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RESEARCH ARTICLE

Beating the News Blues: Mood Repair Through Exposure to Advertising

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This paper explores mood regulation in advertising. In Experiment 1, participants made sad by previous media content experienced greater mood enhancement from exposure to a pleasant product advertisement than those made happy. Sad participants were also more likely to attribute their mood change to how they liked the ad and the product. In Experiment 2, exposure to a positively framed antismoking ad reduced negative mood more than exposure to a negatively framed ad. This was true, however, only for sad participants and not for happy and neutral participants, who were presumably less motivated to repair mood. In addition, exposure to the positively framed ad encouraged sad participants, but not happy or neutral participants, to attribute higher risks to smoking and express stronger antismoking attitudes than did exposure to the negatively framed ad.

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Seeking pleasure and avoiding pain are important guiding principles for individual behavior (Allport, 1985). Zillmann's (1988) theory of mood management therefore proposes that whatever happens to be associated with relief or mood enhancement should come to be preferred, especially when individuals are motivated to alleviate negative mood. Although his discussion focused on selection of media genre, Zillmann did not rule out the possibility that advertising can also serve as a mood enhancer. Advertising is enjoyed for its entertainment value (Coulter, Zaltman, & Coulter, 2001; Pollay & Mittal, 1993), and some consumers may use it consciously or unconsciously to alter mood. In this study, therefore, it is proposed that relief from negative mood can be achieved by exposure to advertising, a question largely ignored by prior research.

Media content sometimes includes unwelcome materials. For example, people read news articles or watch news programs to obtain information on events in the community, nation, and world, but this news is dominated by negative stories (e.g., Stone & Grusin, 1984) and exposure to it can be very depressing (Veitch & Griffitt, 1976). During television commercial breaks or when flipping through advertisements in news magazines, consumers can either ignore the ads or involve themselves in processing them as a welcome relief from the "news blues." It is therefore proposed

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that consumer response to ads is a joint function of consumer mood state and the affective valence of the ad content.

Exposure to negative (i.e., sad or depressing) materials automatically activates previously stored information or memories of the same emotional valance; however, involvement with entertaining materials can interrupt this process, thereby helping to regulate mood (Rusting & Nolen-Hoeksema, 1998). In this study, it is suggested that exposure to a pleasant advertisement can induce such cognitive interruption, counteracting the mood-dampening effects of viewing negative media content. Prior research is also extended by examining the theory that individuals who experience a significant reduction of negative mood are more likely to attribute the mood enhancement to positive feelings for the entertaining materials—in this case, the ad and advertised product or service—and thus evaluate them more favorably.

Accordingly, Experiment 1 is designed to test whether participants who read sad magazine articles experience greater mood enhancement than those who read happy articles and are therefore more motivated to involve themselves in brand evaluations when reading pleasant advertisements. It is also predicted that evaluations of the ad and product will be determined by the degree of mood enhancement. Experiment 2 compares the relative effectiveness of positively and negatively framed advertising for participants who read happy, neutral, or sad articles. The purpose is to understand how response to emotionally evocative advertising varies as a function of mood-regulation motivation.

Mood-congruency effects and mood-regulation motivation

Bower's (1981) associative network model posits that information of similar emotional valence is stored together and can be easily brought into conscious awareness by affective states of the same valence. These are generally referred to as "mood-congruency effects" (e.g., Mayer, Gayle, Meehan, & Haarman, 1990).

Despite robust mood-congruency effects for happy individuals (Isen, 1987), effects for sad individuals are ambiguous (Blaney, 1986), suggesting that the model does not adequately describe the processes by which mood states evoke affective memories (Isen, 1985). In other words, while happy individuals usually try to maintain positive mood by focusing on positive information, Allport's (1985) principle of pleasure seeking and pain avoidance suggests that sad individuals may be motivated to alleviate negative mood by avoiding negative associations and therefore may also endeavor to focus on positive information. Indeed, Parrott and Sabini (1990) have identified mood-incongruent recall effects, and Singer and Salovey (1988) concluded that sad moods do not encourage learning and retrieval of negative materials. According to Clark and Isen (1982), while mood-congruent recall can be understood as an automatic process, motivated mood-incongruent activity is best explained in terms of controlled processing.

The assumption behind this line of research is that emotional carryover to the next situation is possible. This also explains researchers' deep interest in the influence of media exposure on subsequent behavior. For example, meta-analyses have

established the relationship between exposure to media violence, or pornography and violent behavior (Allen, D'Alessio, & Brezgel, 1995; Paik & Comstock, 1994). Nevertheless, less attention has been paid to the influence of program-evoked mood, which therefore is the focus of this paper.

In line with the idea that people are motivated to dispel negative moods, Franko, Powers, Zuroff, and Moskowitz (1985) (see also Catanzaro & Mearns, 1990) found that individuals develop generalized expectancies regarding what behaviors will help relieve negative moods. Prior research has identified many common mood-regulation strategies (Morris & Reilly, 1987; Parker & Brown, 1982). Getting distracted (i.e., diverting one's attention from negative to pleasant materials) is one of the most frequently mentioned and relied-upon strategies (Parker & Brown). As mentioned earlier, distraction to pleasant materials may interrupt automatic processes triggered by materials of negative valence, causing negative moods to wane (Rusting & Nolen-Hoeksema, 1998). It is therefore proposed here that when a negative affective state is evoked by program or editorial content, attending to readily available happy ads will be an effective way for viewers to reduce negative mood.

