

Consumers' Response to Commercials: When the Energy Level in the Commercial Conflicts with the Media Context

This research examines how media-induced consumer activation level affects consumer response to highly energetic commercials. Over six studies, including a Hulu field experiment, the authors report that consumers who are experiencing a deactivating emotion (e.g., sadness induced by a movie) find it more difficult to watch highly energetic commercials compared with consumers who are not experiencing a deactivating emotion. As a result, consumers experiencing a deactivating emotion are less likely to watch highly energetic commercials and recall the advertiser compared with consumers who are not experiencing a deactivating emotion. The authors do not observe these effects when consumers experiencing a deactivating emotion watch commercials that are moderately energetic or when consumers do not experience a deactivating emotion. These findings suggest that when advertisers run commercials in a media context that induces a deactivating emotion (e.g., sadness, relaxation, contentment), they should avoid running highly energetic commercials (e.g., with upbeat, enthusiastic spokespeople). In addition, this research recommends that when advertisers are unable to determine the emotions induced by the media context, they should run commercials that are moderate in energy. The results of a meta-analysis across the present studies show that consumers experiencing a deactivating emotion will respond as much as 50% more favorably to moderately energetic commercials compared with highly energetic commercials.

Keywords: advertising, media, services, emotion, digital/internet/interactive marketing

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The advertising landscape is more challenging than ever before because consumers are increasingly prone to tune out traditional forms of advertising such as television commercials (Pieters, Wedel, and Batra 2010; Schweidel and Kent 2010). It is perhaps in response to this trend that many commercials are now relatively high in energy. High-energy commercials are television ads that are active, exciting, and arousing for the viewer to experience, and they seem to have become the norm in advertising. For

example, our analysis of commercials on Hulu (hulu.com) indicates that more than 80% of the commercials embedded in content on the ad-supported on-demand video service were rated to be relatively energetic.¹ Thus, understanding both how consumers respond to commercials that are relatively high in energy and the circumstances in which these commercials are ineffective would seem critical to the successful execution of marketing communication strategies.

When consumers watch different forms of media (e.g., television), the content of the media often leads them to experience a variety of emotions. Prior research has suggested that the level of activation (also referred to as arousal) induced by these emotions may be one factor that influences consumers' response to the energy conveyed in advertising (Rucker and Petty 2004). Specifically, this research finds that when consumers experience an emotion that is high in activation (e.g., anger) and they are shown advertisements for two products that are promoted as active (i.e., requiring action) versus passive (i.e., facilitating relaxation), consumers prefer the active product to the passive

Nancy M. Puccinelli is Associate Professor of Marketing, Saïd Business School, Oxford Institute of Retail Management, Oxford University (e-mail: nancy@post.harvard.edu). Keith Wilcox is Associate Professor of Marketing, Columbia Business School, Columbia University (e-mail: ktw2113@columbia.edu). Dhruv Grewal is the Toyota Chair in E-Commerce and Electronic Business and Professor of Marketing, Division of Marketing, Babson College (e-mail: dgrewal@babson.edu). The authors are grateful for the insightful comments of the *JM* review team. The authors also thank Lauren S. Grewal, Daniel Gilbert, Nalini Ambady, Rohit Deshpandé, Jane Ebert, Richard Hackman, Thomas Kramer, Richard McNally, Vanessa Patrick, Anne Roggeveen, Robert Rosenthal, the Columbia University RED Lab, and seminar participants at Maastricht University, University of Miami, Aston Business School, Henley Business School, and Cambridge University for their insightful comments on this research. Stephen Nowlis served as area editor for this article.

¹This finding is based on the advertisements evaluated in Study 1. Because there is no standard level of energy for a commercial to be considered energetic, we considered any commercial that was rated above the midpoint on our energy measure as relatively energetic.

product. When they experience an emotion that is low in activation, however, consumers prefer the passive product to the active one (Rucker and Petty 2004).

