35.1	(17.6)	38.8	(17.9)	30.0	(15.1)	29.7	(14.9)	6.10	1/77	.016*	.025
BIQ discrepancy	13.8	(6.7)	14.1	(7.3)	12.1	(5.6)	11.2	(4.4)	3.57	1/77	.062	.05
W/S dissatisfaction	49.1	(26.5)	57.6	(32.5)	42.5	(29.1)	38.4	(27.5)	9.80	1/77	.002*	.013
BIQ importance	19.1	(6.0)	20.0	(5.1)	17.1	(5.9)	15.5	(6.1)	7.66	1/77	.007*	.017

Note. Combined groups = pooled means of negative-other, positive-self, and positive-other conditions;

CSAW = Concern for Shape and Weight; BIQ = Body Image Questionnaire; W/S = Weight and Size.

*p = significant at Holm's modified Bonferroni corrected α .

^an = 20. ^bn = 60.

Table 8**Change in Evaluative and Investment Body Image Attitudes, Pre- to Post-Mood Induction Procedure(MIP); A Priori Comparison**

Dependent variable	Combined Groups			Negative-self		
	t	df	p	t	df	p
CSAW attitude	0.41	59	.685	-1.90	19	.072
BIQ discrepancy	1.38	59	.173	-0.52	19	.607
BIQ importance	2.48	59	.016	-1.13	19	.272
VAS w/s dissatisfaction	1.82	59	.074	-2.10	19	.050

Note. Combined Groups = pooled Ms of the negative-other, positive-other, and positive-self conditions. CSAW = Concern for Shape and Weight; BIQ = Body-Image Ideals Questionnaire; VAS w/s = visual analogue scale for weight and size. Negative t values indicate an increase in scores from pre- to post-MIP. Positive t values indicate a decrease in scores from pre- to post-MIP.

Affect dimension. A 2 x 2 between-subjects ANCOVA was performed on the CSAW affect measure. Similar to the MANCOVA, no main effects for either method, $F(1, 75) = .839, p = .363$, or mood, $F(1, 75) = 1.42, p = .237$ were found. A significant Method x Mood interaction was found, $F(1, 75) = 20.25, p < .001$. To determine the source of this interaction, five post hoc tests were performed which sets Bonferroni corrected alpha set at .01. Figure 1 shows change in the CSAW affect scores pre- to post-MIP. The source of this interaction was due to the predicted significant increase in the negative-self condition, $t(19) = -2.97, p = .004$, as well as an unexpected significant decrease in the negative-other condition, $t(19) = 2.91, p = .009$. Contrasts of the negative-self M to the negative-other M , with pre-MIP M s covaried out, indicate that the negative-self M was significantly higher, $F(1, 37) = 15.7, p < .001$. A decrease in CSAW affect scores was also observed for the positive-self condition, which was significant at the conventional alpha level of .05, $t(19) = 2.12, p = .048$, but not significant when alpha level was corrected.

To summarize the results thus far, the MIPs had a larger influence on affect attitudinal ratings compared to the evaluative and investment attitude ratings. This larger influence was expressed through significant change for the CSAW affect scores from pre- to post-MIP, whereas, only non-significant trends emerged pre- to post-MIP for the evaluative and investment dimensions. All three dimensions, however, showed significantly different change between groups. These differences were not solely related to an increase in the negative-self condition as predicted, but also associated with decreases in the other three groups.

