

# The Influence of Gender on Mood Effects in Advertising

**Brett A. S. Martin**  
University of Auckland

## ABSTRACT

**The main objective of this article is to study the impact of gender on mood effects in relation to attitude toward the ad and brand attitudes. Specifically, gender, mood state, and ad affective tone are posited to interact. Data from an experiment support two hypotheses predicting the most favorable combinations of mood and affective tone for males and females for attitude toward the ad. Findings also support previous research that female gender and sad moods, respectively, result in more detailed processing. Limitations and future research directions are discussed. © 2003 Wiley Periodicals, Inc.**

An appreciable amount of consumer research has investigated how moods influence consumers. Studies have explored how moods impact on recall (Lee & Sternthal, 1999), shopping intentions (Swinyard, 1993), the amount of cognitive elaboration engaged in by consumers (Batra & Stayman, 1990), and evaluations of brand extensions (Barone, Miniard, & Romeo, 2000), advertisements (Goldberg & Gorn, 1987), and music (Holbrook & Gardner, 2000). Yet although recent psychological research has examined the impact of gender and affect (e.g., Cheng, 1999; Oliver, Sargent & Weaver, 1998; Seidlitz & Diener, 1998), consumer research regarding a gender influence on mood effects has been comparatively neglected (see Kellaris & Mantel, 1994, for an exception). This is surprising given that gender differences have been found in consumer information-processing strategies (Meyers-Levy & Maheswaran, 1991; Meyers-Levy & Sternthal, 1991). Indeed, it is the contention of this

Psychology & Marketing, Vol. 20(3): 249–273 (March 2003)  
Published online in Wiley InterScience ([www.interscience.wiley.com](http://www.interscience.wiley.com))  
© 2003 Wiley Periodicals, Inc. DOI: 10.1002/mar.10070

article that the predictions of mood research and gender research regarding depth of processing offer valuable insights into mood effects. Furthermore, Stern (1993) suggests that because of inherent dispositional characteristics, gender could influence mood responses, and she advocates the need for research in this area. "The mood variable then, requires additional research in relation to the gender of the consumer . . . and interaction effects not yet considered" (Stern, 1993, p. 562). Rusting (1999) has also advocated the need to study invariant characteristics of people to gain insight into mood states.

To this end, the current study examines the impact of gender, mood, and ad affective tone on consumer attitudes. Specifically, the structure of this article is as follows. First, mood theory will be addressed. Second, gender theory will be discussed. Third, research hypotheses, method, and results will be outlined. Finally, the results will be discussed, with limitations and future research directions presented.

## **CONCEPTUAL BACKGROUND**

### **Mood Defined**

Mood is defined as a consumer's affective state that is relatively global in nature, as opposed to emotions, which tend to have a specific cause (Gardner, 1985; Luomala & Laaksonen, 2000; Rusting, 1998). Ad affective tone is defined as the affective valence of the content of the advertisement (Kamins, Marks, & Skinner, 1991). Within the field of mood research, a variety of moods are available for study. For example, in the context of negative moods, researchers have called attention to sad moods (Rusting & DeHart, 2000), anxious moods (Thayer, Newman, & McClain, 1994), and angry moods (Rusting, 1998; Sedikides, 1995). Recently, consumer research scholars have compared positive and neutral moods (e.g., Barone et al., 2000; Lee & Sternthal, 1999; Meloy, 2000). However, the present study examines positive and negative moods, specifically, happy versus sad moods.

The rationale for choosing these mood states is as follows. First, from a theoretical perspective, much of the research in this area draws upon the mood-congruency hypothesis, which is derived from an associative network model of memory (Bower, 1981). This model posits that mood states prime the recall of memories of a similar affective valence. Positive moods prime positive memories; negative moods, negative memories. A substantial amount of research supports this notion that mood states influence judgments in a mood-congruent manner. Positive moods result in more favorable evaluations, whereas negative moods result in more negative evaluations (see Blaney, 1986; Forgas, 1992, 1995; Gardner, 1985; and Luomala & Laaksonen, 2000 for reviews). However, some studies have also found mood-incongruent results where

negative moods result in favorable evaluations (e.g., Erber & Erber, 1994; Rusting & DeHart, 2000).

Recent research suggests that the role of negative moods is unclear in terms of when and why mood-congruent or mood-incongruent effects will occur (e.g., Rusting, 1998; Rusting & DeHart, 2000). Consequently, the study of happy and sad moods remains a topic of key concern to researchers (e.g., Larsen, McGraw, & Cacioppo, 2001; Park & Banaji, 2000; Wood, Michela, & Giordano, 2000). Thus, studying these mood states offers scope to contribute to the understanding of mood regulation, regarding the improvement of a sad mood to a happier mood state.

Second, from a promotional viewpoint, in the context of television advertising, which this study addresses, studying happy and sad moods is relevant. This is especially so since research suggests that viewing films and television programs can influence mood states (Curren & Harich, 1994; Gerrards-Hesse, Spies, & Hesse, 1994). Obviously a number of situations exist where consumers may be exposed to advertising when in a happy-mood state, such as watching a favorite television comedy. However, one can also expect that instances will occur when consumers will be exposed to advertising when in a sad-mood state. Consider, for instance, when advertising appears after a news item on some tragic event. Similarly, in this study the sad-mood manipulation involves a documentary where people speak about relatives that have since died of cancer. By looking at sad-mood states, we not only address theoretical issues, but also provide insight into the viewing experience of consumers. Hence, this study examines mood effects in the context of happy and sad program-induced moods and the affective tone of the ads.

## **Mood and Information Processing**

A substantial amount of research suggests that happy moods result in heuristic processing, whereas sad moods result in more effortful processing (see Bagozzi, Gopinath, & Nyer, 1999; Clore, Schwarz, & Conway, 1994 for reviews). Two perspectives support this view. The first suggests that moods influence cognitive capacity, where happy moods result in reduced capacity owing to their distracting nature (Mackie & Worth, 1989). Happy people are believed to prime a variety of memories, as positive concepts are posited to be more highly interconnected in memory (Isen, 1984; Mackie & Worth, 1989). Therefore, happy people have less cognitive capacity available for processing, which results in a greater likelihood of heuristic processing.

The other perspective, the mood-as-information model (Schwarz, 1990), also predicts heuristic processing for happy moods, but adopts a motivational rather than a capacity rationale. Here, moods indicate whether it is necessary to use heuristic or more detailed processing. Happiness indicates a pleasant environment, where there is little need for elaborative processing, unless called for by other goals (Bless,

Schwarz, & Wieland, 1996). Thus, heuristic processing is likely. By contrast, sadness suggests a more problematic environment, which may need to be contemplated, which, in turn, leads to more elaborative processing. This approach is based on the mood-maintenance hypothesis that suggests people are generally motivated to maintain positive moods, and to repair negative moods (Isen, 1987; Morris & Reilly, 1987). When engaging in mood repair, people improve their moods by focusing on pleasant thoughts or memories (Rusting & DeHart, 2000). Thus, both models—cognitive capacity and mood-as-information—suggest that people engage in heuristic processing during happy moods, and more effortful processing during sad moods.

It is noted that although this is the dominant view in the literature, this perspective has been challenged by researchers such as Matmur and Chattopadhyay (1991), who found that positive moods actually increased the elaborative processing of happy ads. A variety of explanations have been proposed for such findings. These include viewing such results as reflecting (a) automatic affect-priming processes, which are not present for self-regulating motivational strategies (Luomala & Laaksonen, 2000), (b) the forced exposure nature of experiments, and (c) stimuli argument quality (Schwarz, Bless, & Bohner, 1991). Indeed some researchers have even suggested that negative moods can reduce processing capacity through the encroaching of negative thoughts during processing (e.g., Ellis & Ashbrook, 1988). However, this study will adopt the dominant view that happy program-induced moods enhance the use of less cognitively effortful processing strategies.