Mood-regulation motivation in processing media

Engaging in entertaining activities is an effective way to get distracted (e.g., Tice & Baumeister, 1993), and mood management motivation can influence entertainment choices (i.e., Biswas, Riffe, & Zillmann, 1994). Specifically, Zillmann (1988) posited that individuals in negative mood states are more motivated to select pleasant and entertaining media genres or programs than unpleasant ones (because the former lead to relief of negative mood) and also that such mood regulation via media selection can occur spontaneously (Zillmann, 2000). The primary assumption behind this theory and the mood-regulation literature cited earlier is that individuals hedonically tend to seek pleasant mood states and therefore are motivated to reduce negative mood states by selectively exposing themselves to mood-optimizing media content.

Some earlier mood-regulation research explored how exposure to pleasant materials can reduce anger or aggressive behaviors in participants who have been provoked. For example, Baron and Ball (1974) found that anger or retaliatory intention in provoked participants was reduced by exposure to amusing cartoons, while nonprovoked participants were not affected by exposure. Moreover, pleasant erotic materials were found to reduce anger and aggression in hostile but not in nonhostile participants (Baron, 1974).

Bryant and Zillmann (1977) found that provoked participants exposed to more absorbing programs experienced greater arousal reduction and fewer retaliation behaviors, but only if the absorbing programs did not contain aggressive clues. Accordingly, it was argued that "*the aggression-reducing effect of exposure to communication should be more pronounced, the greater the message's intervention potential, and the lower the degree of relatedness between prior and featured states*" (Bryant & Zillmann, 1977, p. 294, emphasis original). This argument, consistent with findings

from the mood-regulation literature, suggests that the effectiveness of negative mood attenuation lies both in the cognitive intervention of the distraction, which serves to divert attention from emotion-evoking materials, and in the pleasantness of the content.

The influence of mood on selection of media genre or content illustrates the mood-regulation potential of media. For example, provoked participants tended to avoid hostile media content (Zillmann, Hezel, & Medoff, 1980), and people in negative affective states were more likely to avoid negative news and select positive news to read than those in positive states (Biswas et al., 1994). Selective media exposure has also been documented in nonexperimental settings. In surveys, people report selectively exposing themselves to positive media when they experience stressful life events (Anderson, Collins, Schmitt, & Jacobvitz, 1996), as do women who are pregnant (Helregel & Weaver, 1989) or menstruating (Meadowcroft & Zillmann, 1987).

Mood can also affect music selection behavior. Knobloch and Zillmann (2002) found that participants experiencing negative moods were more focused on their music selection than those experiencing positive moods. In addition, the more negative the mood, the more likely the participant was to select highly energetic and joyful music. Apparently, those in negative mood states not only devote more cognitive effort to music selection, considered a distracting task, but also selectively approach music associated with positive emotions.

Mood-regulation motivation in processing advertising

The entertainment value of advertising has been well established by both in-depth consumer interviews (Coulter et al., 2001) and surveys (Shavitt, Lowrey, & Haefner, 1998). For instance, more people recently reported enjoying commercials than did not (Shavitt et al., 1998), and two of the most prevalent perception terms used by viewers to describe prime-time commercials are "warmth" and "entertaining" (Stayman, Aaker, & Buzzone, 1989).

As consumers believe entertainment in advertising to involve "comedy, humor, memorable music, an intriguing storyline or exciting visual effects" (Gordon, 1997, p. 118), both emotional appeals and humorous appeals may elicit favorable emotional response. Indeed, emotional appeals are extensively used (Albers-Miller & Stafford, 1999) and can increase feelings of empathy and involvement (Kamp & MacInnis, 1995), which are likely to trigger cognitive interruption from the effects of exposure to negative program or editorial content.

Humorous advertising is also effective in generating cheerful and happy feelings (Geuens & De Pelsmacker, 1998). Weinberger and Spotts (1989) concluded that 24.4% of U.S. commercials have humorous intent and that the use of humor is as common for utilitarian products as for feeling products. Most importantly, humorous advertising draws attention (e.g., Madden & Weinberger, 1982) and therefore may induce cognitive interruption.

Based on the above discussion, it is reasoned that when media content evokes a negative mood, motivation to reduce this state increases. Pleasant ads, then, may enhance mood to a greater degree for negatively evoked viewers than for those made happy by the media content.

H1: Exposure to a pleasant ad will elicit greater mood enhancement for participants in a negative affective state than for those in a positive state.

Cognitive interruption through advertising exposure

As noted above, the cognitive interruption triggered by distracting ads and the affective content of the messages may function together to relieve negative emotions (Bryant & Zillmann, 1977). One way to attenuate a negative mood is to be distracted from that mood and exert cognitive efforts toward some pleasant task (Erber & Tesser, 1992). In an ad viewing/reading context, individuals can involve themselves in brand evaluations to divert their attention from the negative states evoked by previous media content. Therefore, the following is proposed:

H2: Exposure to a pleasant ad will elicit greater involvement in product evaluations for participants in a negative affective state than for those in a positive state.

