

Emotional Persuasion: When the Valence Versus the Resource Demands
of Emotions Influence Consumers' Attitudes

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Can properties of emotions other than valence influence consumers' responses to emotional ads? We show that consumers' processing motivation moderates whether their attitudes are based on the valence of or the resource demands imposed by the emotion featured in an ad. When motivation is low, consumers respond more favorably to positively versus negatively valenced emotional ads. However, when motivation is high, attitudes are more favorable when the magnitude of allocated resources matches that required to process the ad. Three studies identify three distinct properties of emotions (univalence, purity, and self-consciousness) that can influence the resource demands of an ad.

Emotions are part of life (Richins 1999). We experience them during important milestones as well as everyday mundane events. Emotions can motivate and persuade consumers (Andrade and Cohen 2006). Further, they often guide our attitudes and behavior (Bagozzi, Gopinath and Nyer 1999; Cohen and Areni 1991). For example, we often gravitate toward people, products, and brands that connect with us emotionally. Indeed, it is for such reasons that considerable research has focused on the role emotions can play in advertising.

Studies have documented the wide array of emotions that can be evoked by ads (Holbrook and Batra 1986), examined the relationship between attitudes and consumers' responses to emotional ads (Burke and Edell 1989), and investigated individual difference or situational variables that often moderate consumers' responses to emotional experiences induced by ads (Murray and Daccin 1996). However, consumer research has been largely silent about properties of emotions beyond their valence that may underlie and differentiate them. The preceding seems to be so due to the widely held assumption that the valence of an emotion featured in an ad (i.e., its positivity or negativity) is the primary predictor of a consumer's attitudinal response to the ad (Elster 1998; Forgas 1995). Thus, if an ad depicts any of several emotions that all share a common valence (e.g., negative feelings like fear, anxiety, or guilt), people's attitudes toward the ad will simply reflect that (e.g., negative) valence.

The present research suggests otherwise; we contend that the processing resources associated with emotions are another property that can shape consumers' attitudes. Given that emotions are internally experienced states, the level of resources required to process emotions is likely to vary across individuals. We explore this possibility and pursue two specific goals in this research. First, by expanding on extant theory and applying it to emotional ad appeals, we propose that consumer's processing motivation can moderate whether their attitudes toward an

emotional ad will be based either heuristically on the valence of the emotional appeal or deliberately on the resource demands imposed by the ad (studies 1 and 3) or by extraneous concerns that are independent of the ad (study 2). Second and equally importantly, we identify and examine three distinct properties of emotions that influence the resource demands imposed by an ad's emotional appeal: univalence, purity, and self-consciousness. In doing this, we show that, depending on consumers' processing motivation, variation in any of these properties may predictably alter consumers' attitudes toward the ad.

We begin by briefly reviewing existing research about consumers' processing of emotional appeals in advertisements. This leads to our first proposition, namely, that the level of consumers' processing motivation moderates whether their attitude toward an ad reflects either the valence of its emotional appeal or the resource demands that it imposes. After developing theory about when and how processing resource demands can shape attitudes, we propose three distinct properties of emotions that may stimulate variation in an ad's resource demands. Three studies are reported that test our specific predictions.

THEORETICAL BACKGROUND

Valence Versus Resources: The Role of Processing Motivation

Ads frequently rely on emotional appeals as a means of persuading consumers, influencing their ad or product attitudes (Aaker and Bruzzone 1981; Braun 1999). Among the studies that have explored such appeals, most have demonstrated that a positive, albeit imperfect relationship exists between the valence of an emotional appeal and people's responses to it

(Batra and Ray 1986; Burke and Edell 1989). For example, recent work by Williams and Aaker (2002) found that an ad appeal that portrayed an emotion with a positive (i.e., happy) versus a negative (i.e., sad) valence produced more favorable attitudes. Further, an appeal that elicited a mixed (i.e., concurrent happy *and* sad) emotion rather than a positive one also prompted a more negative response among Anglo-American or younger consumers. In the latter case, the research showed that this outcome occurred because these respondents experienced discomfort when confronted with the two affectively conflicting emotions that were challenging to reconcile. Thus, the full pattern of findings concurs with the prevailing assumption that attitudes toward emotional ad appeals are valence based, reflecting how favorably people perceive the valence of the emotional appeal.

Research also suggests that perceiving the valence of information tends to be a quite simple matter, such that individuals who devote only a modest level of resources to processing material can accomplish it (Zhu and Meyers-Levy 2005). Consistent with this notion, Pham et al. (2001) found that even under time constraints, individuals' evaluations of commercials were derived from their initial or gut feelings elicited by the ads. Thus, it seems conceivable that although the respondents in Williams and Aaker's (2002) research were not under any overt resource (e.g., time) constraints, they nevertheless may have responded to the valence of the emotional appeal simply because they lacked ample motivation to process the appeals more thoughtfully. As such, the perceived valence of the emotional ad appeal may have served as a simple heuristic cue on which they determined their attitudes to the ad (Chaiken 1980). Indeed, the latter notion concurs with dual process models, which firmly establish that when processing motivation is low, people frequently base their responses on easily accessed heuristic cues, such as the valence associated with presented material (ad appeals; Petty, Cacioppo and Schumann

1983). Taken together, such observations lend support for our proposition that less motivated individuals are likely to base their attitudes on the perceived valence of an emotional ad appeal.

At the same time, dual process models also contend that highly motivated individuals strive to process presented data thoroughly and try to establish its accuracy (Eagly and Chaiken 1993). Thus, their attitudes tend to be the result of far more resource intensive processes. This observation is telling as it raises the possibility that in the studies mentioned earlier, participants may have based their attitudes on the valence of the emotional appeal simply because they lacked sufficient motivation to process the ad carefully. Had their motivation been greater, other factors, perhaps even other properties of the emotional appeal might have influenced their attitudes.

Of particular relevance to this, considerable research suggests that under high motivation conditions, the degree to which resource matching ensues during ad processing can itself influence people's attitudes (Anand and Sternthal 1988; Meyers-Levy and Peracchio 1995). At its core, resource matching theory asserts that attitudes produced by highly motivated individuals are sensitive to whether the high level of resources they devote to ad processing is equivalent to, falls short of, or exceeds the level that is required to adequately understand the ad content (Anand and Sternthal 1988; Meyers-Levy and Peracchio 1995). When supplied and required processing resources are equivalent, people process the ad thoroughly and thereby appreciate the ad's persuasive intent, which generally elevates attitudes. But when such resource matching fails to occur, these processes do not take place and attitudes are less favorable.

This relationship between the resources supplied and required for ad processing was examined by Peracchio and Meyers-Levy (1997). They found that highly motivated individuals reported favorable attitudes toward a print ad under two conditions: when the ad contained

complex and thus highly resource demanding verbal claims that were physically integrated into (superimposed on) the ad picture, and when the ad contained simple verbal claims that required few resources to process and they were physically separated from the ad picture. These outcomes were anticipated because, unlike low motivation individuals, highly motivated processors strive to form accurate assessments, which typically prompts them to cross-reference an ad's verbal content with its visual material so as to validate the verbal claims. Moreover, such cross-referencing is considerably more resource demanding if the ad's visual and verbal materials are physically separated (i.e., isolated) rather than integrated (Mayer and Moreno 2003). Thus, because in the two conditions noted earlier the magnitude of resources needed to process the complex or simple verbal claims (high and low, respectively) was counterbalanced by an opposing amount needed for cross-referencing (low and high, respectively), resource matching was achieved: The total resources required to fully process the ad were comparable to the large resource pool that motivated ad recipients supplied to ad processing.

Such resource matching did not occur, however, in the counterpart conditions. That is, when the verbal ad claims were complex, thereby requiring a high level of resources, and the ad layout did the same by physically separating the claims from the ad picture, the resources required to perform the cross-referencing task exceeded those supplied. Due to this resource shortfall, adequate processing and cross-referencing of the ad content was hindered and attitudes were undermined. Likewise, when the verbal ad claims were simple, such that their demands on resources were low, and the ad layout similarly imposed low resource demands by integrating the claims with the ad picture, the large pool of resources that highly motivated individuals devoted to ad processing exceeded those required. As such, respondents expended their surplus

resources eliciting critical, attitude-deflating cognitions like counterarguments and irrelevant thoughts, which again diminished attitude favorableness.

Taken together, the preceding discussion lays the foundation for our theorizing. Specifically, we propose that under low motivation conditions, individuals are likely to employ the valence of an emotional ad appeal as a simple heuristic cue on which they base their attitudes. On the other hand, when motivation is high, individuals' attitudes are apt to be shaped by whether the magnitude of resources they supply during ad processing matches those that are required to process the ad. Importantly, if an ad contains an emotional appeal, these resources should include both those needed to process the ad's verbal content, namely, the emotion relayed in the ad's verbal appeal, and those that the separated or integrated ad layout requires for cross-referencing the ad's visual and verbal material.