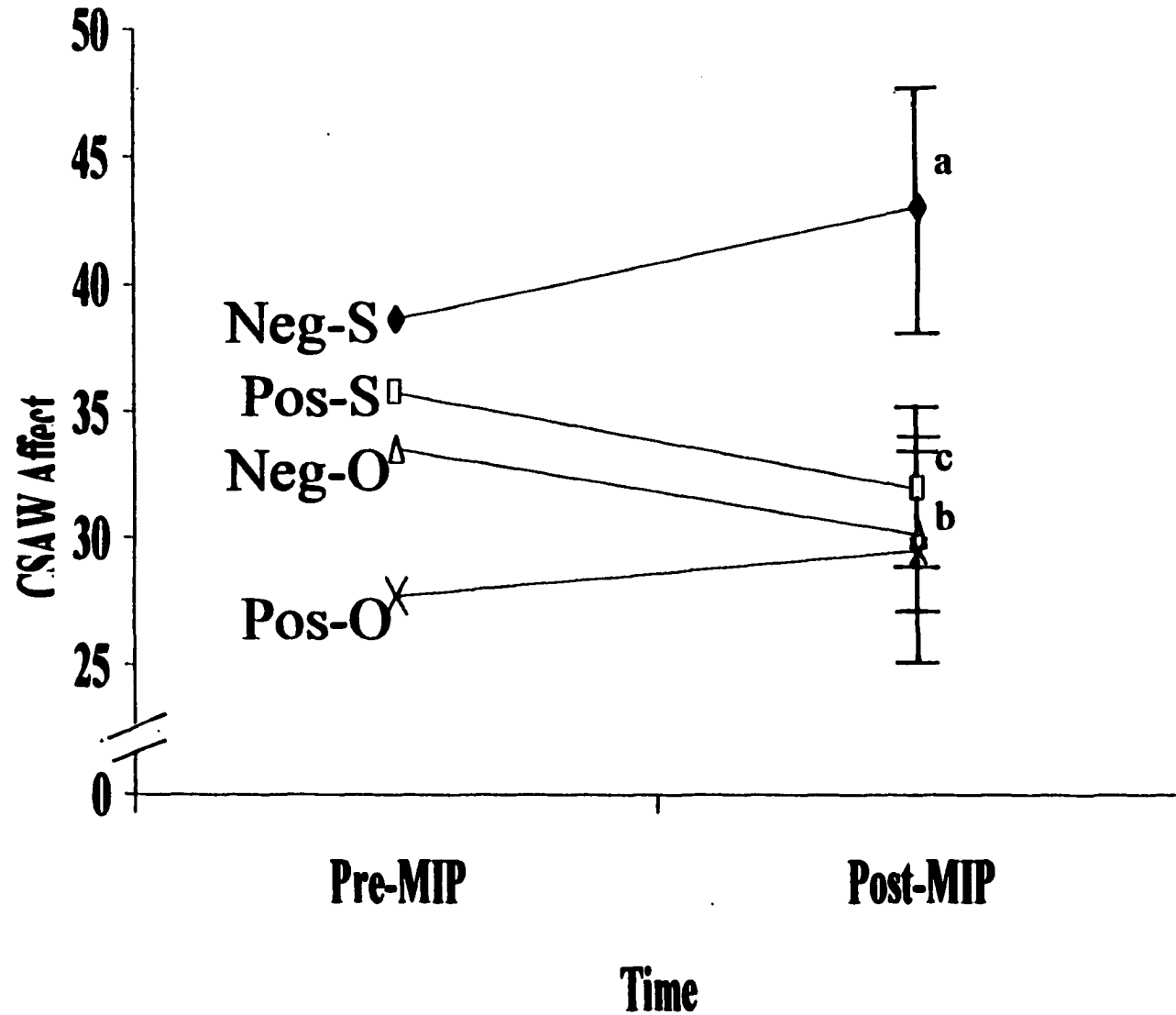


Figure 1. Change in CSAW affect from Pre- to Post-MIP. Higher scores indicate more negative body image evaluations. $n=20$ for each condition. Neg-S = negative-self; Pos-S = positive-self; Neg-O = negative-other; Pos-O = positive-other. Points represent the mean CSAW scores; vertical lines depict standard errors of the means.

^a $p = .008$, ^b $p = .009$, ^c $p = .048$.

Perceptual Body Image Domain

A 2 x 2 between-subjects MANCOVA was performed on the two perceptual body image variables; BIAS actual, and BIAS ideal. With the use of Wilk's criterion, the perceptual variables were not significantly affected by method, $F(2, 73) = 0.09, p = .919$, or mood, $F(2, 73) = 2.16, p = .122$, or their interaction, $F(2, 73) = 1.32, p = .272$.

To more closely replicate Taylor and Cooper's (1992) study, which found significant mood effects on perceptual measures, a sensitivity analysis was performed. The total sample was divided into two subgroups; those scoring equal to or above the Mdn on the BSQ and those scoring below. Separate MANCOVAs were then performed on these two subgroups. Using Wilks' criterion, for the high BSQ subgroup a significant difference was found for mood, $F(2, 34) = 6.49, p = .004$, but no difference was found for method, $F(2, 24) = .87, p = .430$. A significant Mood x Method interaction was also found, $F(2, 34) = 5.2, p = .011$. These differences were not found in the low BSQ subgroup.

Table 9 lists descriptive statistics for the low and high BSQ groups. To determine the source of the significant mood effect and Mood x Method interaction for the high BSQ groups, follow-up 2 x 2 between-subjects ANCOVAs were performed. This analytic strategy was used in lieu of the a priori comparison, which contrasted the negative-self M with the combined groups M, because of the significant mood effect. The BIAS actual variable showed a significant Method x Mood interaction, $F(1, 36) = 7.41, p = .01$ (Holm's modified Bonferroni = .025), but no significant mood effect, $F(1, 36) = 2.18, p = .149$. The opposite results were found for the BIAS ideal variable with a significant mood effect, $F(1, 36) = 10.58, p = .002$, but no interaction effect, $F(1, 36) = 0.03, p = .863$. Change in perceptual variables for high and low BSQ subgroups is shown

Table 9
Descriptive Statistics for Perceptual Body Image at Pre- and Post-Mood Induction Procedure (MIP); Sensitivity Analysis

Dependent variable	Positive-self				Negative-self				Positive-other				Negative-other			
	Pre-MIP		Post-MIP		Pre-MIP		Post-MIP		Pre-MIP		Post-MIP		Pre-MIP		Post-MIP	
	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>
High BSQ group^a																
BIAS Actual [*]	158.4	(35.6)	138.3	(33.7)	142.0	(47.0)	150.9	(43.1)	160.4	(57.0)	157.3	(37.2)	137.2	(34.5)	132.5	(36.0)
BIAS Ideal ^{**}	80.2	(32.0)	72.5	(32.0)	76.5	(43.1)	91.4	(39.3)	76.3	(41.6)	61.5	(33.1)	60.9	(34.0)	72.2	(35.3)
Low BSQ group^b																
BIAS Actual	94.7	(46.7)	104.1	(36.9)	94.6	(43.4)	97.4	(43.1)	103.1	(42.5)	106.7	(40.7)	127.3	(30.8)	128.3	(25.1)
BIAS Ideal	81.2	(38.7)	89.8	(33.3)	53.6	(35.8)	68.3	(45.8)	83.3	(34.7)	91.5	(22.4)	101.4	(19.3)	105.0	(25.0)

Note. BSQ = Body Shape Questionnaire; BIAS = Body Image Assessment Scale

^an = 10 for Positive-self, 13 for Negative-self, 8 for Positive-other, 10 for Negative-other. ^bn = 10 for Positive-self, 7 for Negative-other, 12 for Positive-other, and 10 for Negative-other.

^{*}Significant Method x Mood interaction ($p = .01$).