Mood change as judgment input

Schwarz and Clore (1983, 1988) suggested that affective responses may be treated as inputs when making evaluative judgments of a target—rather than assessing various information about the target in order to evaluate it, individuals may simply ask themselves how they feel about it. Greater positive feelings about the target will then lead to better evaluations. Schwarz (1990) also argued that preexisting affective state may be misinterpreted as affective response to the target and thereby leads to evaluative judgments more congruent with prior affective state. Extending this line of arguments further, I argue that it is the degree of mood change following exposure to emotion-evoking stimuli, rather than simply the preexisting mood, that provides important judgment inputs. As participants in negative affective states are likely to experience greater mood enhancement, they will view the ads and brands more favorably.

H3–5: Participants in a negative affective state will rate ad believability higher (H3) and evaluate both ads (H4) and products (H5) more favorably than those in a positive state.

Experiment 1

Research design and participants

Experiment 1 was set up as a one-factor between-subjects study. The factor was media-evoked mood state with two levels: positive (happy) and negative (sad). Participants (N = 162; 50% male) were recruited from the metropolitan campus of a Taiwanese university and paid for participating. The translation and back-translation procedure suggested by Brislin (1987) was used to create a Chinese-language version of each measure.

Stimuli development

Magazine articles served as the affect-evoking media materials. Each participant read two magazine articles that elicited the assigned emotion. Two sets of articles evoking positive affect and two sets inducing negative affect were used. Based on a pretest ($N = 30$) of familiar products and services that college students associate with positive emotions, a florist was chosen as the advertised service. To eliminate the potential confound of preexisting attitude toward the florist, the vendor was fictitious. To increase involvement and reduce suspicion, participants were told that the florist would soon open a shop near campus. The stimulus ad, created by professionals at Ogilvy & Mather Ad Agency in Taipei, described a customer's pleasant memory of floral bouquets. To confirm that the ad indeed evoked a positive mood, in another pretest, 41 participants completed the University of Wales Institute of Science and Technology (UWIST) mood adjective checklist after reading the ad. The ad evoked more positive than negative affective states, $t(40) = 9.19$, $p = .01$, $M_{pf} = 4.67$, $SD = 1.55$, $M_{nf} = 1.72$, $SD = .99$, and was therefore judged to be pleasant.

Procedures

A mock magazine containing two magazine stories, the stimuli ad, and one filler ad was created for each condition. The articles were about real people and intentionally similar to stories in *Readers' Digest.* Participants were told that a new magazine—*International Student Readers' Digest*—would be launched soon and that the advertiser would like to know whether the proposed layout was appealing to college students. Participants were then instructed to read the articles as they might at home. After reading the two magazine articles, they were asked to write down what the articles were about, in order to involve them more with the stories and reinforce the mood manipulation, in a procedure similar to that followed by Strack, Schwarz, and Gschneidinger (1985). Participants also rated their mood and how they liked the magazine articles. Then, after reading each ad, participants again rated their mood, as well as their level of involvement in brand evaluation and how they liked the ad and the product.

Independent variable

Media-evoked mood

Two sets of magazine articles were created. Twelve items from the UWIST mood adjective checklist (Matthews, Jones, & Chamberlain, 1990) were used to measure affective state. Factor analysis with direct oblimin rotation generated two factors with eigenvalues larger than 1. The first factor, labeled "positive mood," included the items "pleased," "cheerful," "happy," "satisfied," "contented," and "optimistic." The second factor, labeled "negative mood," included the items "low spirited," "depressed," "sad," "gloomy," "dissatisfied," and "sorry." Cronbach's reliability alphas for positive and negative mood were satisfactory at .92 and .91, respectively. Ratings on individual items in the two subscales were averaged. The two sets of

articles created to evoke a positive mood did not differ in degree of positive mood evoked, $F(1, 78) = 1.80$, $p = .18$; $M_{\text{Set 1}} = 4.38$, $SD = 1.50$; $M_{\text{Set 2}} = 4.78$, $SD = 1.12$, or negative mood elicited, $F(1, 78) = .04$, $p = .85$; $M_{\text{Set 1}} = 2.14$, $SD = 1.21$; $M_{\text{Set 2}} = 2.09$, $SD = 1.30$. Likewise, the two sets of articles created to elicit a negative mood did not differ in negative mood elicited, $F(1, 80) = .13$, $p = .72$; $M_{\text{Set 1}} = 3.90$, $SD = .98$; $M_{\text{Set 2}} = 3.98$, $SD = 1.25$, or positive mood elicited, $F(1, 80) = .09$, $p = .77$; $M_{\text{Set 1}} = 3.03$, $SD = 1.23$, $M_{\text{Set 2}} = 2.94$, $SD = 1.15$. Therefore, responses from different versions of the stories in each mood condition were collapsed in subsequent analyses.

In addition, participants reading happy magazine stories scored higher on positive mood than did those reading sad stories, $F(1, 160) = 65.24$, $p < .01$; $M_{\text{pf}} = 4.58$, $SD = 1.33$; $M_{\text{nf}} = 2.99$, $SD = 1.18$; and those reading sad stories scored higher on negative mood than did those reading happy stories, $F(1, 160) = 95.83$, $p < .01$; $M_{\text{pf}} = 2.11$, $SD = 1.24$; $M_{\text{nf}} = 3.94$, $SD = 1.11$. Therefore, the manipulation check was satisfactory.