Although these findings show that differences in the activation level of emotions can affect preference for products that are advertised as passive or active, it is unclear whether the activation level will directly influence consumers' response to commercials that differ in level of energy and, if so, what the nature of the response would be. In addition, previous research has focused on relative preference between options presented jointly (i.e., a choice set). Consumers' preferences for options presented jointly are not always consistent with their evaluation of those options when they are presented in isolation (e.g., Okada 2005). We examine the effect of the level of activation on a specific commercial because most commercials are likely viewed independently of one another. The focus of our research is on understanding these high-energy commercials. (Appendix A provides more specific details comparing our research design elements and findings with those of Rucker and Petty [2004].)

In the present research, we aim to address these limitations by examining how the level of activation induced by emotional media content influences consumers' response to commercials that are relatively high in energy. We demonstrate that the level of activation induced by emotional media content does influence consumers' response to such commercials, but only when the media induces an emotion that is low in activation and the level of energy in the commercial is above a certain threshold. When a commercial is highly energetic, consumers find the commercial difficult to watch, which has a detrimental effect on their response to the commercial. Specifically, consumers experiencing an emotion that is low in activation spend less time watching and show impaired recall of commercials that are highly energetic. In addition, consumers who experience an emotion that is low in activation have a more negative response to high-energy commercials compared with commercials that are only moderately energetic. These same responses do not emerge when consumers do not experience an emotion that is low in activation (i.e., when they are in a neutral state or a state of high activation).

Our findings offer several novel insights for marketers. We show that marketers can remain consistent with advertising norms and run commercials that are relatively high in energy as long as the energy level is below a certain threshold (i.e., moderately energetic). Furthermore, we demonstrate that when consumers are not experiencing an emotion that is low in activation, they will not respond negatively to the level of energy in commercials. Thus, our research offers guidance for advertisers when they are unable to determine the type of emotions induced by the media context. Specifically, our findings suggest that in such situations, advertisers should consider running commercials that are only moderately energetic. Finally, because there are likely to be situations in which advertisers may want to run highly energetic commercials, we also identify individual and situational variables that mitigate the negative response

consumers have to such commercials when they are experiencing an emotion that is low in activation.

Theoretical Development

Media Context

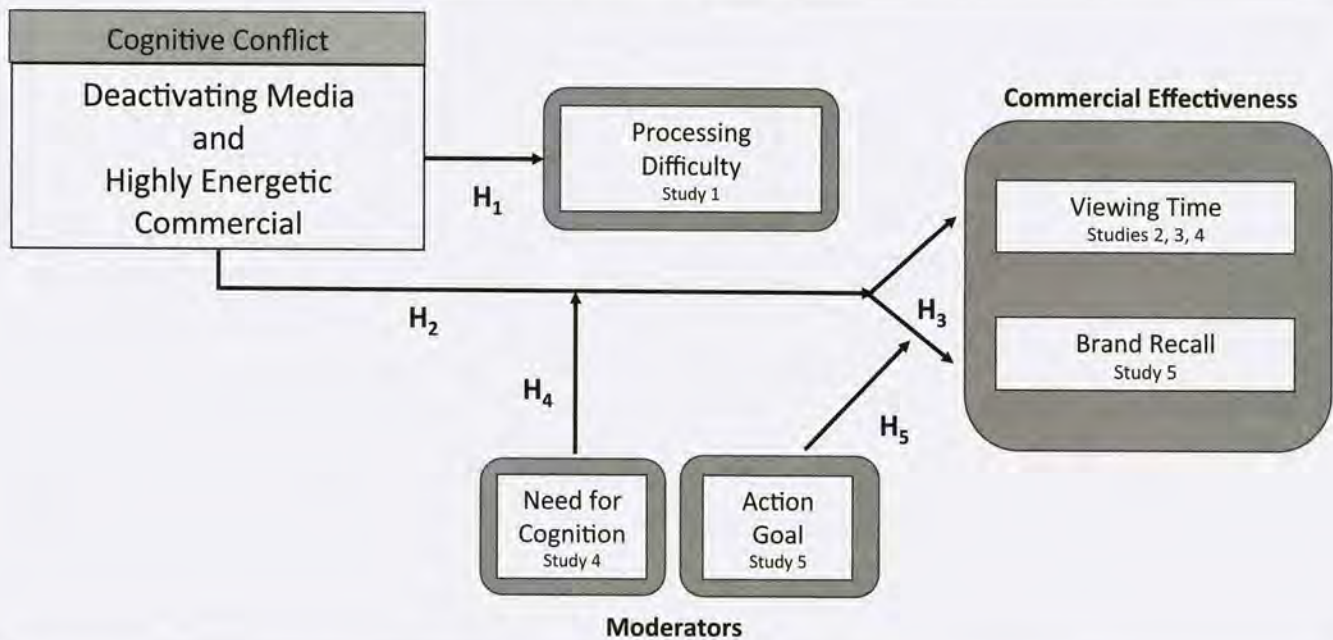
Prior research has suggested that the effectiveness of an ad is often determined by its media context (Cox, Cox, and Mantel 2010; Pavelchak, Antil, and Munch 1988). These studies demonstrate that media content that precedes an advertisement determines consumers' response to the advertisement. Although a variety of aspects of the media context have been investigated in previous research (for a review, see Furnham, Gunter, and Walsh 1998), the emotions induced by media have been shown to play a significant role in how consumers evaluate commercials. For example, when a television program induces positive emotions, consumers respond more favorably to subsequent commercials, in terms of liking and recall, compared with when the television program induces negative emotions (Coulter 1998; Goldberg and Gorn 1987). Consumers watching sad television content respond more favorably to sad commercials than to happy commercials (Kamins, Marks, and Skinner 1991). Thus, it is valuable to understand how marketing communications are shaped by emotion (Kidwell et al. 2011).