^{**}Significant mood effect ($p = .002$)

Table 10

Change in Perceptual Body Image, Pre- to Post-Mood Induction Procedure (MIP): Sensitivity Analysis

Dependent variable	Positive-self			Negative-self			Positive-other			Negative-other		
	t	df	p	t	df	p	t	Df	p	t	df	p
Total Sample												
BIAS Actual	0.81	19	.429	-1.86	19	.078	-0.20	19	.846	0.51	19	.619
BIAS Ideal	-0.08	19	.935	-2.66	19	.016	0.15	19	.881	-1.78	19	.091
High BSQ Group												
BIAS Actual	2.49	9	.035	-1.78	12	.098	0.34	7	.748	0.99	9	.350
BIAS Ideal	.91	9	.389	-2.07	12	.060	1.70	7	.134	-2.62	9	.028
Low BSQ Group												
BIAS Actual	-1.11	9	.294	-.57	6	.588	-0.77	11	.456	-.18	9	.864
BIAS Ideal	-1.38	9	.202	-1.55	6	.173	-0.99	11	.343	-.45	9	.662

Note. BIAS = Body Image Assessment Scale; BSQ = Body Shape Questionnaire. Negative t values indicate an increase in scores from pre- to post-MIP. Positive t values indicate a decrease in scores from pre- to post-MIP.

in Table 10. The interaction for the BIAS actual variable was associated with a decrease in the positive-self and negative-other M_s and an increase in the negative-self M . The significant MIP effect for the BIAS ideal, however, ran counter to the principal hypothesis of the current study for two reasons. First, the negative-self condition actually increased participants' ideal estimates, a result that contradicts past research. Second, the negative-other condition showed this same trend with an increase in ideal estimates.

In summary then, only the high BSQ subgroup showed significant perceptual M differences between the MIP conditions. The BIAS actual variable largely supported the current study's principal hypothesis but the BIAS ideal variable did not offer support.

Self-Esteem Domain

A 2 x 2 between-subjects MANCOVA was performed on the two dependent variables associated with change in self-esteem variables; RSE and SSES. With the use of Wilk's criterion, the self-esteem variables were not significantly affected by either method, $F(2, 73) = 0.75, p = .478$, or mood, $F(2, 73) = 0.64, p = .530$, nor their interaction, $F(2, 73) = 0.49, p = .618$.

Past researchers have divided participants into high and low self-esteem groups before exposure to experimental manipulations (Brown & Mankowski, 1993; Wood et al., 1990). A sensitivity analysis was performed by dividing the total sample into two subgroups; those scoring above the Mdn on the SSES and those scoring equal to or below. No self-esteem differences were found for the low self-esteem subgroup related to the MIPs.

Examination of the M_s of the high self-esteem subgroup suggested that the current study's a priori comparison was an appropriate analytic strategy. A MANCOVA was performed on the SSES and RSE variables, which contrasted the negative-self

condition to the combined groups. Although after application of Wilks' criterion, this test was not statistically significant, $F(2, 34) = 3.08, p = .059$, follow-up ANCOVAs were performed due to the small sample size and the large effect sizes observed for the negative-self condition. Table 11 lists separate ANCOVAs for both self-esteem measures, as well as the three subscales that sum to make the overall SSES. Participants reporting high initial self-esteem reported significantly lower total SSES at Post-MIP. This result was largely due to decreases in Appearance subscale scores for the negative-self condition. Performance subscale scores added to this effect.

Discussion

The present study evaluated the effect of brief exposure to either self-referent or non self-referent mood induction procedures on the body image concerns of women. Although the positive MIPs only showed a tendency to improve mood, the negative MIPs induced increased dysphoria. Although the negative-other condition resulted in greater dysphoria relative to the negative self-referent condition, increased body image concern was observed only when the MIP was personally relevant. The negative-other MIP was predicted to remain stable but this condition was associated with an unexpected overall trend of decreased body image concern. Body image evaluations overall, then, changed in opposite directions for the negative MIPs. The only influence for the MIPs on self-esteem emerged for participants who initially reported high self-esteem. The self-esteem of these individuals decreased after the negative-self condition. The present study represents a direct test of the validity of competing theoretical positions: mood-based versus cognitive priming, which predicted different associations between mood and body image. Results largely refute the mood-based perspective and are interpreted as support for the cognitive priming perspective. An exception to this support was participants'

Table 11

Analysis of Covariance for Self-Esteem with Pre-Mood Induction Procedure Means treated as the Covariate;

A Priori Comparison for High State Self-Esteem Scale Group

Dependent variable	Negative-self ^a				Combined groups ^b				F	df	p
	Pre-MIP		Post-MIP		Pre-MIP		Post-MIP				
	M	(SD)	M	(SD)	M	(SD)	M	(SD)			
Rosenberg Self-Esteem	33.9	(3.2)	32.5	(4.7)	35.0	(3.5)	36.0	(5.2)	2.66	1/36	.112
State Self-Esteem Scale Total	81.1 [†]	(5.3)	75.8 [†]	(9.3)	84.9	(5.8)	85.0	(7.5)	6.03	1/36	.019
Performance subscale	33.8 ^{**}	(2.9)	32.4 ^{**}	(3.9)	34.6	(2.8)	34.7	(3.2)	3.20	1/36	.082
Appearance subscale	29.3 ^{***}	(2.4)	25.9 ^{***}	(3.5)	30.5	(2.7)	30.3	(2.8)	13.70	1/36	.001
Social subscale	18.0	(3.8)	17.5	(3.9)	19.8	(2.5)	19.9	(2.9)	1.49	1/36	.231

Note. Combined groups = pooled means of negative-other, positive-self, and positive-other conditions;

^an = 11 for negative-self, ^bn = 28 for the combined groups.