Dependent variables

Mood change

Participants completed Edell and Burke's (1987) scale to measure ad-evoked mood, but only the six items that corresponded to items on the UWIST checklist were used for calculating mood change. The complete Edell and Burke scale was used in order to reduce participant sensitivity to using the same adjectives to rate their media-evoked mood. Both positive items (*pleased*, *cheerful*, *happy*, and *satisfied*) and negative items (*depressed* and *sad*) were rated on 7-point Likert scales. Ratings (reversed for negative items) were averaged to produce ad-evoked mood score. Magazine-evoked mood score on the same six items was subtracted from ad-evoked mood score to indicate the degree of mood change.

Table 1 Means and Standard Deviations and Correlations Between Outcome Variables

Experiment 1	*M*	*SD*	1	2	3	4
1. Brand evaluation involvement	4.10	1.18	**.79**	.44**	.37**	.44**
2. Ad believability	3.96	1.28		**.86**	.65**	.70**
3. Ad attitudes	4.57	1.35			**.92**	.76**
4. Brand attitudes	4.48	1.20				**.93**
Experiment 2	*M*	*SD*	1	2	3	
1. Ad believability	4.52	1.39	**.84**	.28**	−.06	
2. Likelihood of ad claims	5.00	1.69		**.77/.87**	−.25**	
3. Antismoking attitudes	3.63	1.49			**.57**	

Note: Bold values represent scale reliability coefficients or correlations between the items when there are only two items in the scale.

* $p < .05$. ** $p < .01$.

Brand evaluation involvement
Participants rated how involved they were with brand evaluations when reading the ad, on four items scored on 7-point Likert scales and adopted from Laczniak and Muehling (1993). Cronbach's alpha was deemed satisfactory at .79 (see Table 1).

Ad believability
Participants rated the believability of the ad on four items scored on 7-point scales and adopted from Beltramini's (1982) scale. Cronbach's alpha for the items (*believable, convincing, reasonable, authentic*) was satisfactory at .86.

Ad attitudes
Four items (*good*, *likable*, *favorable*, *pleasant*) scored on 7-point Likert scales and adopted from Madden, Allen, and Twible (1988) and Mitchell and Olson (1981) were used to assess ad attitudes. Reliability was satisfactory at .92.

Brand attitudes
Five items (*good*, *like*, *pleasant*, *positive*, *high quality*) scored on 7-point Likert scales were used to assess brand attitudes. The items were adopted from Mitchell and Olson (1981) and Holbrook and Batra (1987), and the scale reliability was satisfactory at .93.

Results
Analysis of Variance (ANOVA) was used to test all hypotheses. In addition, to test whether mood change influenced ad responses, each ad response variable was regressed on mood change and ad-evoked mood, itself an important predictor of ad responses (Machleit & Wilson, 1988).

The effect of media-evoked affective state on mood change was significant, $F(1, 160) = 88.12$, $p < .01$, $\eta_p^2 = .36$; $M_{pf} = 1.58$, $SD = 1.18$; $M_{nf} = 3.45$, $SD = 1.35$, with negative participants experiencing greater mood enhancement than positive participants. This result supported H1. Furthermore, negative affective states resulted in significantly higher levels of brand evaluation involvement than did positive affective states, $F(1, 160) = 4.31$, $p = .04$, $\eta_p^2 = .03$; $M_{pf} = 3.90$, $SD = 1.25$; $M_{nf} = 4.28$, $SD = 1.08$, supporting H2.

As expected, sad participants reported greater ad believability than did happy participants, $F(1, 160) = 9.36$, $p < .01$, $\eta_p^2 = .06$; $M_{pf} = 3.66$, $SD = 1.27$; $M_{nf} = 4.26$, $SD = 1.23$, supporting H3. The regression found that both mood change ($\beta = .22$, $t = 2.99$, $p < .01$) and ad-evoked mood ($\beta = .33$, $t = 4.60$, $p < .01$) were positive predictors of ad believability ($R^2 = .17$, $p < .01$), supporting mood change as the underlying mechanism of change.

Also as expected, sad participants liked the ads more than did happy participants, $F(1, 160) = 9.92$, $p < .01$, $\eta_p^2 = .06$; $M_{pf} = 4.24$, $SD = 1.44$; $M_{nf} = 4.90$, $SD = 1.19$, supporting H4. In addition, both mood change ($\beta = .15$, $t = 2.25$, $p = .03$) and

ad-evoked mood ($\beta = .48$, $t = 7.09$, $p < .01$) were significant predictors of ad liking ($R^2 = .27$, $p < .01$).

Consistent with H5, sad participants also evaluated the advertised product more favorably than did happy participants, $F(1, 160) = 6.04$, $p = .02$; $\eta_p^2 = .04$; $M_{pf} = 4.25$, $SD = 1.30$; $M_{nf} = 4.70$, $SD = 1.05$. In the regression analysis, both mood change ($\beta = .21$, $t = 2.91$, $p < .01$) and ad-evoked mood ($\beta = .34$, $t = 4.62$, $p < .01$) were significant positive predictors of brand attitudes ($R^2 = .17$, $p < .01$). Both results were as expected.