Although this stream of literature has demonstrated that consumers' emotions induced by the media context can influence how they respond to commercials, we are unaware of any studies that have examined how the activation level of media-induced emotion influences consumers' response to commercials that are relatively high in energy. Given the frequency with which firms market their products using high-energy commercials, understanding this issue would seem critical.

Deactivation, Energy, and Processing Difficulty

Our theory is based on the idea that when the media context results in an emotion that is low in activation, consumers may find it difficult to process commercials when the level of energy reaches a certain threshold (see Figure 1; Appendix B provides construct definitions). Although emotions can be positive or negative, they also differ in terms of the level of physiological arousal or activation they induce (Smith and Ellsworth 1985). Because arousal is defined as a state of activation (Mehrabian and Russell 1974), we use the two terms (arousal and activation) interchangeably. Two emotions may be of the same valence but may differ in terms of the level of activation that accompanies their experience. For example, anger is an emotion that is negative in valence but results in a state of heightened activation (Barrett and Russell 1998). In contrast, sadness is an emotion that is negative in valence but is characterized by a state of deactivation (Barrett and Russell 1998). We refer to emotions that induce a state of high activation as "activating emotions" and emotions that induce a state of low activation as "deactivating emotions." Importantly, a state of activation is characterized as being alert, both physically

FIGURE 1
Conceptual Model



and mentally, whereas deactivation is a state of low physical and cognitive activity (Mehrabian and Russell 1974). We contend that the reduced state of cognitive activity that characterizes deactivation may lead consumers who experience a deactivating emotion to respond unfavorably to commercials that are highly energetic.

Like the emotions induced by media context, commercials differ in terms of the level of arousal or activation they induce. A significant amount of research has demonstrated that the greater mental activity that characterizes high arousal can be cognitively demanding. Higher levels of arousal have been shown to reduce cognitive capacity and impair performance on tasks that require mental effort (Humphreys and Revelle 1984; Pham 1996; Yerkes and Dodson 1908). When people experience high levels of arousal, it can reduce the amount of processing resources available, making it difficult to process information such as advertising messages (Sanbonmatsu and Kardes 1988). In addition, advertisements that are highly animated and very arousing can reduce processing resources and impair recall of the advertisements (Yoo and Kim 2005). Under normal circumstances, these advertisements are effective. It is our contention that when the level of a consumer's activation induced by the media content is highly discrepant with the energy of the commercial, the commercial will be difficult to process.