Still, before we can apply and translate these ideas into specific predictions about how individuals should respond to particular emotional ads, a crucial question must be explored: Can the emotions relayed in ad appeals themselves vary in complexity and thereby influence the resources needed to process an emotional ad appeal?

Three Aspects of Emotions that Influence Their Resource Demands

Although existing research has not directly addressed whether emotions vary in their complexity and thus their resource demands, certain research suggests that this may be the case. One property of emotions that might contribute to such variance was examined in Williams and Aaker's (2002) research with their mixed emotional appeal (i.e., combined happy and sad appeal). Emotional appeals that feature both positive and negative emotions (i.e., happiness *and*

sadness) are likely to impose greater resource demands than emotions that are univalenced (i.e., either happiness *or* sadness). This follows because only mixed emotional appeals are emotionally ambivalent and thereby simultaneously activate two separate (i.e., positive and negative) emotional memory systems (Larsen, McGraw, and Cacioppo 2001). Neuroscience studies support the latter thesis, revealing that mixed versus univalenced emotions heighten activity in two independent locations of the brain (Larsen, Norris, and Cacioppo 2003). Thus, it seems likely that mixed emotional appeals in ads will place greater resource requirements on people's processing than univalenced emotional appeals.

Another property that may influence how demanding emotions are to process is whether the emotion is simple or pure. As several leading theorists have posited, many emotions are complex composites of others (Folkman and Lazarus 1985) in that they are comprised of or covary with other constituent emotions (Plutchik 1980; Diener, Colvin, Pavot, and Allman 1991). Other emotions, however, are pure and are not amenable to deconstruction (Ekman 1992; Tomkins 1984). Consider the negative emotion, anxiety. Although researchers have yet to agree on the full number and identity of its constituent emotions, anxiety is regarded as a complex emotion, with three emotions most frequently cited as its ingredients: fear, sadness, and anger (Averill 1991). These three constituent emotions are all negatively valenced and considered to be pure, not open to further dissection (Ekman 1992; Izard 1991; Plutchik 1980; Tomkins 1984). Hence, similar to the prediction for mixed versus univalenced emotions, emotional appeals that elicit complex emotions are likely to require more processing resources than appeals that evoke pure emotions.

Emotions also vary in terms of whether they prompt self-consciousness. For reasons laid out shortly, we expect that self-conscious emotions require more resources to process than do

non-self-conscious emotions. Self-conscious emotions activate a person's attempt to live up to an internalized set of standards (Tangney 1991). Several emotions are self-conscious in nature, including guilt, embarrassment, pride, and shame, with each believed to require a fairly sophisticated level of intellectual development (Buss 1980; Lewis 1991). This is due to the range and complexity of prerequisites needed to experience self-consciousness, namely a sense of self, a set of internally held guiding principles or standards, a concept of what constitutes success or failure, and the capacity to evaluate one's own behavior. Whereas pure emotions like happiness, sadness, fear, and anger, have been documented as early as birth (Ekman 1992), self-conscious emotions develop far later, around age five when children begin to more fully understand and experience the self (Ferguson and Stegge 1995). Further, while the cognitive appraisals of most emotions appear to be nonconscious, appraisals of self-conscious emotions draw on more conscious, finely tuned, sophisticated abilities (Lewis 1991). In sum, these observations imply that emotional appeals featuring self-conscious emotions are likely to place greater demands on people's processing resources compared to appeals that feature non-self-conscious emotions.

Theory Integration and Hypothesis Development

We theorize that the level of consumers' processing motivation determines whether individuals base their attitudes on either the valence of an emotional appeal (under low motivation) or the extent to which the resources they supply during ad processing matches those required to fully process the ad (under high motivation). Notably, such resource matching has been shown to be relevant only under high, not low motivation conditions. This follows because under low motivation conditions people expend minimal resources processing ads, are satisfied

with basing their attitudes on readily accessible (i.e., heuristic) cues, and possess little concern about the accuracy of their assessments (Meyers-Levy and Peracchio 1995; Meyers-Levy and Malaviya 1999). Thus, how resource demanding it may be to validate ad content is immaterial to attitude formation under low motivation conditions, for such individuals are neither motivated to carefully process nor scrutinize the ad.

We also reason that three properties of emotions can influence the amount of resources required to process an emotional appeal. Specifically, demands on resources should be relatively low versus high when the featured emotion (a) is univalent versus mixed, (b) pure versus complex, or (c) does not invoke versus does invoke self-consciousness. The significance of whether emotions induced by ads require few or many resources should be evident only when ad recipients' motivation level is high and thus they expend considerable resources processing ads.

Finally, research by Peracchio and Meyers-Levy (1997) establishes that the amount of resources required to process an ad also can be influenced by the ad's integrated or separated layout. In our first and third experiments, we test our theorizing by crossing the type of emotion evoked in an ad with ad layout. In these studies, we expect that, under high motivation conditions, the outcomes that Peracchio and Meyers-Levy (1997) observed will be conceptually replicated when instead of manipulating the total resources required to process an ad by varying both the complexity of the ad's verbal claims and its layout, the former factor is replaced with the type of emotion relayed by the ad's emotional appeal. Combining the resources demanded by the ad emotion and the ad layout alters the total amount of resources required to process the ad. This allows us to test and detect whether, as we theorize, variation in resource matching affects highly motivated individuals' attitudes in the manner anticipated by resource matching theory.

A complete set of predictions can be offered about how resource requirements should influence people's attitudes under high and low motivation conditions. Specifically, highly motivated individuals' attitudes should reflect the extent to which the resources they allocate to ad processing match those required by both the type of emotion featured in the ad and the ad layout. When the emotional ad appeal requires few processing resources (i.e., either a univalenced, simple, pure or a non-self-conscious emotion), individuals' attitudes should be more favorable when the ad layout separates rather than integrates the ad's visual and verbal content, because a separated ad layout amplifies the resource demands, rendering them quite comparable to those expended by motivated individuals. However, when the emotional ad appeal imposes heavy resource demands (i.e., either a mixed, composite, or a self-conscious emotion), highly motivated individuals' attitudes should be more favorable when the ad layout integrates rather than separates the ad's visual and verbal content. In contrast, under low motivation, individuals should base their attitudes toward the ad on the valence of the emotional appeal. Hence, here we expect attitudes to be more favorable when the emotional ad appeal is positive (i.e., happy) rather than negative (i.e., sad) or mixed (i.e., happy *and* sad). Overall, then, we anticipate that a three way interaction of processing motivation, type of emotional appeal, and ad layout will emerge.

In experiment 1 we test our central thesis that people's processing motivation moderates the basis on which they evaluate emotional appeals. This study alters the resources required to process and scrutinize the ad by manipulating both whether the emotional appeal is univalenced or mixed and whether the ad layout is integrated or separated. Further, we examine participants' cognitions in response to the ads for evidence that under high motivation alone, the preceding two factors combine and create conditions where people's allocated resources exceed, fall short

of, or match those required for ad processing. Experiment 2 strives to bolster confidence in our theorizing by adopting a rather different approach. Instead of altering the resource demands imposed on ad recipients by varying ad layout, study 2 does this by introducing a memory load manipulation prior to ad exposure. Research has shown that variation in memory load affects people's responses only under high, not low, motivation conditions (Ward and Mann 2000). Hence, our memory load manipulation emulates increasingly common situations where highly motivated individuals may earnestly attempt to process ads thoughtfully, but their mental resources are already partially occupied by, say, work or family concerns, or in the case of multitasking, another activity that they are performing simultaneously. In sum, study 2 enables us to test whether our theory holds even when the resource demands imposed on ad recipients derive in part from the emotion evoked by the ad, but also in part from exogenous environmental factors. Finally, experiment 3 greatly extends our theory by exposing highly motivated individuals to three ads that all convey negative emotions, but which differ in the resources they require to process (i.e., whether they are composite or self-conscious emotions). Hence, this study underscores the importance that properties of emotions beyond valence can play in influencing the favorableness of highly motivated individuals' attitudes.

EXPERIMENT 1

Method

Stimuli. Three versions of an ad for a moving company were created. Each version featured the same picture, a large photo of a male college student sitting on the floor amid stacks

of boxes. The student appeared to be lost in thought looking out of a large window. In addition, three smaller photos were inserted in areas around the window. Each depicted a scene that corresponded with the ad copy (e.g., a photo of four youths chatting leisurely on the waterfront).