## **Gender and Information Processing**

Another factor that can influence information processing is gender. Although one might assume that males and females process information in an equivalent manner, research reveals that substantial gender differences do exist. For example, females appear to have a superior ability in correctly recalling task sequences (Nicholson & Kimura, 1996), in object recognition from studying visual stimuli (Harshman, Hampson, & Berenbaum, 1983), and have been found to perform better on color-naming tasks (Saucier, Elias, & Nysten, 2002). Further, research in psychophysiology suggests that for negative moods, males and females differ in terms of what parts of the brain are activated (i.e., frontal electroencephalographic activation) when judgments are being made (Blackhart, Kilne, Donohue, LaRowe, & Joiner, 2001). Current research in this field indicates that sex hormones may influence the development and function of the brain, thereby influencing processing (e.g., Duff & Hampson, 2001; Pogun, 2001). Indeed Pogun (2001, p. 205), has recently stated: "The differences between males and females transcend reproductive functions, are evident in the structural and functional organization of the brain, and are reflected in cognitive abilities and behavior."

Insights into these cognitive differences in a marketing context have been provided by Meyers-Levy (e.g., Meyers-Levy, 1988; Meyers-Levy & Maheswaran, 1991). In particular, Meyers-Levy and Sternthal (1991) found gender differences in levels of cognitive elaboration. Their research suggests that females have lower elaboration thresholds whereby they engage in detailed processing more readily than males. Males limit the cognitive effort they expend, and thus use heuristic processing, whereas females prefer more detailed processing. However, these differences disappear when males are sufficiently motivated (Dube & Morgan, 1996; Meyers-Levy & Maheswaran, 1991).

Research in psychology tends to offer support for this gender difference in processing. For example Seidlitz and Deiner (1998), in a study of the recall of affectively valenced life events, attribute the superior recall of females to engaging in more detailed processing than males. Psychophysiological research also provides insights. Duff and Hampson (2001), in a study of prefrontal cortex differences, found for a series of working memory tasks that females made fewer errors and needed less time to perform the tasks. This was despite there being no differences in the sample for intellectual ability and attention. Working memory was defined by these authors as the ability to store and manipulate data on-line for cognitive tasks. The results were interpreted as evidence for gender differences in working memory that could influence processing. In a similar vein, other research suggests that females prefer a sequential, elaborative strategy, whereas males prefer an impulsive, global strategy to cognitive processing (e.g., Klinteberg, Levander, & Schalling, 1987; Pogun, 2001).

Overall then, gender research tends to suggest that females have a greater propensity for detailed processing, whereas males tend toward more heuristic processing. However, this view offers contradictions with mood research and the influence of happy and sad moods. In other words, if females are detailed processors and males are heuristic processors, what happens when these inclinations conflict with the influence of their mood state? For example, do happy females engage in detailed processing, as is suggested by gender research, or the heuristic processing of happy-mood research? What about sad males?

## **Gender and Mood**

To resolve this issue, one needs to consider the nature of the moods and compare them to gender predispositions. A key feature of mood states is their transient temporal nature (Luomala & Laaksonen, 2000) and their ability to greatly affect a person's perspective and judgments. For instance, affect-priming theory suggests mood congruency where, as noted, mood states prime the recall of memories of a similar affective valence. Hence, although a mood persists, it has the potential to not

only influence the amount of elaboration, but also the valence of the material accessed from memory that can be used as an input for making judgments.

By contrast, gender differences in processing reflect inherent characteristics that may be overridden by situational factors, such as the nature of the ad stimulus or the motivational state of the subject (Meyers-Levy & Maheswaran, 1991). Similarly, Tice, Bratslavsky, and Baumeister (2001), in a study of impulse control, suggest that negative moods generate a motivation to feel better that overrides internal restraints. Priority is given to mood regulation ahead of the long-term focus required for self-denial. An analogy here can be drawn from research on personality traits, where a central perspective is that the influence of traits can be overridden by short-term states. For example, someone may be low in need for cognition (i.e., the trait, Cacioppo & Petty, 1982) but when exposed to the stimuli of interest, they may experience a high-involvement processing state.

Alternatively, someone may be high in positive affectivity (i.e., an optimist, Watson, Clark, & Carey, 1988), but owing to recent events in their life, may experience a negative mood state, and hence a more negative view of the world. Likewise, it is suggested here that mood states can override gender predispositions given the personal idiosyncrasies of the consumer being studied where those predictions conflict.

## Research Hypotheses

Overall then, because happy moods result in less effortful processing, and males are predisposed to heuristic processing, a happy mood should cause them to engage in a minimalist level of processing. According to Forgas (1992, 1995), four processing strategies exist for the influence of affect: direct-access, heuristic, substantive, and motivated strategies. Of these, direct-access strategies represent the lowest form of effort minimization, even below heuristic processing. The judge is uninvolved, there is no motivation, and the target (i.e., ad in this instance), has prototypical features. For effort minimalizers, this represents a preferred strategy (Forgas, 1995) where a preexisting evaluation is used for prototypical stimuli. Hence, happy males should exhibit no difference in preferences for happy and sad ads.<sup>1</sup>

Under sad moods, males will have their level of mental effort raised, and will thus more closely attend the nature of the ads. To this end, it

<sup>1</sup>It is noted that ad affective tone in the present study examines the valence of the affective *content* of the ad, rather than a measure of any affect *induced* by the ad. As such, this research should be considered distinct from considerations of mood-state dependency where material learned under one mood state is better recalled under a matching mood state (Bagozzi et al., 1999; Blaney, 1986). Instead, the focus is more in line with mood-congruency research, where material of a congruent affective valence to the person's mood state results in superior memory effects than material of an incongruent affective valence (Bagozzi et al., 1999).

is posited that sad males will prefer ads with happy content over ads with sad content. The rationale for this prediction is twofold. First, mood-repair research suggests a gender difference in how males and females attain a positive mood state when in a negative mood. This research indicates that males achieve mood repair in sad moods by using a distraction strategy, where they prefer to concentrate on something other than the cause of their mood to distract themselves, and thereby elevate their mood state (e.g., Nolen-Hoeksema, Larson, & Grayson, 1999; Sethi & Nolen-Hoeksema, 1997). Hence, given this gender difference, sad males should prefer the happy ad as a convenient means of repairing their mood. These gender–mood effects should have a direct effect upon attitude toward the ad ( $A_{ad}$ ), which is defined as the affective reactions to an ad (Brown & Stayman, 1992; MacKenzie, Lutz, & Belch, 1986).

From a theoretical perspective, mood has been posited in models to act as an affective antecedent that impacts directly upon  $A_{ad}$  (e.g., MacKenzie & Lutz, 1989). Mood at the time of ad exposure is theorized as being itself a product of variables such as stimuli reception context and individual differences. This mood in turn influences a consumer's attitude toward the ad. Likewise, the Murry, Lastovicka, and Singh (1992) model of the influence of television program-induced affect suggest that moods have a direct effect upon  $A_{ad}$ . This discussion leads to the following hypotheses:

- H1:** (a) Males, under happy-mood conditions, will exhibit equal attitude toward the ad ( $A_{ad}$ ) for happy or sad affectively toned ads.
- H1:** (b) Under sad moods, males will exhibit more favorable attitudes ( $A_{ad}$ ) for happy ads than for sad ads.

For females, when they are in a happy mood, which discourages extensive processing, they should engage in less effortful heuristic processing rather than the minimalist direct access strategy of males. For heuristic processing, simple decision rules are used for judgments (Forgas, 1995). Yet in contrast to direct access strategies, an attempt is made to formulate an evaluation. Previous research suggests that under happy-mood heuristic processing, consumer evaluations are influenced in a manner congruent to simple valence cues, such as the affective tone of the ad (e.g., Kamins et al., 1991). Therefore, ad affective tone should act as a cue for attitudinal responses so that they prefer happy ads to sad ads.

However, when in a sad mood, which encourages more mental effort, females as detailed, comprehensive processors (Kiecker, Palan, & Areni, 2000), should process the happy and sad ads extensively. Thus, unlike sad males, who will prefer the happy ad as a convenient means of distraction, sad females will attain mood repair from viewing either the happy or sad ads. For these ads, the comprehensive processing of

females should mean that the advantages offered by the products in both ads should be equally apparent, regardless of ad valence. For the happy ad, the positive nature of the ad will make these benefits readily apparent. Equally, for the sad ad, the detailed processing of females should mean that they comprehend how the negative events in the ad can be remedied by the advertised product. Therefore, unlike sad males, who should prefer to distract themselves with the happy ad, sad females should regard happy and sad ads equally favorably. On the basis of this discussion, the following hypotheses are offered for testing:

- H2:** (a) Females, under happy-mood conditions, will exhibit more favorable attitude toward the ad ( $A_{ad}$ ) for happy ads, than for sad ads.
- H2:** (b) Under sad moods, females will exhibit equal preference ( $A_{ad}$ ) for happy or sad affectively toned ads.