The difficulty experienced while processing information often has less to do with an absolute level of difficulty than with the discrepancy with one's current state (Hansen, Dechêne, and Wänke 2008) because people often use their current state as a reference point for judging a new experience (Tversky and Griffin 1991; Wilcox and Song 2011). For example, people find it easier to process information

when they transition from a task for which it is difficult to process information compared with a task for which it is easy to process information (Hansen, Dechêne, and Wänke 2008). This occurs because the additional cognitive demands of a difficult task are highly discrepant with those of an easy task. Similarly, people find it more difficult to process price differences when they transition from a task for which it is easy to process price differences than from one for which it is difficult to process price differences (Wilcox and Song 2011).

The implication of this research is that when consumers experience a deactivating emotion, there is a point at which the level of energy in a commercial will be highly discrepant with their current state of low cognitive activity. When the level of energy in the commercial is above this threshold, consumers will find it difficult to process the commercial. Thus, we propose that when people are in a state of deactivation, they will find it difficult to watch a commercial when the level of energy in the commercial reaches the threshold that makes it highly discrepant from their emotional state (i.e., when a commercial is highly energetic). Specifically, we expect higher levels of commercial energy to increase processing difficulty when the level of energy is high. However, we do not expect higher levels of commercial energy to increase processing difficulty at moderate levels of energy.

H₁: When consumers experience a deactivating emotion, the energy in a commercial (a) increases the difficulty watching a commercial at high levels of energy but (b) does not increase the difficulty watching a commercial at moderate levels of energy.

Consumer Response to Highly Energetic Commercials

If, after watching deactivating media (e.g., a sad program), consumers find it difficult to watch commercials that are highly energetic, it is vital that managers understand consumers' response to such commercials. People are naturally inclined to avoid tasks that they find cognitively demanding (for a recent review, see Botvinick 2007). This tendency is best captured by the law of least effort, which argues that, all else being equal, people tend to choose the path that they believe requires the least amount of work (Hull 1943). Consistent with this perspective, a significant amount of research has found that people avoid situations when they experience cognitive conflict or find it difficult to process information (Botvinick 2007; MacLeod, Hunt, and Mathews 1978). For example, simply having people evaluate multiple stimuli in different colors imposes enough demands on information processing resources that people tend to avoid stimuli in different colors in favor of stimuli of the same color (Botvinick 2007). Moreover, people are less likely to select products that are difficult to process compared with similar products that are easy to process (Garbarino and Edell 1997).

Therefore, if consumers experiencing a deactivating emotion find highly energetic commercials difficult to process, they should be more likely to avoid watching such commercials. In other words, when consumers experience (vs. do not experience) a deactivating emotion, they should spend less time watching highly energetic commercials. This effect should be attenuated when consumers watch moderately energetic commercials because the state of deactivation is unlikely to be highly discrepant with the energy level of the commercial. In addition, these same deactivated-emotion consumers should spend less time watching highly energetic commercials compared with moderately energetic commercials. In a similar fashion, the relationship would be attenuated for consumers experiencing a nondeactivating emotion. Thus, we predict the following:

- H₂: The activation level of the emotion and the energy level of the commercial interact to influence commercial viewing time. More specifically,
- (a) When consumers experience a deactivating (vs. nondeactivating) emotion, they spend less time viewing a highly energetic commercial; when consumers experience a deactivating (vs. a nondeactivating) emotion, their viewing time is less likely to be influenced for a moderately energetic commercial.
 - (b) When consumers experience a deactivating emotion, they spend less time viewing a highly energetic (vs. moderately energetic) commercial; when consumers experience a nondeactivating emotion, the commercial energy level (highly vs. moderately energetic) is less likely to influence their viewing time.