[†]p = .018; ^{**}p = .015; ^{***}p = .007 for pre-MIP to post-MIP change

ideal estimates, for they increased under both negative conditions for participants who initially reported high body image concern. This result can be interpreted as support for the mood-congruency effect. The results are discussed individually for each dependent variable domain, followed by a discussion of their implications for the field of psychology.

Attitudinal Domain

Results for the attitudinal domain argue against the mood-congruency conception and provide support for the cognitive priming perspective. The magnitude of effect was largest for the affect dimension, but the evaluative and investment dimensions also showed significant increases in body image concerns compared to the other conditions. This difference in effect size may be related to the more specific focus on shape and weight concerns of the affect measure used. Regardless, participants rated their body size to be more distressing, important, and derogatory after the negative self-referent condition compared to the other three conditions. The only attitudinal measure that did not show significant differences associated with the MIPs was the BIQ discrepancy scale, which was an evaluative measure. This scale had relatively weaker internal reliability (.80), compared to the other body image measures, which may explain this non-significant finding.

The trend for participants to report more body image concerns after the negative self-referent condition can be explained by the priming of negative self-schemas that make negative body image evaluations more accessible. The unexpected decrease in the investment and affective concerns of participants who underwent the positive self-referent MIP suggest that positive thoughts about the self can ameliorate some body image concerns.

The most difficult result for the mood-congruency conception to explain was the significant decrease in affective body image concerns for participants in the negative other-referent MIP. This result, however, also runs counter to the current study's hypothesis for this procedure was expected to remain stable. How did this MIP, which was designed to have no implications for the self, result in changes for affective body image self-evaluations? Social comparison theory (Festinger, 1954) has been implicated as a potential cause of body image disturbances (Ogden & Munday, 1996; Shaw & Waller, 1995; Stormer & Thompson), and it provides a plausible answer for this unexpected result. Shaw and Waller (1995) reported that adolescent women with the greatest degree of responsiveness to media images of ideal women were also those who had the greatest tendency to make social comparisons when appraising themselves overall. Stormer and Thompson's (1996) correlational study indicated that social comparison, as measured by the tendency to compare one's own weight/size to that of other individuals, is a significant predictor of both body dissatisfaction and eating disturbances. Evidence that supports the application of social comparison theory to the present study is by Ogden and Munday's (1996) investigation. These researchers showed that both males and females reported increased body image dissatisfaction after viewing pictures of thin fashion models, but less body image dissatisfaction after viewing pictures of overweight individuals. Participants who were exposed to images of a burn victim, whose body was severely damaged, in the negative non self-referent MIP may have engaged in an upward comparison, which lead to a subsequent decrease in their body image affective concerns. Social comparisons can be argued to require cognition, and as such, this result can be interpreted as support for the cognitive priming perspective.

Perceptual Domain

The significant results of the two perceptual body image variables, for participants who initially reported body image concerns, appear to provide mixed support for the current study's hypothesis. Participants' estimates of actual body size support the cognitive priming perspective. However, a mood-congruency effect appears to have emerged for participants' ideal estimates. These apparently discrepant findings can be interpreted within the context of Sedikides (1995) differential sensitivity hypothesis, which posits that central (relatively high in personal descriptiveness) and peripheral (relatively low in personal descriptiveness) self-conceptions are differentially influenced by mood. Peripheral self-conceptions are argued to be subject to the mood-congruency bias, whereas central self-conceptions are unaffected by mood. Participants in Sedikides study were induced into either a sad, neutral or happy mood state and then later completed behaviour and trait self-descriptiveness ratings. The MIPs employed were quite similar to the non self-referent ones used in the present study. Sedikides explicitly stated that the other-directed, outward attentional focused MIPs were chosen to preclude the possibility of confounding between the effects of mood and the unwanted effects of the mood-induction task (i.e., increased attentional focus on the self). Results supported the differential sensitivity hypothesis, for only the behaviour and trait descriptions that were initially rated as peripheral were influenced by mood. Central self-evaluations were quite stable. The current author proposes, however, that if the MIPs had been self-referent, then the central self-conceptions would also have been influenced through cognitive priming of self-schema. Peripheral self-conceptions would continue to be subject only to mood-congruency effects, however, even under self-referent MIPs.

This framework can be adapted to the perceptual body image domain. Actual estimates are akin to central self-conceptions, whereas ideal estimates are akin to peripheral self-conceptions for they are by definition low in personal descriptiveness. Perhaps the ideal can be conceptualized as separate from the self-schema and more of an external percept. In this context, then a mood-congruency effect would be predicted only for ideal estimates after exposure to non self-referent MIPs that created a change in mood. This was found for the ideal estimates of participants in the negative non self-referent MIP ($p = .028$), and neared significance for participants in the negative self-referent condition ($p = .06$). The greater magnitude of change for ideal estimates of the negative non self-referent MIP, relative to the negative self-referent MIP, mirrors the greater magnitude of change in affect for these MIP conditions. Since the positive MIPs did not result in a significant mood change there were no observed mood-congruency effects for ideal estimates.

Actual body size estimations (central self-conceptions) would be predicted to be unaffected by the non-self-referent MIPs, which occurred, but affected by the self-referent MIPs, which occurred for the positive condition ($p = .035$) and approached significance for the negative condition ($p = .098$). The results of the perceptual domain, once framed within the context of central and peripheral self-evaluations, are interpreted as supporting the cognitive priming perspective. Further investigations should be conducted with larger samples to determine if these patterns of results are replicable or spurious. The attitudinal variables argued to support the cognitive priming perspective are also considered to be central self-conceptions.