The ad versions contained one of three verbal emotional appeals developed by Williams and Aaker (2002, experiment 2). The ad claims conveyed either happiness, sadness, or both happiness and sadness in the context of a discussion of one's friends, the future, and moving. Note that happiness and sadness are each considered univalenced emotions (Lazarus 1991), while the combination of the two represents a more complex, mixed emotion (Otnes, Lowry, and Shrum 1997).

Because previous research has shown that ad processing is more resource demanding when an ad layout physically separates rather than integrates the ad's visual and verbal content (Peracchio and Meyers-Levy 1997), the placement of such materials also was varied. Altering the layout in combination with the type of emotional ad appeal (univalenced vs. mixed) allowed us to manipulate the degree to which highly motivated individuals' allocated resources match the resources required to process the ad. In the separated layout condition, the ad claims appeared in a segregated copy block placed below all pictures. In the integrated ad layout condition, the ad claims were superimposed within the larger ad photo.

Procedure. Participants consisted of 183 students (mean age of 20; 52% females) at a Midwestern university who were paid \$3 each. All participants received a questionnaire, which indicated that they would be asked to provide feedback on a print ad for a moving company. To manipulate processing motivation, the cover page contained different instructions. Those in the high motivation condition informed individuals that because the ad targeted young adults living in their geographic area, the study was being conducted on students at their university. Further,

they were to take their time when evaluating the ad, as their feedback was very important. In contrast, in the low motivation condition individuals were told that the ad targeted people outside of their area and said nothing about who was completing the study. They were asked simply to provide their gut reactions to the ad and told that their responses would be averaged with those of all other respondents.

All participants examined one version of the ad. Then, on 7 point scales, they completed three items that assessed their attitude toward the ad (unfavorable/favorable, not at all likeable/likeable, and negative/positive; $\alpha = .91$). Next, participants rated the ease with which they could interrelate the visual and verbal ad content (easy/difficult, very much/not at all facilitated by placement; $r = .92$). Following this, they were asked to provide open-ended comments about the ad. Then, six manipulation check items assessed the types of emotions portrayed in the ad. These included happy, cheerful, and joyful, which assessed the degree of happiness ($\alpha = .86$), and sad, blue, and down, which assessed the degree of sadness ($\alpha = .84$; 1 = not at all, 7 = very strongly). Finally, demographic information was collected.

RESULTS

All results are based on 2 (processing motivation: low or high) by 3 (emotional appeal: happy, sad, or mixed happy and sad) by 2 (ad layout: separated or integrated) between-subjects ANOVAs. Treatment means appear in table 1.

Insert table 1 about here

Manipulation Checks. Results indicated that all manipulations were successful. Analysis of the number of comments produced about the ad content revealed only a main effect of processing motivation ($F(1, 170) = 13.90, p < .01$). Participants in the high versus low motivation condition provided more comments ($M = 4.59$ vs. 3.86).

Further, a main effect of emotional appeal emerged on the happiness index ($F(2, 174) = 7.98, p < .01$). Participants who saw the happy appeal ($M = 3.47$) claimed that it depicted more happiness than did those who viewed either the sad ($M = 2.41$), $F(2, 174) = 15.73, p < .01$) or the mixed happy and sad appeal ($M = 3.01$), $F(2, 174) = 3.17, p < .07$). More happiness also was ascribed to the mixed appeal versus the sad appeal ($F(2, 174) = 6.00; p < .02$).

A main effect of emotional appeal emerged as well on the sadness index ($F(2, 174) = 12.44, p < .01$). Compared to participants who received the happy appeal ($M = 2.23$), those who viewed either the sad ($M = 3.56$), $F(2, 174) = 23.91, p < .01$) or the mixed appeal ($M = 3.14$), $F(2, 174) = 12.18, p < .01$) reported that it depicted more sadness. The difference between the latter two conditions did not attain significance ($F(2, 174) = 2.79, p > .10$).

Finally, a main effect of ad layout emerged on the indicator of how easy it was to relate the visual and the verbal ad content ($F(1, 174) = 3.75, p < .05$). Replicating prior research, participants found it more difficult to cross-reference the ad's visual and verbal content when the ad layout separated ($M = 3.64$) rather than integrated ($M = 3.27$) the two types of materials.

Attitudes. As expected and depicted in figure 1, a three-way interaction of motivation, emotional appeal, and ad layout emerged on participants' attitudes toward the ad ($F(2, 174) = 4.32, p < .01$). Further analysis revealed that the interaction of the latter two factors was significant both when motivation was high ($F(2, 174) = 5.15, p < .01$) and low ($F(2, 174) = 4.07, p < .01$).

Insert figure 1 about here

Under low motivation, the interaction emerged for a theoretically uninteresting reason. Compared to all other conditions, participants' attitudes were somewhat, although non-significantly more favorable when they received the happy ad appeal and the ad layout was integrated. Yet, aside from this and more relevant to our theorizing, a main effect of the emotional appeal emerged on low motivation participants' attitudes toward the ad ($F(2, 174) = 5.54, p < .01$). As anticipated, these participants' attitudes reflected the valence of the emotional appeal. Attitudes were more favorable after viewing the happy rather than either the sad ($F(1, 174) = 16.89, p < .01$) or the mixed ($F(1, 174) = 10.30, p < .01$) emotional appeal.

Different outcomes emerged when processing motivation was high. Here, the interaction of emotional appeal and ad layout indicated that, as predicted, high motivation participants' attitudes were sensitive to the resource demands of both the emotional appeal and the ad layout. As figure 1 indicates, when the emotional appeal was univalenced and therefore required few resources to process (i.e., either happy or sad), attitudes toward the ad were more favorable when the ad layout rendered the cross-referencing task more onerous by separating rather than integrating the ad's visual and verbal content (for happy: $F(1, 174) = 3.18, p < .01$; for sad: $F(1, 174) = 3.45, p < .06$). However when the emotional appeal was mixed and required more resources to process, attitudes were more favorable when the ad layout facilitated cross-referencing by integrating rather than separating the visual and verbal ad content ($F(1, 174) = 13.75, p < .01$).

Participants' Cognitions. To illuminate the processes that underlie low and high motivation individuals' attitudes, two independent coders classified participants' comments into six categories (inter-rater reliability = .92). Three categories examined our proposition that low motivation participants are particularly sensitive to the valence of an emotional appeal. The first category consisted of comments that focused exclusively on the ad's featured emotion (e.g., "the ad went back and forth in trying to get me to feel happy and sad"). The two other categories classified whether comments about the emotional appeal were positive (e.g., "The ad did a pretty good job making me feel happy about moving") or negative (e.g., "the ad was sappy").

Three additional categories assessed the thesis that under high motivation, participants' attitudes reflect whether supplied resources match those required to process the ad. Research suggests that motivated individuals whose supplied processing resources are inadequate compared to those that are needed to process the ad often experience considerable misunderstanding and confusion (Reder 1987). Thus, we coded comments that indicated confusion (e.g., "The ad was confusing"). On the other hand, motivated individuals who supply more resources to processing than are required generally expend their surplus resources producing cognitions that are critical of the appeal (Peracchio and Meyers-Levy 1997). To probe this, we assessed participants' critical comments, including those that relayed complaints, counterarguments, or perceived faults of the ad (e.g., "Ads for a moving company should not try to tap my emotions"). Finally, motivated individuals whose supply of resources matches those required should fully process the ad and appreciate its persuasive content without denigrating it. Thus, our final category of comments consisted of ad-related ruminations that went beyond the ad's literal content but did not counterargue it (e.g., "The pictures used in the ad reminded me of

my old neighborhood”). Each category of comments was expressed as a proportion of the total number of all categorized comments and then subjected to arcsine transformation for analysis.

Analysis of the first three coded categories supported the notion that low motivation participants were especially attentive to the ad’s emotion and the valence of the emotional appeal. Comments that focused exclusively on the ad’s emotion revealed only a main effect of motivation ($F(1, 170) = 15.46, p < .01$). A larger proportion of such comments was evident when participants’ motivation was low versus high ($M = .42$ vs. $.18$). In addition, analysis of the valence of these comments revealed no treatment effects on participants’ positively valenced comments about the ad emotion ($F_s < 1$). However, their negatively valenced emotion-focused comments exhibited a marginal interaction of processing motivation, emotional appeal, and ad layout ($F(2, 170) = 2.48, p < .08$). The interaction of these latter two factors was significant when motivation was low ($F(1, 170) = 3.96, p < .01$), but not when it was high ($F < 1$).