Discussion

The participants made sad by reading depressing magazine stories experienced greater mood enhancement after exposure to a pleasant advertisement than did those made happy by positive stories. As expected, sad participants involved themselves more than happy participants in brand evaluation when reading the ad. Most importantly, participants appeared to treat degree of mood enhancement as a judgment input and, as a result, sad participants reported higher perceived ad believability, ad liking, and brand favorability than did happy participants.

Experiment 1 focused primarily on the mood repair function of ads that evoke positive mood; therefore, it is possible that the cognitive interruption of viewing the ad was responsible for the entire effect, with little or no contribution from the affective content of the ad. To test whether ad content is involved in the attenuation of negative mood state and, if so, examine how it does so, it was necessary to compare directly the effects of ads that elicit positive moods with those evoking negative moods. For this reason, the second experiment examined both positively framed and negatively framed ad messages. In addition, in order to gain a clearer understanding of how affective state impacts the motivation to change mood, a neutral affective state condition was also included for comparison. Because it is not common to design product advertising campaigns to evoke negative emotions, Experiment 2 explored the effects of an ad promoting nonsmoking, a behavior.

Mood regulation via exposure to positively and negatively framed messages

By definition, a positively framed ad message focuses on the positive benefits of purchasing a product (Smith, 1996), and a negatively framed message emphasizes the unpleasant consequences of not purchasing the product (Homer & Yoon, 1992; Smith). It has been shown that positively framed ad messages evoke more positive emotions than do negatively framed ad messages, which in turn elicit more negative emotions than do positively framed messages (Chang, 2005).

Detweiler-Bedell and Salovey (2003) found that sad participants who were strongly motivated to improve their mood responded better to approach-framed messages than to avoidance-framed messages, although this effect was not explicitly

attributed to greater positive mood elicited by approach-framed messages. The approach-framed messages, however, contained more positive emotional terms, and the avoidance-framed messages included more negative emotional terms. Thus, one explanation for the findings is that those exposed to approach-framed messages experienced greater positive mood enhancement than those exposed to avoidance-framed messages, thereby increasing their desire to comply with the advocated behaviors.

Accordingly, when an ad contains mood-lifting messages as opposed to mood-deflating messages, sad participants may readily use ad exposure to both divert attention from and repair their mood. Therefore, they will experience high levels of mood enhancement. In contrast, both happy and neutral participants may not be as motivated to improve their moods and thus will be less responsive to differences in emotional content between ads.

H6: The interaction between affective state and message framing significantly influences degree of mood change. Sad participants will experience greater mood enhancement when exposed to positively framed messages than when exposed to negatively framed messages, while mood change in happy and neutral participants will not be affected by ad framing.

If participants attribute their mood change to their attitudes toward the stimuli, the interaction between affective state and ad framing should significantly influence ad effectiveness. At the same time, ad liking may not reliably reflect the effectiveness of ads that promote health behaviors rather than products. People often dislike health-related ads but still believe in their effectiveness. For this reason, it is thought that participants in negative affective states will attribute mood change evoked by positively framed messages to the believability of the ads.

Health campaign messages strive to increase the perceived risks of hazardous behaviors (Portillo & Antonanzas, 2002), which are negatively correlated with engaging in these behaviors (e.g., Greenfield & Rogers, 1999). For instance, nonsmokers are more likely than smokers to accurately perceive the risks of smoking (Brandon & Baker, 1991; Copeland, Brandon, & Quinn, 1995). Therefore, the more believable a health ad message is, the greater the perceived risks it should evoke. Perceived risks should also be influenced by a significant interaction between affective state and ad framing.

Finally, attitude toward smoking has been found to be an important predictor of smoking behavior (Aitken & Eadie, 1990), with higher perceived risk associated with more negative smoking attitudes. For this reason, antismoking attitudes may constitute an important effectiveness measure for antismoking advertisements, and there should be a significant interaction effect between ad framing and affective state for this outcome variable as well.

H7–9: The interaction between affective state and ad framing will significantly influence ad believability ratings (H7), perceived smoking risks (H8), and antismoking attitudes (H9). Sad, but not happy or neutral, participants will rate ad believability and smoking risks higher and express stronger antismoking attitudes when exposed to positively framed messages than when exposed to negatively framed messages.

Experiment 2

Research design, procedure, and participants

Experiment 2 was a two-factor between-subjects design. The first factor, context-evoked mood state, had three levels: positive, neutral, and negative. The second factor, ad framing, had two levels: positive framing that evoked a positive mood and negative framing that evoked a negative mood. As mentioned earlier, the health issue selected was smoking, which is a serious problem in East Asia. A similar procedure as in Experiment 1 was adopted. In Taiwan, antismoking campaigns target high school students because more smokers start in high school than at any other time (Bureau of Health Promotion, 2003). Because smoking is more prevalent among vocational (13.50%) than regular high school students (5.36%) and among male (12.95%) than female (3.23%) students (Bureau of Health Promotion), 410 male vocational school students (25.27% smoking rate; Chang, 2003) were recruited.

Stimuli development

Magazine articles were again used. This time the articles evoked positive, negative, or neutral affect. The stimulus ad framed the consequences of smoking in either positive or negative terms. Two versions of each ad message were created. Based on a nationwide survey (Chang, 2003), two consequences of great concern to high school students were selected: bad breath (a short-term physical consequence) and not being popular (a social outcome). Positively framed messages suggested that if adolescents say no to cigarettes, they can have fresh breath or a more positive social image. Negatively framed messages suggested that if they do not reject cigarettes, their breath will be awful or they will lose popularity. Similar visuals and layouts were used for positively and negatively framed messages to reduce potential confounding effects.