Why did ideal estimates increase for the negative conditions? Past research provides inconsistent results for this perceptual measure but when significant change was

reported, ideal estimates decreased under negative self-referent conditions (Taylor & Cooper, 1992). Participants who initially reported high body image concern had higher BMI ratings, and as such, induction into a negative mood may have lead them to re-evaluate unrealistic ideals which seemed even harder to obtain while in a negative mood compared to normal mood conditions. This suggestion is tentative and further analyses would determine if this effect was replicable with larger sample sizes.

The positive, self-referent MIP may indeed lead to increased self-focus which runs counter to past arguments advanced by Wood et al. (1990). These arguments, however, were based on investigation of change in self-esteem related to positive MIP effects. Self-esteem has been argued to be a more stable aspect of the self-schema relative to self-evaluations (Brown & Mankowski, 1993). The observed improvements in actual body size estimates, evaluative and investment body image attitudes, after exposure to the positive self referent MIP, are of particular interest in light of the fact that the only mood change associated with this condition was a trend of decreased negative affect, ($p = .052$). These collective results offer strong support for the cognitive priming perspective by suggesting that positive thoughts, independent of a significant decrease in negative affect, may improve some body image concerns.

Self-Esteem Domain

Recall that Brown and Mankowski (1993) distinguish between self-appraisals or self-evaluations and self-esteem, positing that self-evaluations show greater fluctuation across time and situations than do general feelings of self-worth. Self-esteem, therefore, may be less likely to be affected by momentary events such as those brought about by changes in mood or priming of negative self-schema.

Wood's (1990) argument that positive mood does not increase self-focus was derived from an investigation of self-esteem, and the current study's results support this assertion for the positive-self condition had no influence on either the high or low self-esteem groups. Self-evaluations, however, appear to fluctuate more across situations, as proposed by Brown and Mankowski (1993), and are influenced by positive MIPs, but these effects are most likely due to cognition, and not momentary mood states.

Past research (Brown & Mankowski, 1993) has shown that individuals who report low self-esteem are more readily influenced by negative MIPs. Our results, however, indicate the opposite with observed fluctuations in self-esteem; largely appearance and performance, for participants who initially reported high self-esteem. Conversely, stability was found for participants in the low self-esteem subgroup. Similar to the sensitivity analysis performed on the perceptual domain, further investigations must replicate these contradictory findings with larger sample sizes before more than tentative conclusions can be offered.

Based on the arguments advanced by the cognitive perspective the current author proposes a potential rationale for the specific mechanisms underlying the current study's observed results. Negative self-referent statements directly prime a general, negative self-schema. This self-schema includes central self-evaluations and feelings of self-worth of varying stability. Body image evaluations are responsive to these negative thoughts about the self and are therefore made more accessible via cognitive priming. Positive thoughts about the self have less impact on the more stable self-worth but can influence the labile self-evaluations. Cognitive priming does not occur for peripheral traits because these evaluations are not embedded within the self-schema. Body is hypothesized to be influenced by internal cues, via cognition, that may originate from

external sources but subsequently prime internal schemas. Although mood changes often accompany these cognitions, subjective mood does not appear to have the ability to influence self-evaluations.

Implications

The current study has theoretical implications for cognitive researchers that extend beyond the domain of body image. The present investigation answers a call by Rector, Segal, and Gemar (1998) for future research to clarify the importance of self-reference in cognitive studies. These authors report that,

there is still insufficient data to support the central tenet of the cognitive model that schemas are the critical causal elements of the (depression) disorder. ... Future research is required to pursue methodologies that activate cognitive dysfunction and then show that this cognitive activation actually predicts the onset of the disorder prospectively. (p. 221.)

The overlap between depression and body image disturbances allows the present study to shift the proposed focus from an examination of depressive disorders to an examination of how cognitive schemas, specifically self-schemas, maintain or exacerbate body image concerns.

Results hold possible applied implications for some body image concerns appear to decrease through increasing positive self thoughts. The area of upward social comparisons may be a beneficial area of future research for treatment of body image disturbances. Having body concerned individuals down grade the relative importance of some of their evaluations may lead to decreased affective attitudes.

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Appendix A

INFORMED CONSENT

My signature on this sheet indicates that I agree to participate in a study assessing the impact of emotional experiences on peoples' perceptions. Signing this form also indicates that I understand the following:

- 1. I am a volunteer and can withdraw at any time from the study without penalty.**
- 2. There are no physical or psychological risks associated with participation**
- 3. The data I provide will be confidential**
- 4. I may receive a summary of the project, upon request, following the completion of the study.**

Name of the participant (please print)

Signature of the participant

Student Number

Date

Beck Depression Inventory

BDI

This questionnaire consists of 21 groups of statements. After reading each group of statements carefully, circle the number (0,1,2 or 3) next to the one statement in each group which best describes the way you have been feeling the past week, including today. If several statements within a group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

- 1 0 I do not feel sad.
 1 I feel sad.
 2 I am sad all the time and I can't snap out of it.
 3 I am so sad or unhappy that I can't stand it.
- 2 0 I am not particularly discouraged about the future.
 1 I feel discouraged about the future.
 2 I feel I have nothing to look forward to.
 3 I feel that the future is hopeless and that things cannot improve.
- 3 0 I do not feel like a failure.
 1 I feel I have failed more than the average person.
 2 As I look back on my life, all I can see is a lot of failures.
 3 I feel I am a complete failure as a person.
- 4 0 I get as much satisfaction out of things as I used to.
 1 I don't enjoy things the way I used to.
 2 I don't get real satisfaction out of anything anymore.
 3 I am dissatisfied or bored with everything.
- 5 0 I don't feel particularly guilty.
 1 I feel guilty a good part of the time.
 2 I feel quite guilty most of the time.
 3 I feel guilty all of the time.
- 6 0 I don't feel I am being punished.
 1 I feel I may be punished.
 2 I expect to be punished.
 3 I feel I am being punished.
- 7 0 I don't feel disappointed in myself.
 1 I am disappointed in myself.
 2 I am disgusted with myself.
 3 I hate myself.