Follow-up examination of low motivation participants’ negatively valenced comments about the emotional appeal indicated that the preceding interaction emerged because fewer of these comments were produced when the emotional appeal was mixed and the ad layout was integrated rather than separated ($F(1, 170) = 3.88, p < .05$). This may have occurred simply because physically integrating the mixed emotion ad copy amidst the ad pictures caused people to divert some of their attention away from the ad copy and instead focus on the easy-to-process ad pictures, which were relatively positive in valence. Yet, aside from this, participants’ negatively valenced emotion-focused comments displayed a main effect of emotional appeal ($F(1, 170) = 3.28, p < .04$; significant for both the integrated, $F(1, 170) = 3.90, p < .05$, and the separated, $F(1, 170) = 6.64, p < .01$, ad layout). As expected, participants elicited a larger

proportion of negatively valenced comments about the ad when the emotional appeal was either sad ($F(1, 170) = 11.70, p < .01$) or mixed ($F(1, 170) = 10.82, p < .01$) rather than happy.

Next, we examined the three categories of comments that shed light on whether high but not low motivation individuals were sensitive to the match between their allocated resources and the resources required by the ad. To begin, we investigated whether high motivation participants who allocated too few processing resources given the ad demands generated more confusion-related comments. Analysis of confusion-related comments revealed a three-way interaction of processing motivation, emotional appeal, and ad layout ($F(2, 170) = 4.52, p < .01$). The interaction of the latter two factors was significant among high ($F(2, 170) = 4.66, p < .01$), but not low motivation individuals ($F < 1$). Follow-up analysis confirmed expectations, revealing that high motivation participants who received the relatively onerous mixed emotional appeal produced a larger proportion of confusion-related comments when cross-referencing of the ad's visual and verbal data was hindered by a separated rather than an integrated ad layout ($F(1, 170) = 18.98, p < .01$). Yet, high motivation participants displayed no such differences when the ad contained a less demanding, univalenced happy or sad emotional appeal ($F_s < 1$).

Next, we examined whether motivated individuals who expended more resources than were needed during ad processing produced more comments that were critical of the ad appeal. Analysis of such critical comments also revealed a three-way interaction of processing motivation, emotional appeal, and ad layout ($F(2, 170) = 11.06, p < .01$). The latter two factors interacted significantly when motivation was high ($F(2, 170) = 4.26, p < .01$), but not when it was low ($F < 1$). Consistent with expectations, when motivation was high and the emotional appeal was univalenced and thus imposed low resource demands, participants produced a larger proportion of comments that were critical of the ad when the ad layout facilitated cross-

referencing by using an integrated rather than a separated ad layout (for happy, $F(1, 170) = 8.29$, $p < .01$; for sad, $F(1, 170) = 21.62$, $p < .01$). No such difference emerged, however, when high motivation participants received the mixed emotional appeal ($F_s < 1$).

Finally, we examined the hypothesis that under conditions where supplied resources match those required for ad processing, high motivation participants would elaborate on, yet not denigrate, the ad's persuasive content. Here we analyzed participants' ruminative comments that simply expanded on the ad's literal content and observed a three-way interaction of processing motivation, emotional appeal, and ad layout ($F(2, 170) = 3.08$, $p < .05$). A significant interaction of the latter two factors emerged when motivation was high ($F(2, 170) = 6.21$, $p < .01$), but not when it was low ($F < 1$). Follow-up analysis revealed the anticipated outcomes. Specifically, when motivation was high and the emotional appeal was univalent and required few resources to process, participants produced a larger proportion of ruminative comments that simply expanded on the ad's literal content when the ad layout elevated resource demands by separating rather than integrating the visual and verbal ad material (for happy, $F(1, 170) = 5.26$, $p < .02$; for sad, $F(1, 170) = 17.72$, $p < .01$). But when the emotional appeal was quite demanding to process (i.e., concurrent happy *and* sad), a larger proportion of such ruminative comments ensued when the ad layout minimized additional resource demands by integrating rather than separating the ad's visual and verbal content ($F(1, 170) = 5.70$, $p < .02$).

The latter findings support the view that motivated participants engaged in in-depth, non-denigrating ad elaboration provided that the resources they supplied to ad processing matched those that were required. Yet, more impressive still is that all outcomes observed on each of the latter three categories of comments upheld the processes that were expected to occur under

conditions where motivated participants' allocated resources were either too few, too many, or comparable in magnitude to the resources required by the ad.

DISCUSSION

The data from this study support the thesis that people's attitudes toward ads can be based on either the valence of the emotional appeal or the commensurability of the resources supplied versus required for processing the ad. As predicted, low motivation participants processed the emotional ads heuristically, basing their attitudes on the valence of the emotional appeals. Thus, their attitudes were more favorable when the emotional appeal was positive (i.e., happy) rather than either negative (i.e., sad) or mixed (i.e., happy and sad). But under high motivation, participants' attitudes were sensitive to the resources required by the ad. Their attitudes were more favorable when the resources they supplied to ad processing were just sufficient—neither too few nor too many—to process the emotional appeal and validate (i.e., cross-reference) the visual and verbal content. Operationally, high motivation participants' attitudes were more favorable when the emotional appeal was either univalenced and the ad layout separated the ad's visual and verbal components, or it was mixed and the ad layout integrated such ad components.

Participants' comments about the ad supported the preceding view, bolstering our theory about the attitude formation processes. Not only did low motivation participants produce more comments that focused exclusively on the ad's featured emotion, but they also produced more of these that were negatively valenced when the emotional appeal was negative or mixed rather than positive. Although comparable outcomes were absent for positively valenced comments,

this probably occurred because positive events (i.e., emotional states) signal benign conditions that merit little attention or comment (Fiske 1980). On the other hand, under high motivation, participants' comments indicated that their resources allocated to versus required for ad processing were either too few (i.e., confusion-related comments), too many (i.e., critical comments), or equivalent (i.e., elaborative, non-denigrating comments) in the anticipated conditions, which nicely supported our theorizing and attitude toward the ad results.

Despite the encouraging results of study 1, experiment 2 goes a step further to test their robustness. Specifically, it aims to conceptually replicate the preceding findings when, holding ad layout constant, the total resources required to process the ad varies as a function of not only the type of emotion relayed in the ad, but also the extent to which extraneous cognitions (ones entirely immaterial to the ad) occupy a portion of ad recipients' resources. The latter situation occurs frequently in real life when ad recipients examine ads, but they are somewhat preoccupied with multitasked activities or pressing work or family concerns. We emulated such conditions by employing a memory load manipulation. Importantly, note that this study potentially adds to our knowledge base if it finds that high motivation individuals' attitudes toward emotional ads can be determined by resource matching principles even when the resource demands imposed on individuals derive in part from issues or concerns that are entirely exogenous to the emotional ad.

EXPERIMENT 2

Method

Experiment 2 paralleled the first experiment except for three key changes. First, all participants received an ad with an integrated layout where the ad copy was embedded in the picture. As such, we removed the measures that assessed how easy it was to interrelate the visual and verbal ad material. Second, the thought-listing measure was replaced with a pair of standard 7 point, motivation manipulation check items that probed involvement with and interest in the ad ($r = .91$). Third, a memory load manipulation was introduced. During the first two minutes of the study, half of the participants were assigned to a high memory load condition. They were asked to memorize a list of 20 non-emotive words to be recalled later during the study (Ward and Mann 2000). The remaining low memory load participants saw the same words, but they were instructed to just browse the words and were not asked to memorize them. Later, after they viewed and evaluated the emotional ad, both groups of participants were requested to recall as many of the words as possible. In total, 203 students (mean age of 20; 58% female) at a West Coast university participated in this study in exchange for payment of \$5 each.

RESULTS

Similar to experiment 1, the study design was a 2 (motivation: low or high) by 3 (emotional appeal: happy, sad, mixed happy and sad) by 2 (memory load: low or high) between subjects factorial.

Manipulation Checks. The manipulations were successful. Analysis of the motivation index revealed only a main effect of processing motivation ($F(1, 190) = 16.01, p < .01$). Participants in the high versus low motivation condition were more motivated ($M=4.66$ vs. 3.66).

A main effect of emotional appeal emerged on the happiness ($F(2, 190) = 12.56, p < .01$) and the sadness indices ($F(2, 190) = 10.27, p < .01$). Individuals who received the happy emotional appeal ($M = 4.07$) reported that it depicted greater happiness than did those who saw either the sad ($M = 2.66$), $F(1, 190) = 25.00, p < .01$ or the mixed ($M = 3.20$), $F(1, 190) = 6.76, p < .01$) appeal. In addition, greater happiness was reported for the mixed versus the sad appeal ($F(1, 190) = 4.00, p < .05$). In contrast, those who saw the sad appeal ($M = 3.94$) claimed that the ad depicted more sadness than did those who viewed the happy ($M = 2.54$), $F(1, 190) = 8.76, p < .01$ or the mixed ($M = 3.35$), $F(1, 190) = 4.67, p < .03$) emotional appeal. Greater sadness also was ascribed to the mixed versus the happy appeal, although this difference only approached significance ($F(1, 190) = 2.42, p < .11$).