One of the primary purposes of commercials is to have consumers remember the brand name. However, the extent to which highly energetic commercials aid brand recall should depend on the level of activation induced by the media context. When people view advertisements, their ability to subsequently recall information is often based on

the amount of elaboration in which they engage while processing the information (Petty, Cacioppo, and Schumann 1983). When people do not engage in extensive elaboration (i.e., give it only a little attention), they are less likely to recall the information compared with when they engage in extensive elaboration (i.e., they give it a lot of attention). The extent to which consumers engage in elaboration is determined by the amount of cognitive resources devoted to message processing (Meyers-Levy and Malaviya 1999). When consumers watch a commercial that is cognitively demanding, they should be less likely to engage in extensive message elaboration, which will impair brand recall. Thus, because people experiencing a deactivating emotion find it cognitively difficult to process highly energetic commercials, we expect them to demonstrate impaired brand recall after watching the commercial compared with people who do not experience a deactivating emotion. Formally,

- H₃: When consumers experience a deactivating emotion and subsequently watch a highly energetic commercial, they demonstrate impaired brand recall compared with those who do not experience a deactivating emotion.

Moderators of Consumer Response

If consumers experiencing a deactivating emotion spend less time watching highly energetic commercials, one implication would be that managers should avoid running these types of commercials. However, there are likely to be situations in which these commercials are necessary or beneficial, so identifying individual differences that make consumers less prone to respond negatively to these commercials would be helpful for marketers. If this negative response occurs because consumers find these commercials to be cognitively difficult, the extent to which people watch the commercial should depend on their tendency to engage in effortful thought, which is often referred to as "need for cognition." Need for cognition is defined as a personality variable that reflects the extent to which people are inclined to engage in cognitively difficult activity (Cacioppo and Petty 1982). People who are low in need for cognition are often characterized as cognitive misers, and they tend to avoid tasks that require effortful thought. In contrast, people who are high in need for cognition are intrinsically motivated to engage in cognitively difficult activities, including extensive elaboration of advertising messages (Darley and Smith 1993). Importantly, need for cognition has been shown to be related to several observable consumer characteristics, such as age and education (Cacioppo et al. 1996). Thus, understanding how differences in need for cognition affect consumers' response to commercials that are higher than the energy threshold can help managers identify consumers who are more or less prone to respond negatively to such commercials.

We predict that need for cognition will determine the extent to which people experiencing a deactivating emotion will watch a highly energetic commercial. When people who are low in need for cognition (i.e., who tend to avoid cognitively difficult activities) experience a deactivating emotion, they should spend less time watching a highly energetic commercial compared with those who are not

experiencing a deactivating emotion. However, when people who are high in need for cognition (i.e., who tend to engage in effortful thought) experience a deactivating emotion, they should not avoid watching a highly energetic commercial, so we expect to observe no difference in their viewing time compared with those who do not experience a deactivating emotion.

- H₄: The need for cognition and the activation level of the emotion interact to influence the viewing time of a highly energetic commercial. More specifically,
- (a) When consumers low in need for cognition experience a deactivating (vs. a nondeactivating) emotion, they spend less time viewing a highly energetic commercial.
 - (b) When consumers high in need for cognition experience a deactivating (vs. a nondeactivating) emotion, their viewing time for a highly energetic commercial is less likely to be influenced.

In addition to individual differences, there are also situational factors that determine people's desire to engage in cognitively demanding activity. People's behavior is often guided by general goals to pursue action or inaction. An action goal is defined as a motivational state that leads people to engage in physically and mentally effortful behavior (Albarracín et al. 2008; Laran 2010). A goal of inaction is characterized as a motivational state that reduces the desire to pursue effortful behavior (Albarracín et al. 2008; Laran 2010). Both action and inaction goals can be elicited through media, such as magazine headlines (Poor, Duhachek, and Krishnan 2013), and marketing communications, such as an advertisement or tagline (Albarracín, Wang, and Leeper 2009; Laran 2010). When an action goal is evoked, it motivates people to engage in tasks that are cognitively demanding (Albarracín et al. 2008). For example, evoking an action goal can make people more motivated to solve difficult puzzles compared with those not primed with an action goal (Albarracín et al. 2008). If consumers experiencing a deactivating emotion are less likely to recall a brand after watching a highly energetic commercial because they find the commercial cognitively difficult to process, inducing an action goal should attenuate the effect. Thus, we predict that when consumers in a state of deactivation are exposed to a marketing message that evokes an action goal before watching a highly energetic commercial, they will be more likely to recall the brand in the commercial compared with those who are not primed with an action goal.