Independent variables

Ad type

Two manipulation checks were conducted. The first addressed whether participants responded to framing differences in the ad messages, using four questions scored on 7-point Likert scales. Factor analysis with varimax rotation generated two factors with eigenvalues larger than 1, each containing two items. The first factor was labeled "positive information" and the second factor, "negative information." Participants felt that the message conveyed more positive information when it was positively framed than when it was negatively framed, $F(1, 408) = 11.35$, $p = .01$; $M_{pf} = 5.18$, $SD = 1.57$; $M_{nf} = 4.64$, $SD = 1.67$, and that it delivered more negative information when it was negatively framed than when it was positively framed, $F(1, 408) = 9.99$, $p = .01$; $M_{pf} = 3.70$, $SD = 1.64$; $M_{nf} = 4.20$, $SD = 1.58$. Therefore, the results of this manipulation check were satisfactory.

The second manipulation check tested the important assumption that the positively and negatively framed ad messages evoked different moods. The same six items (four positive and two negative) from the Edell and Burke (1987) scale used in Experiment 1 were employed to assess ad-evoked mood. As expected, positively framed messages evoked higher levels of positive mood than negatively framed messages, $F(1, 408) = 10.98$, $p = .01$; $M_{pf} = 4.09$; $SD = 1.26$; $M_{nf} = 3.68$, $SD = 1.20$, and negatively framed messages elicited greater negative mood than positively framed messages, $F(1, 408) = 11.42$, $p = .01$; $M_{pf} = 3.78$, $SD = 1.41$; $M_{nf} = 4.25$, $SD = 1.38$. This justified the use of ad framing as a mood-regulation stimulus.

Media-evoked mood

As in Experiment 1, factor analysis of the 12-item UWIST mood adjective checklist using direct oblimin rotation generated two factors with eigenvalues larger than one—positive and negative mood. Cronbach's alphas for positive and negative mood were satisfactory at .90 and .91, respectively. The effect of magazine story on positive mood was significant, $F(2, 407) = 6.75$, $p < .01$; $M_{pf} = 4.50$, $SD = 1.08$; $M_{neutral} = 4.27$, $SD = 1.24$; $M_{nf} = 3.97$, $SD = 1.28$. A linear trend analysis of these means was also significant, $p < .01$. With regard to negative mood, although ANOVA revealed no significant difference among magazine stories, $F(2, 407) = 2.35$, $p = .10$, $M_{pf} = 4.03$, $SD = 1.43$, $M_{neutral} = 4.12$, $SD = 1.40$, $M_{nf} = 4.39$, $SD = 1.42$, the linear trend analysis of these means was significant at $p = .04$. In addition, happy participants expressed significantly more positive than negative mood, $t(135) = 2.58$, $p = .01$, neutral participants did not differ in levels of positive and negative mood, $t(136) = .79$, $p = .43$, and sad participants indicated significantly more negative than positive mood, $t(136) = 2.06$, $p = .04$. Therefore, these manipulation checks were satisfactory.

Dependent variables

The same procedure as in Experiment 1 was followed to obtain mood change. The same scale as in Experiment 1 was used to measure ad believability, the reliability for which was satisfactory at .84. Likelihood of ad claims was assessed by four Likert-scored items. Cronbach's alphas were satisfactory at .77 for bad breath and .87 for popularity. Item responses were averaged. Attitudes toward smoking were measured by two positively correlated ($r = .57$, $p < .01$) items scored on 7-point Likert scales: *I am not against smoking* and *I don't think that smoking is bad*. Responses were reverse coded, summed, and averaged.

Analyses and results

ANOVA was used to test all hypothesized interactions. Furthermore, as in Experiment 1, regression was used to test certain assumptions, as described below.

First of all, contrary to expectations, the interaction between mood state and ad framing had no significant effect on mood change, $F(2, 404) = 1.21$, $p = .30$, $\eta_p^2 = .01$, observed power = .26, but because some researchers argue that simple effects tests

and comparisons are nonetheless acceptable for theory-based hypotheses (e.g., Winer, Brown, & Michels, 1991), further tests were conducted. The results of simple effects tests were as expected. For sad participants, exposure to positively framed ads led to greater mood enhancement than exposure to negatively framed ads, $F(1, 135) = 7.82$, $p < .01$, $\eta_p^2 = .06$; $M_{pf} = .43$, $SD = 1.23$; $M_{nf} = -.19$, $SD = 1.35$. Ad framing did not impact mood change for happy participants, $F(1, 134) = 1.01$, $p = .32$, $\eta_p^2 = .01$, observed power = .17; $M_{pf} = -.26$, $SD = 1.19$; $M_{nf} = -.46$, $SD = 1.13$, or for neutral participants, $F(1, 135) = 2.16$, $p = .14$, $\eta_p^2 = .02$, observed power = .31; $M_{pf} = -.18$, $SD = .98$; $M_{nf} = -.45$, $SD = 1.19$.