- 8 0 I don't feel I am any worse than anybody else.
 1 I am critical of myself for my weaknesses or mistakes.
 2 I blame myself all the time for my faults.
 3 I blame myself for everything bad that happens.
- 9 0 I don't have any thoughts of killing myself.
 1 I have thoughts of killing myself, but I would not carry them out.
 2 I would like to kill myself.
 3 I would kill myself if I had the chance.
- 10 0 I don't cry any more than usual.
 1 I cry more now than I used to.
 2 I cry all the time now.
 3 I used to be able to cry, but now I can't cry even though I want to.
- 11 0 I am no more irritated now than I ever am.
 1 I get annoyed or irritated more easily than I used to.
 2 I feel irritated all the time now.
 3 I don't get irritated at all by the things that used to irritate me.
- 12 0 I have not lost interest in other people.
 1 I am less interested in other people than I used to be.
 2 I have lost most of my interest in other people.
 3 I have lost all of my interest in other people.
- 13 0 I make decisions about as well as I ever could.
 1 I put off making decisions more than I used to.
 2 I have greater difficulty in making decisions than before.
 3 I can't make decisions at all anymore.
14. 0 I don't feel I look any worse than I used to.
 1 I am worried that I am looking old or unattractive.
 2 I feel that there are permanent changes in my appearance that make me look unattractive.
 3 I believe that I look ugly.
- 15 0 I can work about as well as before.
 1 It takes an extra effort to get started at doing something.
 2 I have to push myself very hard to do anything.
 3 I can't do any work at all.
- 16 0 I can sleep as well as usual.
 1 I don't sleep as well as I used to.
 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
 3 I wake up several hours earlier than I used to and cannot get back to sleep.

- 17 0 I don't get more tired than usual.
 1 I get tired more easily than I used to.
 2 I get tired from doing almost anything.
 3 I am too tired to do anything.
- 18 0 My appetite is no worse than usual.
 1 My appetite is not as good as it used to be.
 2 My appetite is much worse now.
 3 I have no appetite at all anymore.
- 19 0 I haven't lost much weight, if any, lately.
 1 I have lost more than 5 pounds.
 2 I have lost more than 10 pounds.
 3 I have lost more than 15 pounds.
- I am purposely trying to lose weight by eating less. Yes__ No__
- 20 0 I am no more worried about my health than usual.
 1 I am worried about physical problems such as aches and pains; or upset
 stomach; or constipation.
 2 I am very worried about physical problems and it's hard to think of much else.
 3 I am so worried about my physical problems that I cannot think about anything
 else.
- 21 0 I have not noticed any recent change in my interest in sex.
 1 I am less interested in sex than I used to be.
 2 I am much less interested in sex now.
 3 I have lost interest in sex completely.

THE BIQ

Each item on this questionnaire deals with a different physical characteristic. For each characteristic, think about how you would describe yourself as you actually are. Then think about how you wish you were. The difference between the two reveals how close you come to your personal ideal. In some instances, your looks may closely match your ideal. In other instances, they may differ considerably. On Part A of each item, you will rate how much you resemble your personal physical ideal by circling the number on the 0 to 3 scale.

Your physical ideals may differ in how important they are to you, regardless of how close you come to having them. You may feel strongly that some ideals embody the way you want to look or to be. In other areas, your ideals may be less important to you. On Part B of each item, rate how important your ideal is to you by circling the number on the 0 to 3 scale.

1. A. My ideal height is:

0	1	2	3
Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you is your ideal height?

0	1	2	3
Not Important	Somewhat Important	Moderately Important	Very Important

2. A. My ideal skin complexion is:

0	1	2	3
Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you is your ideal skin complexion?

0	1	2	3
Not Important	Somewhat Important	Moderately Important	Very Important

3. A. My ideal hair texture and thickness are:

0	1	2	3

Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you are your ideal hair texture and thickness?

0	1	2	3

Not Important	Somewhat Important	Moderately Important	Very Important

4. A. My ideal facial features (eyes, nose, ears, facial shape) are:

0	1	2	3

Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you are your ideal facial features?

0	1	2	3

Not Important	Somewhat Important	Moderately Important	Very Important

5. A. My ideal muscle tone and definition is:

0	1	2	3

Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you is your ideal muscle tone and definition?

0	1	2	3

Not Important	Somewhat Important	Moderately Important	Very Important

6. A. My ideal body proportions are:

0	1	2	3
<hr/>			
Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you are your ideal body proportions?

0	1	2	3
<hr/>			
Not Important	Somewhat Important	Moderately Important	Very Important

7. A. My ideal weight is:

0	1	2	3
<hr/>			
Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you is your ideal weight?

0	1	2	3
<hr/>			
Not Important	Somewhat Important	Moderately Important	Very Important

8. A. My ideal chest size is:

0	1	2	3
<hr/>			
Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you is your ideal chest size?

0	1	2	3
<hr/>			
Not Important	Somewhat Important	Moderately Important	Very Important

9. A. My ideal physical strength is:

0	1	2	3
Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you is your ideal physical strength?

0	1	2	3
Not Important	Somewhat Important	Moderately Important	Very Important

10. A. My ideal physical coordination is:

0	1	2	3
Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you is your ideal physical coordination?