- H₅: When consumers experiencing a deactivating emotion are subsequently exposed to a marketing message that evokes an action goal prior to watching a highly energetic commercial, they are more likely to recall the brand compared with those who are not primed with an action goal.

We conduct six studies to test these predictions. Study 1 presents the results of a field study conducted on Hulu. This study tests whether, when consumers experience a deactivating emotion, the energy in a commercial will increase the difficulty watching the commercial at high (but not moderate) levels of energy. Studies 2 and 3 test the interaction of deactivated emotion and commercial energy level on

commercial viewing times. Study 4 tests the moderating role of need for cognition, and Study 5 tests the moderating role of action primes.

Study 1: Hulu Field Study

The purpose of Study 1 is to demonstrate that when the level of energy in a commercial is above a certain threshold to create a discrepancy (i.e., highly energetic), it will increase the difficulty of watching the commercial (H_{1a}). We also want to show that the relationship between commercial energy and difficulty watching will not emerge when the level of energy is below this threshold (i.e., moderately energetic; H_{1b}). Given the popularity and strong growth in streamed online content, we conducted a field study on Hulu (www.hulu.com), a website that streams video content (movies and television shows) on demand to users. A significant portion of the programming is offered to users for free with commercial interruptions, making the viewing experience similar to watching television. To test our theory, we had people watch a segment on Hulu that was designed to evoke a deactivating emotion and then watch a commercial. They subsequently evaluated the commercial in terms of how difficult it was to watch and how energetic they perceived it to be.

Method

Participants were told that the purpose of the study was to examine people's reactions to commercials. They were further instructed that it was very important that they have a high-speed Internet connection and an ability to listen to sound while watching the commercials. Before starting the study, they indicated whether they could watch video content and listen to sound. Those who indicated that they did not have the ability to watch video or listen to sound were disqualified from the study. Participants were then given a link to a video documentary on Hulu titled *9/11: The Falling Man*, about the September 11 tragedy. They were instructed to cut and paste the link into a new web browser so that they could answer questions about their viewing experience in the online survey (open in their current browser). Because most videos on Hulu begin by having users watch a commercial, participants were asked to watch the initial commercial, pause the video, and return to the online survey to answer some questions about the initial commercial.

Participants were then instructed to watch the video segment, which lasted approximately seven minutes. All participants viewed the first segment of the program that served as the emotion induction and the first commercial that appeared after the segment (i.e., the target commercial). After watching the video segment and the target commercial, participants returned to the online survey to answer questions about them. The initial set of questions was about the target commercial. Participants indicated, on two items, how difficult they found the commercial to watch using a seven-point scale ("Watching the commercial was hard," and "Watching the commercial was difficult"; 1 = "not at all," and 7 = "very much so"; $r = .91$; Luce 1998). Partici-

pants then indicated how energetic they perceived the commercial to be on a four-item, seven-point bipolar scale ("not energetic/energetic," "dull/exciting," "not animated/animated," and "inactive/active"; $\alpha = .81$; Barrett and Russell 1998; Russell and Mehrabian 1977). Given that previous research has suggested an effect of commercial valence, we assessed how positively valenced people perceived the commercial to be to control for its effect on consumers' response toward the commercial. They then indicated how positive they perceived it to be on a five-item, seven-point bipolar scale ("unhappy/happy," "displeasure/pleasure," "feel bad/feel good," "sadness/joy," and "negative/positive"; $\alpha = .90$; Barrett and Russell 1998; Russell and Mehrabian 1977). Finally, participants briefly described the commercial that they just watched, answered questions about the video segment, and briefly described the video segment.

Results

Manipulation check. Participants were asked to indicate how sad the video segment made them feel, with lower responses corresponding to greater sadness. The mean response was significantly below the midpoint ($M = 2.24$; $t(198) = 16.56, p < .001$), suggesting that the video segment was effective at making people feel sad.