Positive mood change (the four positive items) and negative mood change (the two negative items) were then analyzed as separate dependent variables. For positive mood change, the interaction of mood state and ad type was not significant, $F(2, 404) = .38$, $p = .69$, $\eta_p^2 = .01$, observed power = .11, but for negative mood reduction it was, $F(2, 404) = 3.43$, $p = .03$, $\eta_p^2 = .02$. As expected, for sad participants, exposure to positively framed ads led to greater reduction of negative mood than exposure to negatively framed ads, $F(1, 135) = 8.93$, $p = .01$, $\eta_p^2 = .06$, $M_{pf} = -.95$, $SD = 1.44$, $M_{nf} = -.18$, $SD = 1.56$. In contrast, ad type did not influence negative mood change for happy participants, $F(1, 134) = .55$, $p = .46$, $\eta_p^2 = .01$, observed power = .11, $M_{pf} = -.11$, $SD = 1.30$, $M_{nf} = -.28$, $SD = 1.38$, or for neutral participants, $F(1, 135) = 1.19$, $p = .28$, $\eta_p^2 = .01$, observed power = .19, $M_{pf} = -.16$, $SD = 1.46$, $M_{nf} = .13$, $SD = 1.67$. Therefore, mood repair for sad participants alone occurred via negative mood reduction, providing some support for H6.

Consistent with expectations, the interaction significantly affected ad believability, $F(2, 404) = 3.05$, $p = .05$, $\eta_p^2 = .02$. For sad participants, the effect of ad framing was not significant, although the means were in the expected direction, $F(1, 135) = 2.92$, $p = .09$, $\eta_p^2 = .02$, observed power = .40; $M_{pf} = 4.79$, $SD = 1.20$; $M_{nf} = 4.39$, $SD = 1.51$. As expected, ad framing did not influence ad believability for happy participants, $F(1, 134) = .06$, $p = .81$, $\eta_p^2 = .01$, observed power = .06; $M_{pf} = 4.54$, $SD = 1.44$; $M_{nf} = 4.60$, $SD = 1.41$, or for neutral participants, $F(1, 135) = 3.32$, $p = .07$, $\eta_p^2 = .02$, observed power = .44; $M_{pf} = 4.20$, $SD = 1.40$; $M_{nf} = 4.63$, $SD = 1.33$. Therefore, H7 therefore was not supported. When ad believability was regressed on mood change and ad-evoked mood ($R^2 = .08$, $p < .01$.); however, as expected, mood change was a significant positive predictor, $\beta = .23$, $t = 2.38$, $p = .02$, but ad-evoked mood itself was not, $\beta = .10$, $t = 1.01$, $p = .34$, suggesting that mood change influenced believability ratings.

For ad-claimed risks, the interaction between the two independent variables was significant, $F(2, 404) = 4.15$, $p = .02$, $\eta_p^2 = .02$, which was consistent with expectations. Sad participants rated the likelihood higher when exposed to positively framed messages than when exposed to negatively framed messages, $F(1, 135) = 5.87$, $p = .02$, $\eta_p^2 = .04$; $M_{pf} = 5.51$, $SD = 1.44$; $M_{nf} = 4.87$, $SD = 1.65$. Ad framing did not affect likelihood of ad claims for happy participants, $F(1, 134) = 95$, $p = .33$, $\eta_p^2 = .01$, observed power = .16; $M_{pf} = 4.82$, $SD = 1.74$; $M_{nf} = 5.11$, $SD = 1.71$, or for neutral participants, $F(1, 135) = 2.12$, $p = .15$, $\eta_p^2 = .02$, observed power = .30; $M_{pf} = 4.62$,

$SD = 1.81$; $M_{nf} = 5.06$, $SD = 1.67$. These results provided strong support for H8. In addition, in a regression analysis, ad believability was a significant predictor of perceived risks, $R^2 = .08$, $p < .01$, $\beta = .28$, $t = 5.91$, $p < .01$, confirming that the more believable the ad, the higher the perceived risks it generated.

For antismoking attitudes, the interaction between mood state and ad type only approached significance, $F(2, 404) = 2.79$, $p = .06$, $\eta_p^2 = .01$, but sad participants expressed stronger antismoking attitudes when exposed to positively framed messages than when exposed to negatively framed messages, $F(1, 135) = 5.42$, $p = .02$, $\eta_p^2 = .04$; $M_{pf} = 4.71$, $SD = 1.50$; $M_{nf} = 4.08$, $SD = 1.67$. Ad framing did not affect antismoking attitudes for happy participants, $F(1, 134) = 28$, $p = .61$, $\eta_p^2 = .01$, observed power = .08; $M_{pf} = 4.43$, $SD = 1.46$; $M_{nf} = 4.30$, $SD = 1.45$, or for neutral participants, $F(1, 135) = .78$, $p = .38$, $\eta_p^2 = .01$, observed power = .14; $M_{pf} = 4.25$, $SD = 1.42$; $M_{nf} = 4.47$, $SD = 1.40$. These results provided support for H9. The assumption that higher perceived risk leads to more negative smoking attitudes was supported by the findings of a regression analysis, $R^2 = .06$, $p < .01$, $\beta = .25$, $t = 5.19$, $p < .01$.