Brand attitudes ( $A_b$ ) were also measured in the present study, as research on affect typically includes  $A_{ad}$  and  $A_b$  as dependent measures (Brown, Homer, & Inman, 1998), and a variety of empirical research has shown that  $A_{ad}$  acts as an antecedent for  $A_b$  (e.g., Laczniak & Muehling, 1993; MacKenzie et al., 1986; Mitchell & Olson, 1981). Although some studies have shown that mood effects can influence  $A_b$  for evaluations of low personal relevance (Batra & Stephens, 1994; Curren & Harich, 1994)—presumably owing to an affect-as-information cue bias where mood-state valence is treated as a cue for low-effort judgments (Forgas, 1995)—a stream of empirical research indicates that the effect of feelings is direct upon  $A_{ad}$  but indirect upon  $A_b$  (e.g., Brown et al., 1998; Burke & Edell, 1989).  $A_{ad}$  mediates the effect of feelings on  $A_b$ . This effect has been found to be stronger and more consistent than the effect on  $A_b$  (Murry et al., 1992). Theoretical models of the influence of mood upon  $A_{ad}$  also indicate a direct effect upon  $A_{ad}$  and indirect effect on  $A_b$  (e.g., Mackenzie & Lutz, 1989). Consequently it is posited that the gender–mood effects have a direct influence upon  $A_{ad}$  but not  $A_b$ . This leads to the following hypothesis:

- H3:** The interaction of gender and mood will be evident for  $A_{ad}$  but not for  $A_b$ .

To summarize, it is expected that mood, ad affective tone, and gender interact and influence consumer attitudes.

## PRETESTING OF TREATMENTS

### Pretest 1: Mood Induction

The first pretest sought to identify happy and sad mood-inducing television programs for the main study. Gerrards-Hesse et al. (1994), in a

review of close to 250 psychological studies, concluded that the film-clip mood-induction procedure represents the only method that is equally suited for the induction of happy and sad moods. For happy moods, the programs tested were *The Simpsons*, an animated situation comedy featuring the humorous antics of Homer Simpson, Marge Simpson and their children, and *Seinfeld*, a situation comedy featuring comedian Jerry Seinfeld. For sad moods, the programs were *Caraline's Story*, a documentary item on a young woman who suffers from anorexia nervosa resulting from childhood abuse, and *A Lot of Love, A Lot of Pain*, a network documentary item on child cancer, featuring interviews with grieving parents and home videos of the children they have lost.

Eighty-three subjects, participating in groups of 17–25 subjects, then rated one of the programs on a 7-point mood scale (1 = happy, 7 = sad), followed by six items on the extent to which they experienced certain feelings when they viewed the program. Three were filler items, the other three measuring anger, derived from Izard's Differential Emotions Scale (Izard, Dougherty, Bloxom, & Kotsch, 1974).<sup>2</sup> That is, enraged, angry, and mad (1 = not at all, 7 = to a great extent). As a principal-axis factor analysis revealed that the three anger items loaded strongly on a single factor and formed reliable scales (Cronbach's alpha = 0.92), an anger index was created for the analysis. A significant difference was found in mood scores ( $t = 14.56, p = .0001$ ), with the happy programs ( $M = 2.37$ ) rated as significantly happier than sad programs ( $M = 5.38$ ). Although no significant difference existed between *Seinfeld* and *The Simpsons* ( $t = 1.26, p > .21$ ), a judgment decision was made to select *The Simpsons* ( $M = 2.24$ ) as the relevant happy program for the main study. For sad programs there was no significant difference in mood scores ( $t = 0.11; p > .91$ ). However, *Caraline's Story* rated significantly higher than *A Lot of Love, A Lot of Pain* on the anger index ( $M_s = 10.65$  vs.  $5.12$ , respectively,  $t = 4.50, p = .0001$ ). No gender differences were present in the mood ratings ( $F_s < 1$ ). Thus, *The Simpsons* was selected for happy-mood induction, and *A Lot of Love, A Lot of Pain* was selected for the sad-mood induction.

## Pretest 2: Affective Tone

A second pretest was conducted to ensure selected ads had the appropriate affective tone. One hundred thirty-five subjects viewed five ads

<sup>2</sup>Specifically, anger involves the assignment of blame (Kernis, Grannemann, & Barclay, 1989). The addition of these scales was based on the observation that many sad-mood inductions viewed for this study could also potentially elicit an anger response, as well as sadness (e.g., a program on animal cruelty). However, it was felt that the items on medical diseases selected for pretesting were less likely to generate the attribution of blame, as there is no perpetrator of hurt. Furthermore, child cancer videos have been successfully used as sad-mood inducers (e.g., Asuncion & Lam, 1995; Smith & Petty, 1995). Nonetheless, to investigate this possibility, the scales were included.

presented in one of three sequences to test for order effects. The ads presented the same number and type of benefits and were selected for pretesting from a pool of 43 (generously provided by Saatchi & Saatchi). After exposure, subjects rated the ad's affective tone on a 7-point scale (1 = happy, 7 = sad), as well as liking (1 = dislike very much, 7 = like very much), interest (1 = interesting, 7 = boring) and attitude (1 = good, 7 = bad). A significant treatment effect for ad type was evident across the dependent variables ( $F > 3.51$ ,  $p < .02$ ,  $\omega^2 = 0.07$ ) with the dancing ad (young people dance, chat with friends, and wave to the camera), and rain ad (a morose young woman is jostled in a rain-swept street, while having flashbacks of a man who is presumably her ex-boyfriend) selected for the study. No main effects or interactions for gender or order were evident across the dependent variables ( $F$ s  $< 2.28$ ).

## METHOD

### Subjects and Product Context

Two hundred eighty-two undergraduate business students participated in the study (165 females, 117 males). Subjects participated in groups of 8–18, with groups randomly assigned to treatment conditions. Cellular phones were chosen as the product category based on three criteria:

1. Subject knowledge: The product had to be one subjects were familiar enough with to be able to make a judgment on, to avoid nonsense responses and process the ad information effectively (Homer & Yoon, 1992).
2. Equal Gender Relevance (Gainer, 1993): Ninety-two subjects in an earlier pretest from the same target population rated cell phones on two 7-point bipolar semantic-differential scales, "handheld cellular phones are important to me" and "handheld cellular phones do not have anything to do with me or my needs," anchored by "strongly agree"–"strongly disagree" (adapted from Celsi & Olson, 1988). No gender differences eventuated ( $p > .21$ ).
3. Commercially successful: The cellular market has recently been estimated at over \$16 billion (Kupfer, 1999). In 1998, AT&T paid \$1.5 billion for the largest independent cellular provider in America (Kupfer, 1998).

### Procedure

Subjects were told that the purpose of the study was to find out how people evaluate television programs and ads. Next, subjects were asked to seat themselves in a comfortable manner to view the television. The

television program was then played. When it was over, subjects completed a scale that measured post mood-induction mood scores (1 = Happy, 7 = Sad), excluding filler items. Such a global measure of mood is consistent with past research (Abele & Hermer, 1993; Hertel & Fielder, 1994; Hornik, 1993; Kramer, Newton & Pommerenke, 1993; Schwarz et al., 1991). Pursuant to the recommendations of psychometric theory (Paulhus, 1991), filler items were used to disguise the purpose of the questionnaire. The ad was then played, after which subjects completed the remainder of the questionnaire at their own pace. Booklets were collected. Subjects were thanked for their participation. For sad-mood subjects, chocolate biscuits were handed out (a potent smile inducer). The entire procedure took less than 37 minutes to complete.