Difficulty watching commercials. We analyzed the data using regression analysis ($N = 186$).² Our predictions suggest that a quadratic function will fit our data better than a linear model. We include positivity as a covariate to control for its potential effect on difficulty; however, the findings hold with or without it as a covariate. We first tested hypotheses by examining the relationship between perceived energy and perceived difficulty using a quadratic function, regressing difficulty on mean-centered energy and mean-centered energy squared (energy²) with mean-centered positivity as a covariate. The effect of energy squared was positive and significant, indicating that distribution was a convex curve ($\beta = .17, t(181) = 2.62, p = .01$). Thus, at high levels of energy, energy increases the difficulty in viewing the commercial. To test H_{1a} , we centered energy at one standard deviation above the mean (highly energetic) and regressed difficulty on energy and energy squared with mean-centered positivity as a covariate. As we predicted, the effect of energy on difficulty was positive and significant ($\beta = .52, t(181) = 2.36, p < .05$). Thus, when the commercial was highly energetic, people found it more difficult to watch. The effect of positivity on perceived difficulty was negative and significant ($\beta = -.27, t(181) = -1.96, p =$

.05), suggesting that people found more positive commercials less difficult to watch in general.

To test the effect of energy on difficulty at moderate levels of energy, we centered energy at its mean and regressed difficulty on mean energy and mean energy squared with mean-centered positivity as a covariate. At moderate levels of energy, energy did not increase difficulty ($\beta = .12, t(181) = .89, n.s.$), which is consistent with H_{1b} . We also examined the effect of energy on difficulty at low levels of energy by centering energy at one standard deviation below the mean (low energy) and regressed difficulty on low energy and low energy squared with mean-centered positivity as a covariate. The effect of energy on difficulty was not significant ($\beta = -.28, t(181) = -1.49, n.s.$). Thus, the results demonstrate that people experiencing a deactivating emotion only find it difficult to watch commercials that are relatively high in energy.

We were also interested in identifying the threshold at which perceived energy increases perceived difficulty. That is, we wanted to identify the point at which the curve of the quadratic function begins to slope upward. Our analysis found that energy begins to increase difficulty at approximately 5.20.

Discussion

Study 1 provides evidence that people experiencing a deactivating emotion from the media context find highly energetic commercials difficult to watch. Our findings also demonstrate that the relationship between commercial energy and difficulty is not linear. The level of energy needs to reach a certain threshold for consumers to find the commercial difficult to watch; that is, marketers can feature positive commercials in deactivating programming but need to be aware of the energy level of the commercials. In the studies that follow, we examine how consumers respond to commercials that are relatively high in energy and are either above (i.e., highly energetic) or below (i.e., moderately energetic) this threshold.

Study 2: The Role of Context Emotion and Commercial Energy

The purpose of Study 2 is to demonstrate that exposing consumers who are experiencing a deactivating emotion (sadness) to a highly energetic commercial will influence how much time they spend watching the commercial. We expect that people will spend less time watching a highly energetic commercial when they are experiencing (vs. not experiencing) a state of deactivation (H_{2a}). In addition, we posit that those in a state of deactivation will spend less time watching a highly energetic commercial than a moderately energetic commercial (H_{2b}).

Method Design and Procedure

One hundred forty-two people ($M_{age} = 36$ years; 46% male) from an online panel participated in the main study for a small stipend. The study adopted a 2 (emotion: sad, neutral) \times 2 (commercial: highly energetic, moderately energetic) between-subjects design. Participants were

²One person did not answer the difficulty question. Another did not follow the directions and watched more than one commercial during the first commercial break. Another was not included in the analysis because the respondent's description of the video segment indicated that (s)he did not watch the correct video. In addition, we excluded ten participants because the time spent watching the video before evaluating the commercial was at least two standard deviations away from the mean, which was approximately four minutes longer than it should have taken. These participants failed to follow the instruction to return to the survey to answer questions immediately after the target commercial (Oppenheimer, Meyvis, and Davidenko 2009).

instructed that the purpose of the study was to examine people's reactions to commercials. Participants were then asked to watch one of two videos and told to watch the entire video because they would be asked questions about the video later on in the survey.