Discussion

In this experiment, sad participants experienced negative mood reduction but not positive mood enhancement, while happy and neutral participants experienced neither. It could be argued that reducing negative mood is an important component of mood regulation, and that positive mood was not enhanced because antismoking ads may be less uplifting than ads for hedonic consumer products or services, such as the florist in the first experiment. For sad participants, ad framing influenced all evaluative judgments except ad believability, with positive framing leading to greater perceived likelihood of ad-claimed risks and stronger antismoking attitudes. In contrast, for happy and neutral participants, responses to ads and the issue were not influenced by ad framing, probably because these participants had little or no motivation to repair mood.

General discussion

If, as Zillmann (2000) suggests, the key assumption behind striving for happiness is true and mood repair is an automatic process, advertising exposure may serve important mood-regulation functions. The findings of this study show that attentive exposure to fun or amusing advertising can reduce negative mood evoked by sad or depressing media materials. From the perspective of the consumer, then, advertising may well do more than provide product information. It is therefore meaningful to explore mood repair and other functions of advertising that are important to viewers but may not matter as much per se to advertisers.

The point is not that all ads are interesting and capable of enhancing mood. What this study suggests, rather, is that sad or depressed individuals can choose to attend to advertising that helps alleviate negative mood. From past experiences, viewers may

have developed schemata for forming expectations regarding the entertainment value of ads. If so, they are likely able to judge from simple execution cues whether an ad will be enjoyable. If they expect it to be, they can pay closer attention and get more involved in processing the ad, thereby distracting themselves from the depressing media material they have recently seen. Because of individual differences, advertising may also have unintended consequences for some people. For instance, ads meant to lift the spirits may actually evoke negative affect in some viewers—as in the case of a recently divorced person watching an ad for a romantic getaway.

The findings of this paper provide additional support for the view that people are active media users, which is the central assumption of audience-centered communication theories such as uses and gratifications theory (Katz, Blumler, & Gurevitch, 1974) and play theory (Stephenson, 1967). Although viewers cannot determine to what advertisements they will be exposed, they are nonetheless active in that they can determine the degree to which they will involve themselves in processing the ads. Uses and gratifications theory might also predict that mood repair motivation will depend on the reason for media use—that mood repair through advertising exposure may be more often observed, for example, when entertainment and not information is the primary gratification sought.

Although the explicit purpose of advertising is not to regulate viewer affective states, Experiment 1 showed that enhancing mood can significantly improve evaluations of the ad and the featured product or service. The mechanism for this may well be misattribution of mood change to liking the ad or product, leading to judgment biases that would account for differences between happy and sad participants. In the second experiment, happy participants generally did not respond more favorably to the ad than sad and neutral participants. It can thus be argued that the mood change, rather than the existing mood state, was responsible for the observed differences. If participants evaluate targets primarily on the basis of existing affective state, as Schwarz and Clore (1983, 1988) have proposed, happy participants should have responded more favorably than other participants to the ad and the issue it addressed. Therefore, this study has extended prior research by providing evidence for the role of mood change in ad and product evaluations.

It appears that more than distraction is needed to lift negative mood. If distraction alone were sufficient, just processing ad messages should work, regardless of the content of the ads. However, the results of Experiment 2 suggest that getting distracted by attending to advertising does not relieve negative mood for sad participants unless the ad content is pleasant.

Prior research has not drawn clear distinctions between the two mood change valences. The findings from Experiment 2 demonstrate that considering mood changes along both positive and negative dimensions can further understanding of how underlying affective processes are triggered by different affect-laden materials. Probably because Experiment 2 focused on a health-related issue, overall mood was altered via negative mood reduction and not by positive mood enhancement. It appears that positive or pleasant ads can trigger different modes of mood

regulation—positive mood enhancement or negative mood reduction—depending on the nature of the featured product, service, or issue. Nevertheless, because of potential reliability problems associated with change scores (Peter, Churchill, & Brown, 1993), these and other findings based on change scores should be interpreted with caution.

In keeping with mood research tradition, both experiments examined the two prototypical mood states: happy and sad. Whether the findings can be generalized to other positive and negative moods is an interesting question for future research. For example, Rusting and Nolen-Hoeksema (1998) argued that distraction strategies may be more effective for attenuating emotions associated with low activation, such as sadness, than emotions associated with high activation, such as anger. The same concept may also apply to the advertising realm.

As noted earlier, an important assumption underlying both this study and Zillmann's (2000) theory of mood management is that people are motivated to avoid sad moods and seek out happy affective states. Some researchers argue, however, that this may not always hold true (Erber & Erber, 2001). Individuals inadvertently depressed by media content, for instance, may be more motivated to alleviate negative mood via attention to pleasant advertising messages than those who are fond of depressing dramas and selectively watch them for enjoyment.

Individual differences in general attitude toward advertising (e.g., Bond & Brace, 1997) also should be considered. The less favorable one's attitude toward advertising, the more likely one is to avoid exposure to it (Speck & Elliott, 1997), and young people are more likely than others to skip or avoid advertising (Danaher, 1995). Therefore, future research should treat attitudes toward advertising as an important moderator of the mood-regulation effects of advertising. In the experiments described in this article, the participants were young people—college and high school students—and they were not specifically instructed to read the advertisements. Even under such conditions, positive advertising still got sad participants involved in evaluations and improved their mood more than it did for happy participants, suggesting that affect regulation by advertising exposure may be a common phenomenon.

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