## Measures

Attitude toward the ad ( $A_{ad}$ ) was rated on four 7-point items anchored by: “bad”–“good,” “uninteresting”–“interesting,” “dislike”–“like,” and “not irritating”–“irritating.” Three 7-point items measured attitude toward the brand ( $A_b$ ) anchored by: “bad”–“good,” “unpleasant”–“pleasant,” and “dislike”–“like.” The reliability of these scales was sufficiently high (Cronbach’s  $\alpha = 0.79$  and  $0.90$  for  $A_{ad}$  and  $A_b$ , respectively), which is consistent with past research that has used these items (e.g., Yi, 1990, 1993). The questionnaire included two manipulation checks. First, a mood-manipulation check asked subjects to rate how they felt after having watched the program (1 = happy, 7 = sad). Second, a check was performed for affective tone, with subjects rating the extent to which the ad seemed happy or sad (1 = happy, 7 = sad).

Given previous research on gender and elaboration thresholds (Meyers-Levy & Sternthal, 1991), a measure of consumer involvement with the ad was included as a covariate. The present study utilized Mittal’s (1995) five-item adaptation of Zaichowsky’s (1985) Personal Involvement Inventory (PII), which contained the statement: “For me, the advertisement was . . .” along with the anchors: “important”–“unimportant,” “of no concern”–“of concern to me,” “means a lot to me”–“means nothing to me,” “matters to me”–“does not matter,” and, “significant”–“insignificant” (Cronbach’s  $\alpha = 0.93$ ). This measure was chosen for three reasons: (a) the support for measure unidimensionality and validity presented by Mittal (1995), (b) because this revised scale has been used successfully in recent consumer research (e.g., Dean, 1999; De Wulf, Odekerken-Schroder, & Iacobucci, 2001), and (c) because this scale is more parsimonious and simpler than the 20-item PII. This aided questionnaire length and reduced the potential for nonresponses by subjects.

A measure for message framing was also included. In a comprehensive review of the framing literature, Levin, Schneider, and Gaeth (1998) suggest that when affect and the affective nature of ads are being

studied, such as with the ad affective tone of the present study, then the framing valence of ad information should also be considered. Consequently, a two-item framing measure derived from Maheswaran and Meyers-Levy (1990) was included as a covariate ( $r = 0.61, p < .01$ ).

## RESULTS

### Manipulation Checks

Consistent with expectations, subjects in the happy program-induced mood condition reported happier moods ( $M = 2.77$ ) than those in the sad-mood condition ( $M = 4.45, F = 117.56, p = .0001, \omega^2 = 0.30$ ). Likewise, a very strong effect was found for affective tone with the content of happy ads rated happier ( $M = 2.64$ ) than sad ads ( $M = 4.20, F = 89.59, p = .0001, \omega^2 = 0.24$ ). This indicates that the intended factors were manipulated successfully. Furthermore, a principal-axis factor analysis performed on all measures that comprised three or more items showed that all measures loaded onto single factors.

### Hypothesis Testing

H1(a) posits that happy males will show no preference for a particular ad affective tone type, whereas H1(b) predicts that sad males will exhibit more favorable attitudes for happy ads than for sad ads. H2(a) and H2(b) predict the converse, namely, that happy females will prefer happy ads (H2[a]), whereas sad females will show no particular preference for ad type (H2[b]).

To ascertain whether gender interacted with mood state and ad affective tone, a 2 (mood: happy, sad)  $\times$  2 (ad affective tone: happy, sad)  $\times$  2 (gender: male, female) MANOVA was performed on  $A_{ad}$  and  $Ab$ . MANCOVA was not used, as the covariates were either significantly correlated with the independent variable manipulation check scores (i.e., message framing with affective tone,  $r = 0.43, p = .01$ ), or a significant difference in the covariate existed across levels of treatment variables (i.e., gender differences in involvement  $F = 4.01, p = .0001$ ). Consequently, analysis of variance was deemed more appropriate than analysis of covariance (Huitema, 1980; Wildt & Ahtola, 1978).

This analysis revealed a main effect for affective tone ( $F = 5.54, p = .01, \omega^2 = 0.02$ ) for  $A_{ad}$ , as displayed in Table 1. Overall, subjects rated the happy ads more favorably than the sad ads ( $M_{happy\ ad} = 19.13$  vs.  $M_{sad\ ad} = 17.69$ ). The main effects for mood and gender were not significant ( $F_s < 1$ ). Importantly, the interaction for mood, affective tone, and gender was significant for  $A_{ad}$  ( $F = 5.41, p = .02, \omega^2 = 0.02$ ). Although the guidelines of Cohen (1977) for  $\omega^2$  suggest this is a small

**Table 1. Analysis of Variance Results for Attitude toward the Ad.**

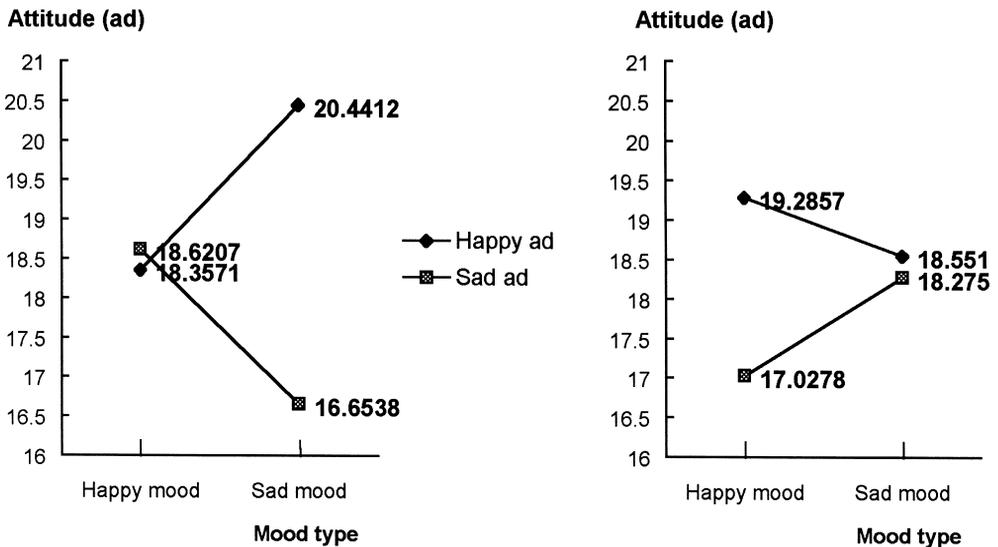
Source of Variation	Mean Square	Degrees of Freedom	F Ratio	$\omega^2$
Mood (A)	1.65	1	0.06	0.00
Affective tone (B)	153.01	1	5.46*	0.02
Gender (C)	3.63	1	0.13	0.00
A $\times$ B $\times$ C	151.75	1	5.41*	0.02

\* $p < .05$ .

effect, Peterson, Albaum, and Beltrami (1985), in a review of effect sizes in major psychological and marketing journals from 1970 to 1982, found that 62.5% of studies reported a significant effect with an  $\omega^2$  of between 0.01 and 0.09. Furthermore, Iacobucci (1994) suggests that small significant  $\omega^2$ s can occur for complex research issues, and Fern and Monroe (1996) assert that large  $\omega^2$ s should not be expected for experimental research, and that interactions typically produce smaller effect sizes.

As displayed in Figure 1 and consistent with H1(a) and H1(b), males did not differ in their  $A_{ad}$  evaluations of happy and sad ads when they were happy. However, when sad, males clearly favor happy ads. Consistent with H2(a) and H2(b), happy females report more favorable  $A_{ad}$  when exposed to happy ads. Yet this difference disappears when females are sad.

These results were verified by a series of planned contrasts (Rosenthal & Rosnow, 1985). Specifically, for males under happy mood,  $A_{ad}$



**Figure 1.** Plot of the interaction of gender, mood, and affective tone on attitude toward the ad.

**Table 2. Means and Standard Deviations for Attitude toward the Ad.**

	Mean	Standard Deviation
Males		
Happy mood		
Happy ad	18.357	6.373
Sad ad	18.621	6.657
Sad mood		
Happy ad	20.441	5.550
Sad ad	16.654	3.599
Females		
Happy mood		
Happy ad	19.286	4.694
Sad ad	17.028	5.412
Sad mood		
Happy ad	18.551	4.486
Sad ad	18.275	5.373

scores were not significantly different across the affective tone conditions ( $p > .87$ ). Yet for sad-mood males, as displayed in Figure 1, happy ads rated significantly more favorably than sad ads ( $t = 3.02, p = .004$ ).