0	1	2	3
Not Important	Somewhat Important	Moderately Important	Very Important

11. A. My ideal overall physical appearance is:

0	1	2	3
Exactly As I Am	Almost As I Am	Fairly Unlike Me	Very Unlike Me

B. How important to you is your overall physical appearance?

0	1	2	3
Not Important	Somewhat Important	Moderately Important	Very Important

CSAW

Concern for Shape and Weight

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

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

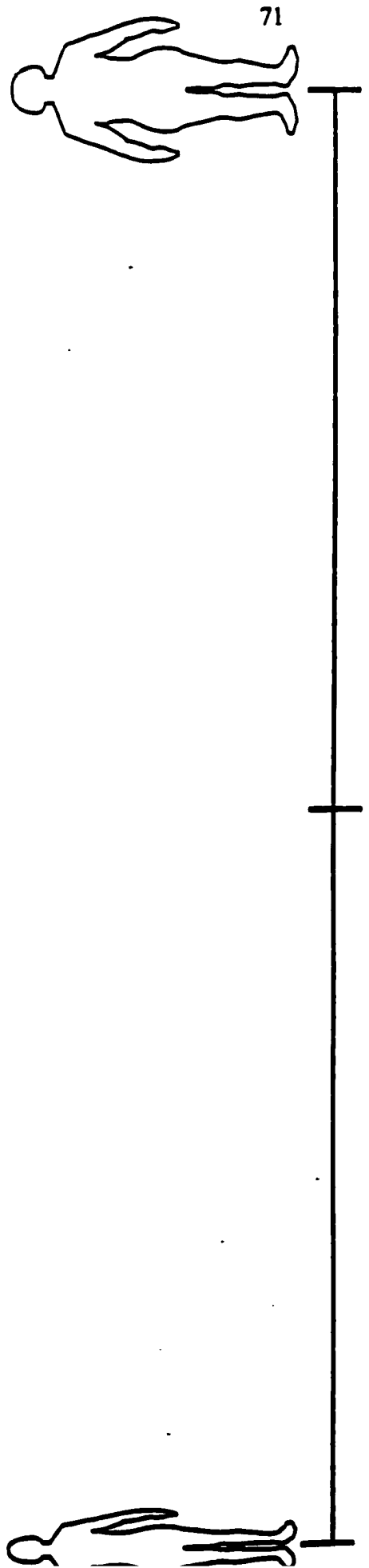
1	I think a lot about my weight or shape.	<input type="checkbox"/> SD	<input type="checkbox"/> D	<input type="checkbox"/> N	<input type="checkbox"/> A	<input type="checkbox"/> SA
2	I think that being at the right weight or shape leads to greater happiness in my relationships with other people my age.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

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

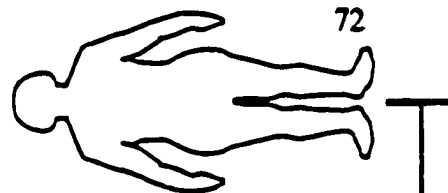
41. Your age: years
42. Your height: feet and inches [Guess if you don't know]
43. Your current weight: pounds [Guess if you don't know]
44. What would be the right weight for you: pounds
45. Your sex: female or male

Body Image Assessment Scale

This scale represents various body sizes. Place a vertical mark at the point on the scale that most closely represents your ACTUAL body size.



Body Image Assessment Scale



This scale represents various body sizes. Place a vertical mark at the point on the scale that most closely represents the body size you would like to be IDEALLY.



Current Thoughts

This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you **RIGHT NOW**.

- 1 = Not at All**
2 = A Little Bit
3 = Somewhat
4 = Very Much
5 = Extremely

- | | | | | | |
|---|---|---|---|---|---|
| 1. I feel confident about my abilities. | 1 | 2 | 3 | 4 | 5 |
| 2. I am worried about whether I am regarded as a success or failure. | 1 | 2 | 3 | 4 | 5 |
| 3. I feel satisfied with the way my body looks right now. | 1 | 2 | 3 | 4 | 5 |
| 4. I feel frustrated or rattled about my performance. | 1 | 2 | 3 | 4 | 5 |
| 5. I feel that I am having trouble understanding things that I read. | 1 | 2 | 3 | 4 | 5 |
| 6. I feel that others respect and admire me. | 1 | 2 | 3 | 4 | 5 |
| 7. I am dissatisfied with my weight. | 1 | 2 | 3 | 4 | 5 |
| 8. I feel self-conscious. | 1 | 2 | 3 | 4 | 5 |
| 9. I feel as smart as others. | 1 | 2 | 3 | 4 | 5 |
| 10. I feel displeased with myself. | 1 | 2 | 3 | 4 | 5 |
| 11. I feel good about myself. | 1 | 2 | 3 | 4 | 5 |
| 12. I am pleased with my appearance right now. | 1 | 2 | 3 | 4 | 5 |
| 13. I am worried about what other people think of me. | 1 | 2 | 3 | 4 | 5 |
| 14. I feel confident that I understand things. | 1 | 2 | 3 | 4 | 5 |
| 15. I feel inferior to others at this moment. | 1 | 2 | 3 | 4 | 5 |
| 16. I feel unattractive. | 1 | 2 | 3 | 4 | 5 |
| 17. I feel concerned about the impression I am making. | 1 | 2 | 3 | 4 | 5 |
| 18. I feel that I have less scholastic ability right now than others. | 1 | 2 | 3 | 4 | 5 |
| 19. I feel like I'm not doing well. | 1 | 2 | 3 | 4 | 5 |
| 20. I am worried about looking foolish. | 1 | 2 | 3 | 4 | 5 |

RSE**Rosenberg Self-Esteem Scale**

Please answer these questions honestly according to the way you usually feel. Please answer each question carefully by placing an "X" in the appropriate box.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1.	I feel that I'm a person of worth, at least on an equal basis with others.				
2.	I feel that I have a number of good qualities.				
3.	All in all, I am inclined to feel that I am a failure.				
4.	I am able to do things as well as most people.				
5.	I feel I do not have much to be proud of.				
6.	I take a positive attitude toward myself.				
7.	On the whole, I am satisfied with myself.				
8.	I wish I could have more respect for myself.				
9.	I certainly feel useless at times.				
10.	At times I think I am no good at all.				