The number of words recalled from the list of 20 confirmed a main effect of memory load ($F(1, 190) = 16.02, p < .01$). Compared to low load individuals, high load individuals who were instructed to memorize the words recalled more of them ($M = 10.40$ vs. 6.08).

Attitudes. Results on attitudes mirrored those observed in study 1. Participants displayed an overall three-way interaction of motivation, emotional appeal, and memory load on their attitudes toward the ad ($\alpha = .90$), $F(2, 190) = 5.42, p < .01$). The interaction of the latter two factors was significant when motivation was high ($F(2, 190) = 2.46; p < .03$), but not when it was low ($F < 1$).

Low motivation participants' attitudes toward the ad revealed only a main effect of the emotional appeal ($F(2, 190) = 9.39, p < .01$). As expected, their attitudes reflected the valence of the appeal. Hence, they reported more favorable attitudes in response to the happy appeal ($M = 5.69$) than either the sad ($M = 2.64$), $F(1, 190) = 16.89, p < .01$ or the mixed ($M = 3.06$), $F(1, 190) = 10.30, p < .01$) one.

Among high processing motivation participants, however, the interaction of emotional appeal and memory load indicated that attitudes were sensitive to both the resource demands of the emotional appeal and those imposed by the load manipulation, which was immaterial to the ad. When the emotional appeal was univalenced and therefore required few resources to process (i.e., either happy or sad), high motivation participants' attitudes toward the ad were more favorable when memory load was high rather than low (for happy: ($M = 5.00$ vs. 4.23), $F(1, 190) = 4.00$, $p < .05$; for sad: ($M = 4.93$ vs. 4.11), $F(1, 174) = 5.43$, $p < .02$). But when the emotional appeal was mixed and therefore required considerable resources to process, their attitudes were more favorable when memory load was low rather than high ($M = 5.20$ vs. 4.31), $F(1, 190) = 7.20$, $p < .01$).

DISCUSSION

Unlike study 1, in experiment 2 the demands on ad recipients' processing resources as they digested an emotional ad were affected partially by matters that were germane to the ad, namely the type of emotion it relayed, but also in part by extraneous matters that were independent of the ad (i.e., a memory load manipulation). Nevertheless, the basis on which individuals rendered their attitudes to the ad was determined by their processing motivation. When motivation was low, individuals' attitudes reflected their heuristic use of the valence linked to the emotional appeal. Thus, attitudes were more favorable when such ad recipients received a positive rather than a negative or a mixed emotional appeal. In contrast, when individuals' processing motivation was high, their attitudes were based on the degree to which the resources they supplied to all tasks of interest, namely processing the ad and remembering a

set of extraneous items, matched those required by these two tasks. Hence, their attitudes were more favorable when either the emotional appeal was univalent and memory load was high, or the emotional appeal was mixed and memory load was low.

Together, experiments 1 and 2 provide convincing evidence that ads containing mixed versus univalent emotional appeals require more resources to process and that this can influence the favorableness of attitudes rendered by highly motivated individuals. Still, recall that we theorized earlier that two other properties of emotions also can impact the resource demands of an emotional ad appeal. Experiment 3 was developed to explore this possibility.

One such property of emotions that affects processing demands is whether the emotion is a complex one that is comprised of or covaries with other constituent emotions. For example, in contrast to simple or pure emotions like happiness, sadness or fear, which cannot be deconstructed into constituent emotions, anxiety represents a complex emotion that is believed to emerge from the combination of several negative emotions, including sadness, fear, and anger (Averill 1991). Hence, an emotional appeal that depicts anxiety is likely to impose higher demands on people's resources than one that depicts the pure emotion of fear, even though both emotions are negative.

Another property of emotions that is expected to influence resource demands is whether the emotion evokes self-consciousness. Self-conscious emotions are more complex than non-self-conscious ones for they require a more advanced level of intellectual development (Tangney and Fischer 1995). Guilt is a negative self-conscious emotion. Thus, compared to an appeal that prompts the non-self-conscious emotion of fear, one that fosters guilt should impose higher demands on people's processing resources.

Experiment 3 explores the preceding logic by varying resource demands in two ways: by presenting emotional appeals that elicit either fear, anxiety, or guilt, and by arranging the visual and verbal ad components in either a separated or an integrated layout. Note that in all ads employed in experiment 3, the emotional appeals conveyed negative emotions and thus held constant the basis on which low motivation individuals should render their attitudes (i.e., emotional valence). Both because of this and because people's attitudes should be sensitive to variation in the ad's resource demands only if individuals are highly motivated to process the ad, experiment 3 held processing motivation constant at a high level.

EXPERIMENT 3

Method

Stimuli. We created a new ad for a phone card. The ad featured a large photo of a college-age woman relaxing on a sofa while talking on the phone. In addition, two smaller photos depicted scenes that corresponded with the content of the ad copy (e.g., a father holding a baby, a mother feeling a child's forehead for a fever).

Three emotional appeals were developed that featured fear, guilt, and anxiety. The body of the fear appeal read: "Could today be the day when the lives of those at home change forever? Missed opportunities could haunt you later. While they've been there for you as your steady anchor since the day you were born, the tables could turn in an instant. And all the sacrifices they've made just to make your life better could come to an end in a heartbeat. Don't wait a minute longer." The guilt appeal had similar content but read: "Are you like so many people,

guilty of calling home far too infrequently? Perhaps it's time to stop focusing on yourself and really thinking about it. They were there for you as your steady anchor since the day you were born. And in a heartbeat, they've always been willing to make any sacrifice just to make your life better. You owe them so much." Finally, the content of the anxiety appeal was similar, but it said "Ever consider that tomorrow could be the frightening day when there's nobody for you to call home to? Think about it while you've still got time. The anchor you've depended on since the day you were born could disappear tomorrow. And all the sacrifices they've made just to make your life better will instantly come to an end. Don't waste any more time." Each appeal ended by urging the reader to "take a moment today to make their day," and keep "connected to the things that really matter."

Procedure. In exchange for course credit, 145 students (mean age of 20.5; 44% female) at a Midwestern university took part in the experiment. The materials and measures were similar to those used in experiment 1 with a few exceptions. All participants received the same high motivation instruction employed in study 1. Further, all participants received an ad for a phone card that contained a negative emotional appeal. In one ad version, the focal emotion was the simple and pure non-self-conscious sentiment of fear. In two other versions, the focal emotion imposed greater resource demands by relaying either anxiety, which is a complex composite emotion, or guilt, which is a self-conscious emotion. Manipulation check items assessed whether the emotional appeals were perceived as intended. All participants received a total of nine items, with three tapping each of the three emotions. Participants indicated how strongly the ad appeal conveyed these sentiments (1 = not at all, 7 = very strongly). The items fearful, scared, and afraid were manipulation checks for fear ($\alpha = .88$); guilty, remorseful and regretful checked for guilt (α

= .85), and anxious, nervous, and uncertain ($\alpha = .86$) checked for anxiety. Finally, a conventional thought-listing measure replaced the one that requested comments about the ad content.

RESULTS

All data were analyzed using a 3 (emotional appeal: fear, anxiety or guilt) by 2 (ad layout: separated or integrated) between subjects ANOVAs. Treatment means appear in table 2.

Insert table 2 about here

Manipulation Checks. The emotional appeal and ad layout manipulations were successful. Only a main effect of emotional appeal emerged on the fear index ($F(2, 137) = 9.79$, $p < .01$), the anxiety index ($F(2, 137) = 8.86$, $p < .01$), and the guilt index ($F(2, 137) = 4.82$, $p < .01$). Because fear is believed to be a component of anxiety, participants reported that the ad depicted more fear when they viewed either the fear ($M = 3.49$) or the anxiety ($M = 2.75$) appeal compared to the guilt appeal ($M = 2.01$), for fear: $F(1, 138) = 5.02$, $p < .03$; for anxiety: $F(1, 138) = 19.71$, $p < .01$). In addition, individuals who received the anxiety appeal ($M = 3.52$) indicated that it depicted more anxiety than did those who read the fear ($M = 2.86$), $F(1, 138) = 10.96$, $p < .01$ or guilt ($M = 2.65$), $F(1, 138) = 15.60$, $p < .01$ appeal. Finally, participants in the guilt condition ($M = 3.71$) rated that the ad depicted more guilt than did those who viewed the fear ($M = 2.74$), $F(1, 138) = 8.76$, $p < .01$ or anxiety ($M = 3.00$), $F(1, 138) = 4.67$, $p < .03$ appeal.

The ad layout index ($\alpha = .86$) revealed only a main effect of ad layout ($F(1, 138) = 4.81$, $p < .03$). Participants judged that it was more difficult to interrelate an ad's visual and verbal content when the ad layout was separated rather than integrated ($M = 3.79$ vs. $M = 3.40$).