For females under happy mood, the more favorable ratings for happy ads were marginally significant ( $t = 1.88, p = .065$ ), whereas no differences were found between ads in the sad-mood condition ( $p > .79$ ). Subjects' means scores and standard deviations for each of these conditions are presented in Table 2.

To further investigate the hypotheses, a 2 (mood: happy, sad)  $\times$  2 (ad affective tone: happy, sad)  $\times$  2 (gender: male, female) ANOVA was performed on involvement. If sad moods, as the literature suggests, result in more substantive, elaborative processing, then one should expect a main effect for mood on involvement. Likewise, gender theory suggests females engage in elaborative processing more often than males, which may result in a main effect for gender. Furthermore, under happy mood, it is expected that females will exhibit higher levels of involvement than males, thus suggesting a gender difference may be apparent for happy-mood data.

Consistent with this view, a significant main effect for mood indicated that subjects' involvement was higher during sad moods ( $M = 22.71$ ), and lower during happy moods ( $M = 20.06, F = 12.84, p = .0001, \omega^2 = .04$ ). As displayed in Table 3, a significant main effect for gender was also present ( $F = 4.01, p < .05, \omega^2 = .01$ ), with females ( $M = 22.07$ ) displaying higher involvement than males ( $M = 20.63$ ). Planned contrasts revealed that no gender differences in levels of involvement were evident under sad moods ( $p > .52$ ), whereas the expected gender difference in involvement for happy mood was marginally significant ( $t =$

**Table 3. Analysis of Variance Results for Involvement.**

Source of Variation	Mean Square	Degrees of Freedom	F Ratio	$\omega^2$
Mood (A)	506.77	1	12.84**	0.04
Affective tone (B)	4.34	1	0.11	0.00
Gender (C)	158.21	1	4.01*	0.01
A $\times$ B $\times$ C	71.94	1	1.82	0.00

\* $p < .05$ .\*\* $p < .001$ .

-1.81,  $p = .07$ ,  $\omega^2 = .02$ ) with happy females ( $M = 21.03$ ) displaying greater involvement than males ( $M = 18.77$ ).

Consistent with H3, no main effects ( $F < 2.78$ ,  $p > .09$ ) or interactions ( $F < 2.38$ ,  $p > .12$ ) were statistically significant for  $A_b$ . This pattern of null results indicates that the effects of mood and gender influence  $A_{ad}$  rather than consumer brand attitudes. Further, consistent with previous research (MacKenzie et al., 1986),  $A_{ad}$  and  $A_b$  were positively correlated ( $r = .49$ ,  $p = .01$ ), suggesting an indirect effect for affective states upon  $A_b$  that operated through  $A_{ad}$ .

## DISCUSSION

The objective of this study was to assess whether gender interacted with mood effects, specifically, to examine the interaction of gender, television-program-induced mood states, and ad affective tone in the context of  $A_{ad}$  and  $A_b$ . The findings yielded support for the hypotheses that sad males would exhibit more favorable  $A_{ad}$  evaluations for happy ads, whereas happy males would show no distinction for ad affective tone type for  $A_{ad}$ . Likewise, the hypotheses that happy females would prefer happy ads, yet show no preference for ad type when sad, was also supported for  $A_{ad}$ . Consistent with expectations, gender-mood effects had a direct effect on  $A_{ad}$  but not  $A_b$  which supports research suggesting that the influence of affect on  $A_b$  is mediated by  $A_{ad}$  (Brown et al., 1998).

Findings also supported the mood and gender processing differences that were posited to underlie the  $A_{ad}$  findings. Specifically, consistent with previous research (Bagozzi et al., 1999), sad-program-induced moods resulted in higher ad involvement than happy moods. Females also yielded higher involvement than males, which supports previous consumer research (Meyers-Levy & Sternthal, 1991). However, the effect sizes were small. Although a measure of involvement with the ad was used, it would be useful to replicate these findings with a processing measure such as cognitive responses, and recall (see Johar & Simmons, 2000; Meyers-Levy & Sternthal, 1991, for examples of these measures), to see if this improves the explanatory power of the findings.

Furthermore, although the present study provides support for differences in involvement levels for gender–mood effects, it would be of interest to see what sort of processing was occurring. For instance, Grunert (1996) offers two kinds of cognitive processing: automatic processing, which is more subconscious, and strategic processing, which requires more elaboration by the consumer. Which, if either, process is applicable to gender–mood effects? In answer to this question, insight can be gained from the recent comprehensive review of mood research by Luomala and Laaksonen (2000). They suggest that mood studies can be viewed by distinguishing between backdrop moods and motivational moods. Backdrop moods operate at the automatic level, and tend to be global and diffuse. With motivational moods, “individuals are conscious of their mood experiences” (Luomala & Laaksonen, 2000, p. 204), and they are stimulus specific (i.e., people are aware of the cause of their mood). This dichotomy not only aligns with Grunert (1996), but also fits literature on mood repair. For instance, Forgas (1992, 1995) suggests that mood repair follows a motivated processing strategy that is distinct from other less-focused mood strategies.

Following this approach, the results of the present study suggest that males exhibit backdrop mood effects when happy, as characterized by lower involvement, but are in a motivational mood state when in a sad mood. The sad-program-induced mood initiates a desire for mood repair, which is then acted upon by males preferring the happy ad, consistent with research that males prefer distraction mood-repair strategies (Sethi & Nolen-Hoeksema, 1997). Females employ higher-intensity backdrop moods when happy, consistent with mood-congruency theory (Bower, 1981; Luomala & Laaksonen, 2000), and motivated moods when sad. It may be that females have more intense backdrop moods and utilize both happy and sad ads for mood repair under sad moods. Thus, future research should assess the intensity of elaboration that influences backdrop or motivational moods. In summary, this study suggests that in mood research, gender should also be considered.

An alternative explanation of the results should be acknowledged, however, given the idiosyncratic nature of moods. For example, moods can be transient and as fleeting as a few minutes in duration (Luomala & Laaksonen, 2000; Park & Banaji, 2000). This idiosyncrasy has been highlighted by Rusting (1998), who suggests that because the duration and intensity of moods varies between individuals, individual characteristics should be taken into account to yield greater insights. Although the present study suggests that one such individual characteristic—gender—influences mood effects, another characteristic offers an alternative explanation for the results. In particular, it is possible that the mood manipulations not only influenced mood states, but also individual levels of arousal (Clark, 1982; LaTour & Rotfeld, 1997; Mano, 1997).

A significant stream of consumer research has examined the effect of arousal in a persuasive communication context. In these studies,

arousal is often highlighted as a dimension of emotion (e.g., Bagozzi, 1996; LaTour & Rotfeld, 1997; Olney, Holbrook, & Batra, 1991). Indeed, in a comprehensive review of affect research, Bagozzi et al. (1999) argue that physiological arousal fulfills an integral role in emotion. Likewise, Sanbonmatsu and Kardes (1988) assert that arousal can be affected by emotionally valenced stimuli.

In the context of the present study, arousal may have influenced the manner of processing used by subjects. Previous research suggests that high arousal can result in a decrease of cognitive effort (Mano, 1992; Sanbonmatsu & Kardes, 1988). Here, high arousal reduces attentional capacity, resulting in a greater reliance on heuristic processing (Mano, 1992, 1997; Pham, 1992). Thus, even though the mood-manipulation checks were significant, it could be that arousal influenced subjects to prefer happy ads owing to heuristic processing. In other words, females were aroused by the happy-mood treatment, whereas males may have been highly aroused by the sad-mood treatment, resulting in both genders preferring happy ads in these conditions.

Although some researchers have suggested that it is unclear that gender differences exist in arousal responses to affective stimuli (e.g., Kring & Gordon, 1998), recent research suggests this avenue is worthy of exploration. For example, physiological arousal, as measured by skin conductance activity, has been shown to be higher for males than females for negative stimuli (e.g., Brewster, Nelson, McCanne, Lucas, & Milner 1998). Consequently one can speculate that males may have been more highly aroused than females by the sad-mood condition, thus resulting in heuristic processing of the happy ad.