Appendix K

Positive Self-Referent Mood Induction Procedure

Happy Mood Induction Scale

1. Being in college makes my dreams more possible.
2. The world is full of opportunity and I'm taking advantage of it.
3. I know if I try I can make things turn out fine.
4. I bet things will go well for the rest of the day.
5. When I have the right attitude, nothing can depress me.
6. Most people like me.
7. I've got some good friends.
8. My parents brag about me to their friends.
9. I know I can get the things I want in life.
10. My future is so bright I have to wear shades.
11. I feel creative.
12. I can make things happen
13. Nothing can bum me out now.
14. Things look totally awesome.
15. The relationships I have now are the best I've ever had.
16. It doesn't get any better than this.
17. I can make any situation turn out right.
18. I feel completely aware.
19. I'm in charge of my life and I like it that way.
20. Life's a blast, I can't remember when I felt so good.
21. I'm going to have it all!
22. When it comes right down to it, I'm just too cool.
23. I know I can do it; I'm going to seize the day!
24. I'm energized
25. It's great to be alive!

Appendix L

Negative Self-Referent Mood Induction Procedure

Sad Mood Induction Scale

1. I feel a little down today.
2. my classes are harder than I expected.
3. Everyone else seems to be having more fun.
4. Sometimes I feel so guilty that I can't sleep.
5. I wish I could be myself, but nobody likes me when I am.
6. Today is one of those days when everything I do is wrong.
7. I doubt that I'll ever make a contribution to the world.
8. I feel like my life is in a rut that I'm never going to get out of.
9. My mistakes haunt me, I've made too many.
10. Life is such a heavy burden
11. I'm tired of trying.
12. Even when I give my best effort, it just doesn't seem to be good enough.
13. Nobody understands me or even tries to.
14. I don't think things are ever going to get better.
15. I feel worthless.
16. What's the point of trying?
17. My parents don't know who I am.
18. When I talk no one really listens.
19. I feel cheated by life.
20. Why should I try when I can't make a difference anyway?
21. Sometimes I feel really guilty about the way I've treated my parents.
22. Every time I turn around, something else had gone wrong.
23. I'm completely alone.
24. There is no hope.
25. I feel I am being suffocated by the weight of my past mistakes.

Appendix M

Instructions for the Self-Referent Mood Induction Procedures**INSTRUCTIONS**

1. I will be reading a series of cards with statements typed on them. These statements represent a mood state. In order to participate fully and successfully, I will need to be willing to feel and experience each statement as it would apply to me personally. In other words, when I read each statement, I will allow myself to respond as though the statement had been my own original thought. I will go with the feeling and not try to stop it.
2. I will read each of the following statements to myself and then I will read the statement aloud.
3. At first I might feel like resisting the mood. However, I will see that it is the case that I have the opportunity to learn to talk myself into a mood, and obviously, I will also learn how to talk myself out of one. When this happens, I will find that I have learned something valuable about myself; I can learn to control my moods. Thus, I will try to experience the mood suggested.
4. I will feel each item, making the statement my own. I will experience the mood suggested and will not attempt to stop it. I will visualize a scene in which I have had such a feeling or thought. Then I will begin to say whatever comes to mind that relates to the feeling. This is a type of free association – letting thoughts that pertain to the feeling flow freely.
5. I am now ready to experience the statements that follow. From this point forward whenever I hear the tone on the tape recorder, I will go on to the next page. I will spend the time between the tones reading the statements and experiencing the feelings they suggest to me. I am ready to begin.

PLEASE PRESS PLAY ON THE TAPE RECORDER NOW AND TURN THE PAGE TO BEGIN READING THE FIRST STATEMENT.

Appendix N

Instructions for the Non Self-Referent Mood Induction Procedures

INSTRUCTIONS

1. You will be viewing a series of images that are accompanied by short stories. You will use these images to help guide your imagination in the creation of a story that is centered around a close, male friend.
2. You will be instructed to think about the thoughts and feelings of your male friend who is the main character in the story. You will also be instructed to write about the thoughts and feelings of this male friend. Please remember to focus on the thoughts and feelings of your friend and not your own.
3. These stories are designed to induce a mood state. In order to participate fully and successfully, you will need to be willing to feel and experience the mood suggested by the stories. You will go with the feeling and not try to stop it.
4. At first you might feel like resisting the mood. However, you will see that it is the case that you have the opportunity to use your imagination to get yourself into a mood, and obviously, you will also learn to use your imagination to get yourself out of one. When this happens, you will find that you have learned something valuable about yourself; you can learn to control your moods. Thus, you will try to experience the mood suggested.
5. You will become involved in each story and experience the mood suggested and not attempt to stop it. You will visualize the scenes depicted by the images; using sights, smells, and sounds, and concentrate on the thoughts and feelings of your male friend that come to mind. This is a type of free association – letting thoughts that pertain to the feeling flow freely.
6. You are now ready to engage in the guided imagery process. From this point forward you will use your imagination to create a story and experience the feelings they suggest to you. You are ready to begin.

PLEASE TURN THE PAGE TO BEGIN READING THE STORY AND VIEWING THE IMAGES.