Attitudes. Participants' attitudes toward the ad ($\alpha = .93$) revealed an overall interaction of emotional appeal and ad layout ($F(2, 138) = 6.80$, $p < .01$). To facilitate understanding of this finding, however, we first report attitudes for the pure versus complex emotional appeals of fear versus anxiety. Then we report those for the non-self-conscious appeal of fear versus the self-conscious appeal of guilt.

As can be seen in figure 2, attitudes reported in response to the pure emotional appeal that relayed fear were more favorable when the ad layout increased total resource demands by separating the ad's visual and verbal content rather than integrating them ($F(1, 138) = 5.27$, $p < .02$). However, when the emotional appeal featured the more resource demanding complex emotion of anxiety, attitudes were more favorable when the ad layout integrated rather than separated the ad visual and verbal material, thereby facilitating cross-referencing ($F(1, 138) = 5.70$, $p < .02$).

Insert figure 2 about here

The preceding outcomes were conceptually replicated when we examined attitudes toward the fear versus guilt emotional appeals. As figure 2 also indicates, when the appeal relayed the non-self-conscious emotion of fear that required few resources to process, attitudes were more favorable when the ad increased resource demands by employing a separated versus

an integrated ad layout. But when the appeal featured the more resource demanding self-conscious emotion of guilt, attitudes were more favorable when the ad layout integrated rather than separated the ad's visual and verbal materials ($F(1, 138) = 3.79, p < .05$).

Thoughts. Participants' thoughts were coded into the same categories used in experiment 1 with an important exception. Because all participants in experiment 3 received high motivation instructions, we did not code thoughts into the three categories that were created to capture low motivation participants' processing. All thoughts were classified by two independent coders ($r = .90$), expressed as proportions of the total number of categorized thoughts, and subjected to arcsine transformation for analysis.

To examine whether the allocation of too few resources to processing relative to the ad's requirements prompted increased confusion about the ad, we analyzed participants' confusion-related thoughts. Results revealed the expected two-way interaction of emotional appeal and ad layout ($F(2, 137) = 2.89, p < .05$). Under high motivation, participants who received either the guilt or the anxiety appeal generated a larger proportion of such confusion-related thoughts when the ad layout imposed greater resource requirements by separating rather than integrating the ad's visual and verbal content (for guilt: $F(1, 137) = 3.69, p < .05$; for anxiety: $F(1, 137) = 4.49, p < .04$). Such differences were absent, however, when the ad evoked fear and thereby imposed low resource demands ($F < 1$).

Next, we examined whether participants' who allocated more resources to ad processing than were necessary produced more critical thoughts. Analysis of such thoughts revealed an interaction of emotional appeal and ad layout ($F(2, 137) = 3.10, p < .05$). Follow-up analysis confirmed our expectations. When the ad evoked fear, which required few resources to process, motivated participants generated a larger proportion of such critical thoughts when the ad layout

facilitated cross-referencing by integrating rather than separating the ad's visual and verbal materials ($F(1, 137) = 2.24, p < .03$). Such outcomes were absent, however, when the appeal featured the more resource demanding emotions of guilt or anxiety ($F_s < 1$).

Finally, we examined whether the match between allocated and required processing resources heightened motivated individuals' ruminations that expanded on the content of the ad but did not denigrate it. Examination of such ruminations revealed a two-way interaction of emotional appeal and ad layout ($F(2, 137) = 5.67, p < .01$). Because the fear appeal required few resources to process, motivated participants produced a larger proportion of ruminative thoughts when the ad layout was separated rather than integrated, which increased resource demands for cross-referencing ($F(1, 137) = 5.26, p < .02$). But, when the emotional appeal featured the more resource demanding emotions of anxiety or guilt, participants generated a larger proportion of ruminative thoughts when the ad layout facilitated cross-referencing by integrating rather than separating the ad's visual and verbal content (anxiety: $F(1, 137) = 3.67, p < .05$; guilt: $F(1, 137) = 3.72, p < .05$).

DISCUSSION

The findings of experiment 3 conceptually replicate yet also strengthen those of the two previous experiments; they identify two novel properties of emotions that influence the resource demands imposed by emotional appeals in ads. In this study, motivated participants examined one of three negatively valenced ads that featured three different emotions. Particular properties of these emotions created variation in the resources they required for processing, which together with the ad layout altered participants' attitudes toward the ads. The fear appeal required few

resources to process because fear is a simple, pure emotion that does not invoke self-consciousness. In contrast, two other ad versions featured more resource demanding emotions, the complex emotion of anxiety and the self-conscious emotion of guilt.

Results showed that the favorableness of motivated participants' attitudes varied in a similar manner as they did in experiment 1, but critically, experiment 3 demonstrated that different properties of the emotions influenced resource demands. When the ad that highly motivated individuals viewed featured an emotion that required a high (low) level of resources to process, attitudes were more favorable when the ad layout was integrated (separated), for this produced total resource demands that were roughly equivalent with those that highly motivated ad recipients allocated to ad processing. Importantly too, participants' thoughts that implicated different degrees of resource matching consistently supported our theory and aligned with participants' attitude findings.

It is noteworthy that experiment 3 investigated an ad that presumably conveyed a pure (i.e., non-composite) emotion, namely guilt. Findings for this ad suggest that even emotional appeals that do not activate multiple emotions (which was not the case with the happy *and* sad appeal in studies 1 and 2 and with the anxiety appeal in study 3) may at times impose significant resource demands owing to other critical properties of the emotion. In the case of guilt, this property was that of self-consciousness.

Taken together, the three experiments advance knowledge of the processes that underlie emotional persuasion by demonstrating that properties of emotions beyond their valence, specifically the amount of resources that particular emotions themselves require, can play an important role in the formation of consumers' attitudes under high motivation.

GENERAL DISCUSSION

This research adds to an emerging body of work that examines how properties of emotions other than valence can affect attitudes. Supplementing previous work which suggests that the degree of arousal embodied by an emotion (Mano 1991) or certain dimensions of cognitive appraisal (Linton and Tiedens 2001; Lerner 2000) can affect people's responses, the present research identifies a novel, previously unrecognized property of emotions that can be consequential, namely the resource demands that they impose.

Specifically, we identify conditions that can determine when people's attitudes are influenced by either the resource demands of an ad or the valence of an emotional appeal. Our findings identify processing motivation as a moderator of which of these basis is used to render attitudes, and we illuminate the processes that underlie the resultant attitudes. Under low motivation, attitudes appear to be based heuristically on the valence of the emotional appeal. But, under high motivation, attitudes are shaped by the degree to which the resources allocated to ad processing match those required by the ad. Our research also identifies three different properties of emotions that can alter the resource demands that they place on individuals. These include whether the emotional appeal features (a) a univalenced versus mixed valence, (b) a pure or simple versus a complex emotion, or (c) self-consciousness versus non-self-consciousness. Thus, under high motivation conditions, we find that people's attitudes toward an ad are sensitive to the match between the resources they allocate to ad processing and the resource demands imposed by the emotional appeal and the ad layout (studies 1 and 3) or even extraneous demands (study 2).

At the same time, a number of unanswered questions remain. Certainly it seems plausible that properties of emotions beyond the three that we identified might influence the resource demands imposed by an emotion. Hence, future research should explore this issue.

Further, we found that under low motivation, participants' attitudes to a mixed (i.e., happy and sad) emotional appeal were as unfavorable as they were to a negative (i.e., sad) appeal (experiments 1 and 2). The presumption is that people find the affectively conflicting sentiments of a mixed emotional appeal difficult to reconcile and possibly confusing, prompting them to respond negatively to this appeal. However, while such negative reactions to mixed emotions are common among individuals who, like our respondents, are of Western descent or young in age, research suggests that such reactions are typically not shared by East Asians or older individuals. Rather, these individuals are socialized or learn to assign positive value to events that exhibit seemingly inconsistent or dualistic (i.e., oppositional) elements (Peng and Nisbett 1999). Thus, one would expect, and indeed we found in a study that is not reported in this paper, that under low motivation, young Eastern Asians respond favorably to the same mixed emotional appeal employed in studies 1 and 2. This suggests that for mixed emotional appeals, our findings among low motivation individuals are likely to be moderated by other ad recipient characteristics such as culture and age, but also tolerance for ambiguity or perhaps even need for structure. Nevertheless, we wonder whether low motivation young Western individuals would respond negatively to mixed emotion appeals if they captured more common conflicting emotions such as excitement combined with fear. Such emotions would seem to be activated frequently by tantalizingly edgy products or activities, say sky diving, extreme sports or illegal drugs. If mixed emotional appeals such as these are not only commonly encountered but also positively valued

by one's subculture (e.g., Western youth), ads that feature these appeals might evoke positive attitudes among low motivation individuals through heuristic processing.