Importantly, arousal was not measured in the current study, which represents a limitation that should be recognized. Future research should examine gender and mood effects with arousal measures included to investigate this issue (see LaTour & Rotfeld, 1997, for an example of incorporating arousal into affect research).

A second limitation is the student sample, which restricts the results from being generalized to other populations. Although student samples are prevalent in consumer affect research (e.g., Barone et al., 2000; Holbrook & Gardner, 2000) they can lessen external validity. However, given the range of variables and covariates that were studied, a laboratory experiment was deemed appropriate. Furthermore, college-aged consumers have been identified as a promising segment for cell-phone promotions (Steward, 1995). Second, the use of real ads may have resulted in inferences based on prior ad evaluations (Forgas, 1992). However, in recognition of this issue, foreign ads were utilized. For future research, other affective states could also be studied, such as anger (Sedikides, 1995). From a marketing viewpoint, research of this nature could study angry-mood effects in the interests of customer complaints and retention.

A further limitation is the focus on biological sex. Future research

may wish to consider the theory of gender-role socialization of affect (Zillman, Weaver, Mundorf, & Aust, 1986). This predicts that the people are socialized according to traditional cultural gender roles, especially regarding how they publicly display the influence of affect (Basow, 1986; Lott, 1987). Thus, activated sex roles may influence how a consumer responds to ads, whereby males are guided by assertive agentic roles, and females by communal goals (see Meyers-Levy, 1988). To this end, research could consider the role of gender schematicity. Gender schematicity (Bem, 1976; Frable & Bem, 1985) draws upon the bidimensional construct of masculinity and femininity, which are derived from an androgynous model where they represent orthogonal, independent factors (Marusic & Bratko, 1998; Watson, Biderman, & Sawrie, 1994), rather than the bipolarity of a unidimensional factor. In gender-schematic terms, individuals can be classified as sex-typed, cross-sex-typed or as gender aschematic based upon self-perceived gender-role characteristics. Sex-typed individuals conform to societal gender-role expectations. By contrast, cross-sex-typed individuals present opposite profiles (e.g., a low masculine, highly feminine male), and gender-aschematic people are undifferentiated in their role perceptions. It would be interesting to assess what insights could be gained regarding the biological sex differences of the present study when gender schematicity is taken into account.

Another avenue for future research pertains to a strategy employed by people in negative moods—distraction and rumination. A distraction strategy involves avoiding thinking about why one is depressed (Lyu-bormirsky & Nolen-Hoeksema, 1993). Here if one is sad, the response is to go out, to go shopping, to immerse one's self in work—anything that takes one's mind off the sad mood and the reasons for that sad mood. Research by Nolen-Hoeksema reveals that the use of a distraction strategy results in a shorter duration of sad moods than a ruminative strategy (e.g., Nolen-Hoeksema & Morrow, 1991; Nolen-Hoeksema, Morrow, & Fredrickson, 1993). This may offer additional explanatory power for why some consumers, particularly males, respond most favorably to the sad-mood–happy-ad combination. Such consumers may be employing a distraction strategy to achieve mood repair, whereby the affective tone of the happy ad is used to facilitate the priming of a positive mood. Future research of this nature could employ the negative-mood response-style questionnaire (Butler & Nolen-Hoeksema, 1994), which consists of 20 items that can be used to classify subjects as distractors or ruminators (see Cheng, 1999).

Another intriguing avenue would be to examine gender–mood effects in relation to sex-type self-discrepancy. Self-discrepancy occurs where there is a difference between a person's actual behavior and the perceived appropriate behavior for that person's sex type (Grimmell & Stern, 1992). Previous research has suggested that self-discrepancy is

a significant predictor of negative mood (Grimmell, 1998). Thus, researchers could explore how self-discrepancy in a consumption context influences consumer mood effects.

## REFERENCES

- Abele, A., & Hermer, P. (1993). Mood influences on health-related judgments: Appraisal of own health versus appraisal of unhealthy behaviours. *European Journal of Social Psychology*, 23, 613–625.
- Asuncion, A. G., & Lam, W. F. (1995). Affect and impression formation: Influence of mood on person memory. *Journal of Experimental Social Psychology*, 31, 437–464.
- Bagozzi, R. P. (1996). The role of arousal in the creation and control of the halo effect in attitude models. *Psychology & Marketing*, 13, 235–264.
- Bagozzi, R. P., Gopinath, M., & Nyer, P. U. (1999). The role of emotions in advertising. *Journal of the Academy of Marketing Science*, 27, 184–206.
- Barone, M. J., Miniard, P. W., & Romeo, J. B. (2000). The influence of positive mood on brand extension evaluations. *Journal of Consumer Research*, 26, 386–400.
- Basow, S. A. (1986). *Gender stereotypes*. Monterey, CA: Brooks-Cole.
- Batra, R., & Stayman, D. M. (1990). The role of mood in advertising effectiveness. *Journal of Consumer Research*, 17, 203–214.
- Batra, R., & Stephens, D. (1994). Attitudinal effects of ad-evoked moods and emotions: The moderating role of motivation. *Psychology & Marketing*, 11, 199–215.
- Bem, S. L. (1976). Probing the promise of androgyny. In A. G. Kaplan & J. P. Bean (Eds.), *Beyond sex-role stereotypes: Readings towards a psychology of androgyny*. Boston: Brown, Little.
- Blackhart, G. C., Kilne, J. P., Donohue, K. F., LaRowe, S. D., & Joiner, T. E. (2001). Affective responses to EEG preparation and their link to resting anterior EEG symmetry. *Personality & Individual Differences*, 32, 167–174.
- Blaney, P. H. (1986). Affect and memory: A review. *Psychological Bulletin*, 99, 229–246.
- Bless, H., Schwarz, N., & Wieland, R. (1996). Mood and the impact of category membership and individuating information. *European Journal of Social Psychology*, 26, 935–959.
- Bower, G. H. (1981). Mood and memory. *American Psychologist*, 36, 129–148.
- Brewster, A. L., Nelson, J. P., McCanne, T. R., Lucas, D. R., & Milner, J. (1998). Gender differences in physiological reactivity to infant cries and smiles in military families. *Child Abuse & Neglect*, 22, 775–788.
- Brown, S. P., Homer, P. M., & Inman, J. (1998). A meta-analysis of relationships between ad-evoked feelings and advertising responses. *Journal of Marketing Research*, 35, 114–126.
- Brown, S. P., & Stayman, D. M. (1992). Antecedents and consequences of attitude toward the ad: A meta-analysis. *Journal of Consumer Research*, 19, 34–51.

- Burke, M. C., & Edell, J. A. (1989). The impact of feelings upon ad-based affect and cognition. *Journal of Marketing Research*, 26, 69–83.
- Butler, L. D., & Nolen-Hoeksema, S. (1994). Gender differences in responses to depressed mood in a college sample. *Sex Roles*, 30, 331–346.
- Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42, 116–131.
- Celsi, R. L., & Olson, J. C. (1988). The role of involvement in attention and comprehension processes. *Journal of Consumer Research*, 15, 210–224.
- Cheng, C. (1999). Gender-role differences in susceptibility to the influence of support availability on depression. *Journal of Personality*, 67, 439–467.
- Clark, M. S. (1982). A role for arousal in the link between feeling states, judgments and behavior. In M. S. Clark & S. T. Fiske (Eds.), *Affect and cognition* (pp. 263–289). Hillsdale, NJ: Erlbaum.
- Clore, G. L., Schwarz, N., & Conway, M. (1994). Cognitive causes and consequences of Emotion. In R. S. Wyer & T. K. Srull (Eds.), *Handbook of social cognition* (pp. 323–417). Hillsdale: Erlbaum.
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences*. New York: Academic Press.
- Curren, M. T., & Harich, K. R. (1994). Consumers' mood states: The mitigating influence of personal relevance on product evaluations. *Psychology & Marketing*, 11, 91–107.
- Dean, D. H. (1999). Brand endorsement, popularity, and event sponsorship as advertising cues affecting consumer pre-purchase attitudes. *Journal of Advertising*, 28, 1–12.
- De Wulf, K., Odekerken-Schroder, G., & Iacobucci, D. (2001). Investments in consumer relationships: A cross-country and cross-industry exploration. *Journal of Marketing*, 65, 33–50.
- Dube, L., & Morgan, M. S. (1996). Trend effects and gender differences in retrospective judgments of consumption emotions. *Journal of Consumer Research*, 23, 156–162.
- Duff, S. J., & Hampson, E. (2001). A sex difference on a novel spatial working memory task in humans. *Brain and Cognition*, 47, 470–493.
- Ellis, H. C., & Ashbrook, T. W. (1988). Resource allocation model of the effects of depressed mood on memory. In K. Fielder & J. P. Forgas (Eds.), *Affect, cognition and social behavior* (pp. 25–43). Gottingen, Germany: Hogrefe.
- Erber, R., & Erber, M. W. (1994). Beyond mood and social judgment: Mood incongruent recall and mood regulation. *European Journal of Social Psychology*, 24, 79–88.
- Fern, E. F., & Monroe, K. B. (1996). Effect-size estimates: Issues and problems in interpretation. *Journal of Consumer Research*, 23, 89–105.
- Forgas, J. P. (1992). Affect in social judgments and decisions: A multiprocess model. *Advances in Experimental Social Psychology*, 25, 227–275.
- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117, 39–66.
- Frale, D. E. S., & Bem, S. L. (1985). If you are gender schematic, all members of the opposite sex look alike. *Journal of Personality and Social Psychology*, 49, 459–468.
- Gainer, B. (1993). An empirical investigation of the role of involvement with a gendered product. *Psychology & Marketing*, 10, 265–283.

- Gardner, M. P. (1985). Mood states and consumer behavior: A critical review. *Journal of Consumer Research*, 12, 281–300.
- Gerrards-Hesse, A., Spies, K., & Hesse, F. W. (1994). Experimental inductions of emotional states and their effectiveness: A review. *British Journal of Psychology*, 85, 55–78.
- Goldberg, M. E., & Gorn, G. J. (1987). Happy and sad TV programs: How they affect reactions to commercials. *Journal of Consumer Research*, 14, 387–403.
- Grimmell, D. W. (1998). Effects of gender-role self-discrepancy on depressed mood. *Sex Roles*, 39, 203–214.
- Grimmell, D. W., & Stern, G. S. (1992). The relationship between gender role ideals and psychological well-being. *Sex Roles*, 27, 487–497.
- Grunert, K. G. (1996). Automatic and strategic processes in advertising effects. *Journal of Marketing*, 60, 88–101.
- Harshman, R. A., Hampson, E., & Berenbaum, S. A. (1983). Individual differences in cognitive abilities and brain organization. *Neuropsychologica*, 36, 37–43.
- Hertel, G., & Fielder, K. (1994). Affective and cognitive influences in a social dilemma game. *European Journal of Social Psychology*, 24, 131–145.
- Holbrook, M. B., & Gardner, M. P. (2000). Illustrating a dynamic model of the mood-updating process in consumer behavior. *Psychology & Marketing*, 17, 165–194.
- Homer, P. M., & Yoon, S. (1992). Message framing and the interrelationships among ad-based feelings, affect, and cognition. *Journal of Advertising*, 21, 19–33.
- Hornik, J. (1993). The role of affect in consumers' temporal judgments. *Psychology & Marketing*, 10, 239–255.
- Huitema, B. E. (1980). *The analysis of covariance and alternatives*. New York: Wiley.
- Iacobucci, D. (1994). Analysis of experimental data. In R. P. Bagozzi (Ed.), *Principles of marketing research* (pp. 224–278). Cambridge, MA: Basil Blackwell Ltd.
- Isen, A.M. (1984). Toward understanding the role of affect in cognition. In R. Wyer, T. Srull, & A. Isen (Eds.), *Handbook of social cognition* (Vol. 3, pp. 179–236).
- Isen, A. M. (1987). Positive affect, cognitive processes, and social behavior. In L. Berkowitz (Ed.), *Advances in experimental psychology* (Vol. 20, pp. 203–253). San Diego: Academic Press.
- Izard, C. E., Dougherty, F. E., Bloxom, B. M., & Kotsch, W. E. (1974). The differential emotions scale: A method of measuring the subjective experience of discrete emotions. Unpublished manuscript, Vanderbilt University, Nashville.
- Johar, G. V., & Simmons, C. J. (2000). The use of concurrent disclosures to correct invalid inferences. *Journal of Consumer Research*, 26, 307–322.
- Kamins, M. A., Marks, L. J., & Skinner, D. (1991). Television commercial evaluation in the context of program induced mood: Congruency versus consistency effects. *Journal of Advertising*, 20, 1–14.
- Kellaris, J. J., & Mantel, S. P. (1994). The influence of mood and gender on consumers' time perceptions. In C. T. Allen & D. Roedder John (Eds.), *Ad-*

- vances in consumer research (Vol. 21, pp. 514–518). Provo, UT: Association for Consumer Research.
- Kiecker, P., Palan, K. M., & Areni, C. S. (2000). Different ways of 'seeing': How gender differences in information processing influence the content analysis of narrative texts. *Marketing Letters*, 11, 49–65.
- Klintonberg, B. A., Levander, S. E., & Schalling, D. (1987). Cognitive sex differences: Speed and problem-solving strategies on computerized neuropsychological tasks. *Perceptual and Motor Skills*, 65, 683–697.
- Kramer, R. M., Newton, E., & Pommerenke, P. L. (1993). Self-enhancement biases and negotiator judgment: Effects of self-esteem and mood. *Organizational Behavior & Human Decision Processes*, 56, 110–133.
- Kring, A. M., & Gordon, A. H. (1998). Sex differences in emotion: Expression, experience, and physiology. *Journal of Personality and Social Psychology*, 74, 686–703.
- Kupfer, A. (1998). AT&T gets lucky. *Fortune*, 138, 98–102.
- Kupfer, A. (1999). AT&T goes cable crazy. *Fortune*, 139, 79–81.
- Laczniak, R. N., & Muehling, D. D. (1993). Toward a better understanding of the role of advertising message involvement in ad processing. *Psychology & Marketing*, 10, 301–319.
- Larsen, J. T., McGraw, A., & Cacioppo, J. T. (2001). Can people feel happy and sad at the same time? *Journal of Personality & Social Psychology*, 81, 684–696.
- LaTour, M. S., & Rotfeld, H. J. (1997). There are threats and (maybe) fear-caused arousal: Theory and confusions of appeals to fear and fear arousal itself. *Journal of Advertising*, 26, 45–59.
- Lee, A. Y., & Sternthal, B. (1999). The effects of positive mood on memory. *Journal of Consumer Research*, 26, 115–127.
- Levin, I. P., Schneider, S. L., & Gaeth, G. J. (1998). All frames are not created equal: A typology and critical analysis of framing effects. *Organizational Behavior and Human Decision Processes*, 76, 149–188.
- Lott, B. (1987). *Women's lives: Themes and variation in gender learning*. Monterey, CA: Brooks Cole.
- Luomala, H. T., & Laaksonen, M. (2000). Contributions from mood research. *Psychology & Marketing*, 17, 195–233.
- Lyubormirsky, S., & Nolen-Hoeksema, S. (1993). Self-perpetuating properties of dysphoric rumination. *Journal of Personality and Social Psychology*, 65, 339–349.
- Mackenzie, S. B., & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context. *Journal of Marketing*, 53, 48–65.
- Mackenzie, S. B., Lutz, R. J., & Belch, G. E. (1986). The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. *Journal of Marketing Research*, 23, 130–143.
- Mackie, D. M., & Worth, L. T. (1989). Processing deficits and the mediation of positive affect in persuasion. *Journal of Personality and Social Psychology*, 57, 27–40.
- Maheswaran, D., & Meyers-Levy, J. (1990). The influence of message framing and issue involvement. *Journal of Marketing Research*, 27, 361–367.