Another issue that merits inquiry is precisely why equivalence between allocated and required resources for ad processing elevates highly motivated people's attitudes. Our analysis focused on how the amount of resources required by either an ad layout or exogenous factors influenced motivated individuals' attitudes when the emotional appeal of the ad possessed a specific property. Yet, it is noteworthy that when resource matching occurred, these individuals' attitudes were equally favorable regardless of the valence of the emotional appeal (experiments 1 and 2). This suggests that thorough processing of an ad and appreciation of its persuasive elements, which resource matching fosters, can totally eclipse the influence of an emotional ad appeal's valence. Still, it remains possible that a state of resource matching itself could influence attitudes positively by fostering a sensation akin to "feeling right," which people are claimed to experience when they pursue a goal in a manner that is compatible with their regulatory orientation (regulatory fit; Higgins et. al, 2003). This sensation may serve as information in its own right (i.e., feelings as information) or perhaps invite an interpretation of verisimilitude.

Finally, it should be noted that the present research assumes that all demands imposed on people's resources are equivalent, regardless of the particular process that imposes the demands. As such, it is assumed that in our research an ad layout or memory load manipulation, which alters the *cognitive* demands imposed on motivated individuals, is no different functionally than, say, an emotional ad appeal that portrays, a pure or a multi-sentiment complex emotion. This is so even though the latter seems to alter the *affective* demands placed on individuals. However, some research suggests that people possess alternative and independent pools of cognitive and affective resources that perform different functions and potentially could interact in complex

ways (Linville and Fischer 1991). Hence, future research should consider the possibility that different resource pools exist and explore whether, when, and how such pools might interrelate or alter the effects that we observed.

REFERENCES

- Aaker, David A. and Donald E. Bruzzone (1981), "Viewer Perceptions of Prime-Time Television Advertising," *Journal of Advertising Research*, 21 (October), 15-23.
- Anand, Punam and Brian Sternthal (1988), "Strategies for Designing Persuasive Messages: Deductions from the Resources Matching Hypothesis," in *Cognitive and Affective Responses to Advertising*, eds. Patricia Cafferata and Alice Tybout, Lexington, MA: Lexington, 135-60.
- Andrade, Eduardo and Joel Cohen (2007), "On the Consumption of Negative Feelings," *Journal of Consumer Research*, 34 (October), 283-300.
- Averill, James R. (1991), "Intellectual Emotions," in *Stress and Anxiety*, eds. Charles D. Spielberger, Irwin G. Sarason, Z Kulcsár, and G. L. Van Heck, Washington, DC: Hemisphere, 3-16.
- Bagozzi, Richard P., Mahesh Gopinath, and Prashanth U. Nyer (1999), "The Role of Emotions in Marketing," *Journal of the Academy of Marketing Science*, 27 (April), 184-206.
- Batra, Rajeev and Michael Ray (1986), "Affective Responses Mediating Acceptance of Advertising," *Journal of Consumer Research*, 13 (September), 234-49.
- Braun, Kathryn A. (1999), "Postexperience Advertising Effects on Consumer Memory," *Journal of Consumer Research*, 25 (March), 319-34.
- Burke, Marian Chapman and Julie A. Edell (1989), "The Impact of Feelings on Ad-based Affect and Cognition," *Journal of Marketing Research*, 26 (February), 69-83.
- Buss, A.H. (1980). *Self-Consciousness and Social Anxiety*, San Francisco, CA: W.H. Freeman.

- Chaiken, Shelly (1980), "Heuristic versus Systematic Information Processing and the Use of Source versus Message Cues in Persuasion," *Journal of Personality and Social Psychology*, 39 (May), 752-66.
- Diener, Ed, C. Randall Colvin, William G. Pavot and Amanda Allman (1991), "The Psychic Costs of Intense Positive Affect," *Journal of Personality and Social Psychology*, 61 (September), 492-503.
- Eagly, Alice H. and Shelly Chaiken (1993), *The Psychology of Attitudes*, Fort Worth, TX: Harcourt Brace Jovanovich.
- Ekman, Paul (1992), "Are there Basic Emotions?" *Psychological Review*, 99 (July), 550-53.
- Elster, John (1998), "Emotions and Economic Theory," *Journal of Economic Literature*, 36 (March), 47-74.
- Ferguson, Tamara J. and Hedy Stegge (1995), "Emotional States and Traits in Children: The Case of Guilt and Shame," in *Self-Conscious Emotions: The Psychology of Shame, Guilt, Embarrassment and Pride*, eds. June Price Tangney and Kurt W. Fischer, New York, NY: Guildford Press.
- Fiske, Susan (1980), "Attention in Weight in Person Perception: The Impact of Negative and Extreme Behavior," *Journal of Personality and Social Psychology*, 38 (June), 889-906.
- Folkman, Susan and Richard S. Lazarus (1985), "If It Changes It Must Be a Process: Experiment of Emotion and Coping during the Three Stages of a College Examination," *Journal of Personality and Social Psychology*, 48 (January), 150-70.
- Forgas, Joseph (1995), "Mood and Judgment: The Affect Infusion Model," *Psychological Bulletin*, 117 (January), 39-66.

- Higgins, E. Tory, Lorraine Chen Idson, Antonio L. Freitas, Scott Spiegel, and Daniel C. Molden (2003), "Transfer of Value from Fit," *Journal of Personality and Social Psychology*, 84 (June), 1140-53.
- Holbrook, Morris and Rajeev Batra (1987), "Assessing the Role of Emotions as Mediators of Consumer Responses to Advertising," *Journal of Consumer Research*, 14 (December), 404-20.
- Izard, Carroll (1991). *The Psychology of Emotions*. New York, NY: Plenum Press.
- Larsen, Jeff T., Peter McGraw, and John T. Cacioppo (2001), "Can People Feel Happy and Sad at the Same Time?" *Journal of Personality and Social Psychology*, 81 (October), 684-96.
- Larsen, Jeff. T., Catherine. J. Norris and John. T. Cacioppo (2003), "Effects of Positive Affect and Negative Affect on Electromyographic Activity over Zygomaticus Major and Corrugator Supercilii," *Psychophysiology*, 40 (September), 776-85.
- Lazarus, Richard. S. (1991). *Emotion and Adaptation*. London: Oxford University Press.
- Lerner, Jennifer S. and Dacher Keltner (2000), "Beyond Valence: Toward a Model of Emotion-specific Influences on Judgment and Choice," *Cognition and Emotion*, 14 (4), 473-93.
- Lewis, Michael (1991), "Self-Conscious Emotions: Embarrassment, Pride, Shame, and Guilt," in *Handbook of Emotions*, eds. Michael Lewis and Jeannette M. Haviland-Jones, New York, NY: Guilford Press, 563-73.
- Linton, Susan and Larissa Z. Tiedens (2001), "Judgment Under Emotional Certainty and Uncertainty: The Effects of Specific Emotions on Information Processing," *Journal of Personality and Social Psychology*, 81 (December), 973-88.
- Linville, Patricia W. and Gregory W. Fischer (1991), "Preferences for Separating or Combining Events," *Journal of Personality and Social Psychology*, 60 (January), 5-23.

- Mano, Haim (1991), "The Structure and Intensity of Emotional Experiences: Method and Context Convergence," *Multivariate Behavioral Research*, 26 (July), 389–411.
- Mayer, Richard E. and Roxana Moreno (2003), "Nine Ways to Reduce Cognitive Load in Multimedia Learning," *Educational Psychologist*, 38(1), 43-52.
- Meyers-Levy, Joan and Prashant Malaviya (1999), "Consumers' Processing of Persuasive Ads: An Integrative Framework of Persuasion Theories," *Journal of Marketing*, 63 (Special Issue), 45-60.
- Meyers-Levy, Joan and Laura A. Peracchio (1995), "Understanding the Effects of Color: How the Correspondence between Available and Required Resources Affects Attitudes," *Journal of Consumer Research*, 22 (September), 121-38.
- Otnes, Cele, Tina, M. Lowrey, and L. J. Shrum (1997), "Towards an Understanding of Consumer Ambivalence," *Journal of Consumer Research*, 24 (June), 80-93.
- Peng, Kaiping, and Richard E. Nisbett (1999), "Culture, Dialectics, and Reasoning about Contradiction," *American Psychologist*, 54 (September), 741-54.
- Peracchio, Laura A., and Joan Meyers-Levy (1997), "Evaluating Persuasion-Enhancing Techniques from a Resource-Matching Perspective," *Journal of Consumer Research*, 24 (September), 178-91.
- Petty, Richard E., John T. Cacioppo and David W. Schumann (1983), "Central and Peripheral Routes to Advertising Effectiveness: The Moderating Role of Involvement," *Journal of Consumer Research*, 10 (September), 135-46.
- Pham, Michel, Joel B. Cohen, John W. Pracejus, and G. David Hughes (2001), "Affect Monitoring and the Primacy of Feelings in Judgment," *Journal of Consumer Research*, 28 (September), 167-88.