- Mano, H. (1992). Judgments under distress: Assessing the role of unpleasantness and arousal in judgment formation. *Organizational Behavior and Human Decision Processes*, 52, 216–245.
- Mano, H. (1997). Affect and persuasion: The influence of pleasantness and arousal on attitude formation and message elaboration. *Psychology & Marketing*, 14, 315–335.
- Marusic, I., & Bratko, D. (1998). Relations of masculinity and femininity with personality dimensions of the five-factor model. *Sex Roles*, 38, 29–44.
- Matmur, M., & Chattopadhyay, A. (1991). The impact of moods generated by television programs on responses to advertising. *Psychology & Marketing*, 8, 59–77.
- Meloy, M. G. (2000). Mood-driven distortion of product information. *Journal of Consumer Research*, 27, 345–359.
- Meyers-Levy, J. (1988). The influence of sex roles in judgment. *Journal of Consumer Research*, 14, 522–530.
- Meyers-Levy, J., & Maheswaran, D. (1991). Exploring differences in males' and females' processing strategies. *Journal of Consumer Research*, 18, 63–70.
- Meyers-Levy, J., & Sternthal, B. (1991). Gender differences in the use of message cues and judgments. *Journal of Marketing Research*, 28, 84–96.
- Mitchell, A. A., & Olson, J. C. (1981). Are product attribute beliefs the only mediators of advertising effects on brand attitudes? *Journal of Marketing Research*, 18, 318–322.
- Mittal, B. (1995). A comparative analysis of four scales of consumer involvement. *Psychology & Marketing*, 12, 663–682.
- Morris, W. N., & Reilly, N. P. (1987). Toward the self-regulation of mood: Theory and research. *Motivation and Emotion*, 11, 215–249.
- Murry, J. P., Lastovicka, J. L., & Singh, S. (1992). Feeling and liking responses to television programs: An examination of two explanations for media-context effects. *Journal of Consumer Research*, 18, 441–451.
- Nicholson, K. G., & Kimura, D. (1996). Sex differences for speech and manual skill. *Perceptual and Motor Skills*, 82, 3–13.
- Nolen-Hoeksema, S., Larson, J., & Grayson, C. (1999). Explaining the gender difference in depressive symptoms. *Journal of Personality and Social Psychology*, 77, 1061–1072.
- Nolen-Hoeksema, S., & Morrow, J. (1991). A prospective study of depression and distress following a natural disaster: The 1989 Loma Prieta earthquake. *Journal of Personality and Social Psychology*, 62, 105–121.
- Nolen-Hoeksema, S., Morrow, J., & Fredrickson, B. L. (1993). Response styles and the duration of episodes of depressed mood. *Journal of Abnormal Psychology*, 102, 20–28.
- Oliver, M. B., Sargent, S. L., & Weaver, J. B. (1998). The impact of sex and gender role self-perception on affective reactions to different types of film. *Sex Roles*, 38, 45–62.
- Olney, T. J., Holbrook, M. B., & Batra, R. (1991). Consumer responses to advertising: The effects of ad content, emotions, and attitude toward the ad on viewing time. *Journal of Consumer Research*, 17, 440–453.
- Park, J., & Banaji, M. R. (2000). Mood and heuristics: The influence of happy and sad states on sensitivity and bias in stereotyping. *Journal of Personality and Social Psychology*, 78, 1005–1023.

- Paulhus, D. L. (1991). Measurement and control of response bias. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 17–60).
- Peterson, R. A., Albaum, G., & Beltrami, R. F. (1985). A meta-analysis of effects in consumer behavior experiments. *Journal of Consumer Research*, 12, 97–103.
- Pham, M. T. (1992). Effects of involvement, arousal, and pleasure on the recognition of sponsorship stimuli. In J. Sherry & B. Sternthal (Eds.), *Advances in consumer research*, (Vol. 19, pp. 85–93). Provo, UT: Association for Consumer Research.
- Pogun, S. (2001). Sex differences in brain and behavior: Emphasis on nicotine, nitric oxide and place learning. *Personality and individual differences*. *International Journal of Psychophysiology*, 42, 195–208.
- Rosenthal, R., & Rosnow, R. L. (1985). *Contrast analysis: Focused comparisons in the analysis of variance*. New York: Cambridge University Press.
- Rusting, C. L. (1998). Personality, mood, and cognitive processing of emotional information: Three conceptual frameworks. *Psychological Bulletin*, 124, 165–196.
- Rusting, C. L. (1999). Interactive effects of personality and mood on emotion-congruent memory and judgment. *Journal of Personality and Social Psychology*, 77, 1073–1086.
- Rusting, C. L., & DeHart, T. (2000). Retrieving positive memories to regulate negative mood: Consequences for mood-congruent memory. *Journal of Personality and Social Psychology*, 78, 737–752.
- Sanbonmatsu, D. M., & Kardes, F. R. (1988). The effects of physiological arousal on information processing and persuasion. *Journal of Consumer Research*, 15, 379–385.
- Saucier, D. M., Elias, L. J., & Nysten, K. (2002). Are colours special? An examination of the female advantage for speeded colour naming. *Personality and Individual Differences*, 32, 27–35.
- Schwarz, N. (1990). Feelings as information: Informational and motivational functions of affective states. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 527–561). New York: Guilford.
- Schwarz, N., Bless, H., & Bohner, G. (1991). Mood and persuasion: Affective states influence the processing of persuasive communications. *Advances in Experimental Social Psychology*, 24, 161–199.
- Sedikides, C. (1995). Central and peripheral self-conceptions are differentially influenced by mood: Tests of the differential sensitivity hypothesis. *Journal of Personality and Social Psychology*, 69, 759–777.
- Seidlitz, L., & Diener, E. (1998). Sex differences in the recall of affective experiences. *Journal of Personality and Social Psychology*, 74, 262–271.
- Sethi, S., & Nolen-Hoeksema, S. (1997). Gender differences in internal and external focusing among adolescents. *Sex Roles*, 37, 687–700.
- Smith, R. B., & Petty, R. E. (1995). Personality moderators of mood congruency effects on cognition: The role of self-esteem and negative mood regulation. *Journal of Personality and Social Psychology*, 68, 1092–1107.
- Stern, B. B. (1993). Feminist literary criticism and the deconstruction of ads: A postmodern view of advertising and consumer responses. *Journal of Consumer Research*, 19, 556–566.

- Steward, S. (1995). Tapping the well for new customers. *Cellular Business*, 34–38.
- Swinyard, W. R. (1993). The effects of mood, involvement, and quality of store experience on shopping intentions. *Journal of Consumer Research*, 20, 271–280.
- Thayer, R. E., Newman, J. R., & McClain, T. M. (1994). Self-regulation of mood: Strategies for changing a bad mood, raising energy, and reducing tension. *Journal of Personality and Social Psychology*, 67, 910–925.
- Tice, D. M., Bratslavsky, E., & Baumeister, R. F. (2001). Emotional distress regulation takes Precedence over impulse control: If you feel bad, do it! *Journal of Personality and Social Psychology*, 80, 53–67.
- Watson, D., Clark, L. A., & Carey, G. (1988). Positive and negative affectivity and their relation to anxiety and depressive disorders. *Journal of Abnormal Psychology*, 97, 346–353.
- Watson, P. J., Biderman, M. D., & Sawrie, S. M. (1994). Empathy, sex role orientation, and narcissism. *Sex Roles*, 30, 701–723.
- Wildt, A. R., & Ahtola, O. T. (1978). *Analysis of covariance*. Beverly Hills, CA: Sage.
- Wood, J. V., Michela, J. L., & Giordano, C. (2000). Downward comparison in everyday life: Reconciling self-enhancement models with the mood-cognition priming model. *Journal of Personality & Social Psychology*, 79, 563–579.
- Yi, Y. (1990). Cognitive and affective priming effects of the context for print advertisements. *Journal of Advertising*, 19, 40–48.
- Yi, Y. (1993). Contextual priming effects in print advertisements: The moderating role of prior knowledge. *Journal of Advertising*, 22, 1–10.
- Zaichowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, 12, 341–352.
- Zillman, D., Weaver, J. B., Mundorf, N., & Aust, C. F. (1986). Effects of an opposite-gender companion's affect to horror on distress, delight, and attraction. *Journal of Personality and Social Psychology*, 51, 586–594.
- Correspondence regarding this article should be sent to Brett Martin, Department of Marketing, University of Auckland, Private Bag 92019, Auckland, New Zealand (bas.martin@auckland.ac.nz).