- Plutchik, Robert. (1980), "A General Psychoevolutionary Theory of Emotion," in *Emotion: Theory, Research, and Experience: Theories of Emotion*, Vol. 1, eds. Robert Plutchik and Henry Kellerman, New York, NY: Academic, 3-33.
- Reder, Lynne M. (1987), "Strategy Selection in Question Answering," *Cognitive Psychology*, 19 (January), 90-138.
- Richins, Marsha (1997), "Measuring Emotions in the Consumption Experience," *Journal of Consumer Research*, 24 (September), 127-46.
- Tangney, June Price (1991), "Moral Affect: The Good, the Bad, and the Ugly," *Journal of Personality and Social Psychology*, 61 (October), 598-607.
- Tangney, June Price and Kurt W. Fischer (Eds.). (1995). *Self-conscious Emotions: The Psychology of Shame, Guilt, Embarrassment, and Pride*. New York, NY: Guilford.
- Tomkins, Silvan (1984), "Affect Theory," in *Approaches to Emotion*, eds. Klaus R. Scherer and Paul Ekman, Hillsdale, NJ: Erlbaum, 163-95.
- Ward, Andrew and Traci Mann (2000), "Don't Mind If I Do: Disinhibited Eating under Cognitive Load," *Journal of Personality and Social Psychology*, 78 (April), 753-63.
- Williams, Patti and Jennifer Aaker (2002), "Can Mixed Emotions Peacefully Co-exist?" *Journal of Consumer Research*, 28 (March), 636-49.
- Zhu, Rui (Juliet) and Meyers-Levy (2005), "Distinguishing between the Meanings of Music: When Background Music Affects Product Perceptions," *Journal of Marketing Research*, 42 (August), 333-45.

TABLE 1

TREATMENT MEANS FOR ALL MEASURES IN EXPERIMENT 1

Motivation	Low						High					
	Happy		Sad		Mixed		Happy		Sad		Mixed	
Emotional appeal	Integrated Separated											
Ad layout	Integrated	Separated										
Attitude to ad	5.09	4.67	3.47	3.31	3.97	3.49	3.09	4.44	3.40	4.23	4.46	3.15
% Emotional valence comments	.51	.51	.58	.42	.54	.46	.44	.47	.31	.20	.36	.38
% Positive emotional comments	.17	.18	.15	.07	.15	.15	.10	.29	.13	.05	.11	.10
% Negative emotional comments	.09	.07	.40	.39	.26	.50	.15	.03	.04	.26	.13	.09
% Ruminative comments	.07	.15	.02	.15	.09	.05	.08	.38	.06	.59	.41	.17
% Critical comments	.09	.03	.08	.05	.06	.09	.38	.08	.47	.09	.15	.05
% Confused comments	.09	.24	.10	.16	.09	.05	.10	.14	.14	.05	.04	.39
Total ad comments	3.84	3.46	4.50	3.20	3.91	4.23	4.92	4.43	5.08	5.17	4.27	3.67
Happiness index	3.60	2.83	2.43	2.33	2.82	2.47	3.60	3.85	2.47	2.41	3.75	3.02
Sadness index	2.36	2.23	4.06	3.38	2.75	3.47	2.62	1.69	3.15	3.67	3.07	3.26
Difficulty relating visual-verbal	4.01	4.60	4.17	4.57	4.21	4.20	3.83	4.83	3.16	4.20	3.69	4.04

TABLE 2
TREATMENT MEANS FOR ALL MEASURES IN EXPERIMENT 3

Emotion	High Motivation					
	Fear		Anxiety		Guilt	
	Integrated	Separated	Integrated	Separated	Integrated	Separated
Ad layout						
Attitude to ad	3.36	4.15	3.62	2.76	4.78	4.05
% Ruminative thoughts	.22	.61	.78	.34	.81	.46
% Critical thoughts	.42	.14	.27	.32	.24	.20
% Confused thoughts	.16	.07	.02	.32	.16	.39
Fear index	3.24	3.73	2.79	2.71	2.05	1.98
Anxiety index	2.77	3.00	4.11	3.41	2.67	2.64
Guilt index	3.09	2.92	2.99	2.50	3.41	4.01
Difficulty relating visual-verbal	3.30	3.55	3.40	3.90	3.37	4.18

FIGURE 1

MOTIVATION BY EMOTIONAL AD BY AD LAYOUT CONDITIONS IN EXPERIMENT 1:
MEANS AND 95% CONFIDENCE INTERVALS

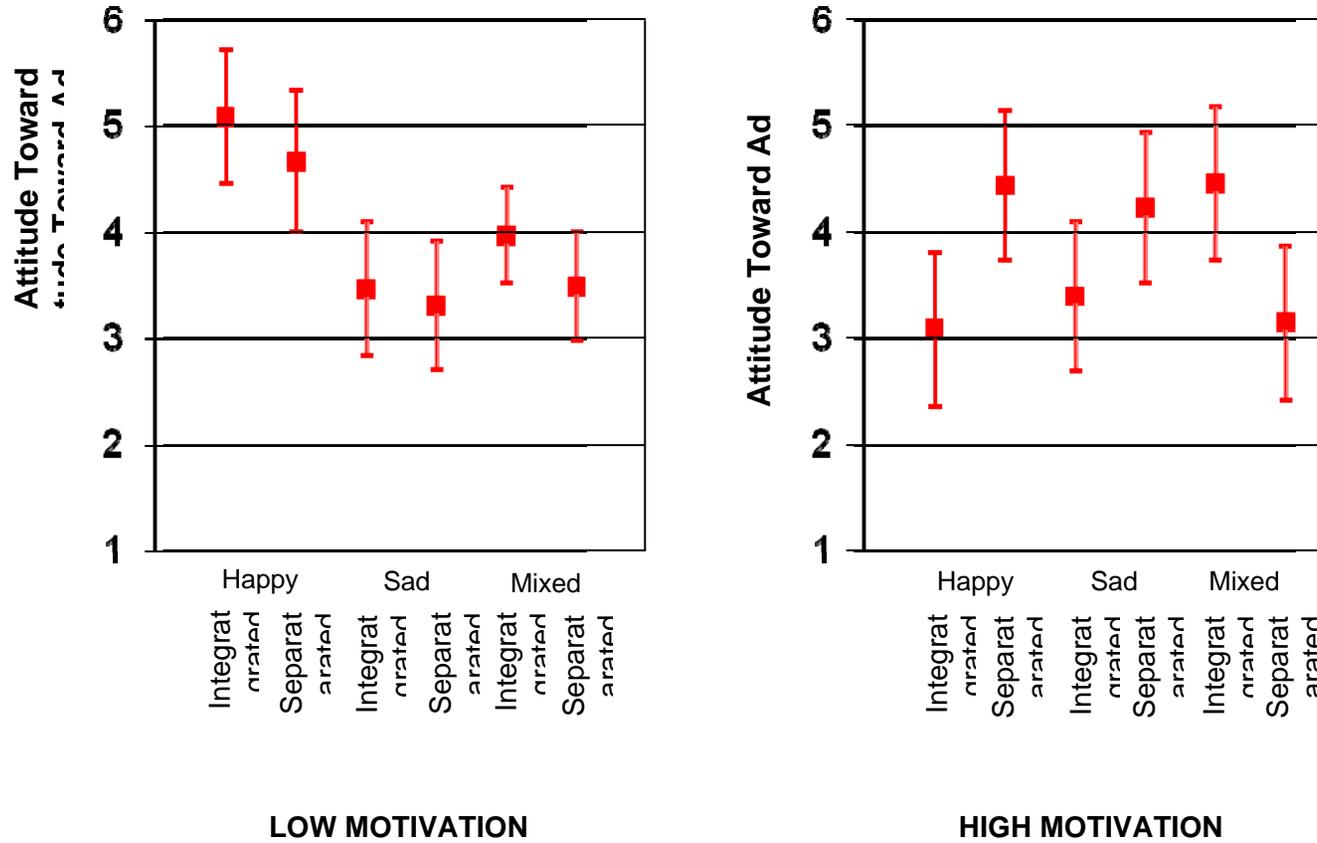


FIGURE 2

EMOTIONAL AD BY AD LAYOUT CONDITIONS IN EXPERIMENT 3:
MEANS AND 95% CONFIDENCE INTERVALS (HIGH MOTIVATION)