In the sad condition, participants were shown a clip from the movie *The Champ*, which depicts a young boy crying over the death of someone close to him. The clip has been effectively used in previous research (Leith and Baumeister 1996; Lerner, Small, and Loewenstein 2004). In the neutral-affect condition, participants were shown a clip from a documentary on Albert Einstein. Each video lasted for approximately two-and-a-half minutes, and the submit button on the survey was disabled during that time to ensure that participants could not continue to the next screen until the video was over.

After watching one of the two movie clips, participants were shown a 30-second Geico commercial that was either highly energetic or moderately energetic. The highly energetic commercial featured an energetic movie announcer, and the moderately energetic commercial starred Ed "Too Tall" Jones, a former NFL football player. Participants were instructed that they could watch the commercial for as long or as short a period as they wanted, and the button to proceed was conspicuously displayed the entire time. We measured how long they watched the commercial by recording how many seconds they remained on the screen after starting the commercial before clicking the submit button (Olney, Holbrook, and Batra, 1991).

Results

Pretests. We conducted a pretest on 46 people to validate the videos used for the emotion induction. Participants watched one of two clips from the main study and indicated the extent to which they currently felt a range of different emotions on a five-point scale (1 = "not at all," and 5 = "extremely"; for more details on the pretests, see the Web Appendix). As we expected, participants who watched the sad clip reported feeling sadder than those who watched the neutral clip ($M_{\text{sad}} = 3.44$, $M_{\text{neutral}} = 1.19$; $F(1, 44) = 58.56$, $p < .001$). We also conducted a pretest on 73 people to ensure that the commercials used in the study were similar to each other on many characteristics but were highly or moderately energetic. The results confirmed that the movie announcer commercial was highly energetic and the football player commercial was moderately energetic ($M_{\text{high}} = 5.33$, $M_{\text{moderate}} = 4.76$; $F(1, 71) = 5.69$, $p < .05$). In addition, the highly energetic commercial was above the threshold identified in Study 1 (5.20). Participants liked the commercials equally ($M_{\text{high}} = 6.11$, $M_{\text{moderate}} = 5.93$; $F(1, 71) = .60$; n.s.) and perceived them to be similar in terms of how positive they were ($M_{\text{high}} = 5.81$, $M_{\text{moderate}} = 5.92$).³

Viewing time. Because we were primarily interested in people who chose to watch only a portion of the commercial rather than those who watched the entire commercial,

we truncated the viewing time measure at 33 seconds. This allows 3 seconds for the survey software to buffer (i.e., load) the commercial as well the 30 seconds to view the commercial.⁴ The buffer-adjusted censored average viewing time was approximately 28 seconds.

To account for the censoring of our viewing time data, we used the cumulative hazard function from a censored hazard model as our dependent measure.⁵ We tested our prediction using an analysis of variance (ANOVA) with emotion and commercial as the factors. The emotion by commercial interaction was significant ($F(1, 136) = 5.55$, $p < .05$). In support of H_{2a} , consumers exposed to the highly energetic commercial spent less time watching the commercial in the sad condition compared with the neutral condition ($M_{\text{sad}} = .34$, $M_{\text{neutral}} = .41$; $F(1, 136) = 3.75$, $p = .05$). However, there was no difference between the sad and neutral conditions when consumers were exposed to the moderately energetic commercial ($M_{\text{sad}} = .44$, $M_{\text{neutral}} = .39$; $F(1, 136) = 1.94$, n.s.).

As we predicted in H_{2b} , participants in the sad condition spent less time watching the highly energetic commercial compared with the moderately energetic commercial ($F(1, 136) = 7.76$, $p < .01$). Participants in the neutral condition showed no difference in viewing time between the two commercial conditions ($F(1, 136) = .26$, n.s.).

Although the hazard transformation was necessary to account for the censoring of our viewing time measure, managers are primarily interested in the number of seconds participants spend watching commercials. To help managers better understand this, we subtracted the three-second buffer time from the censored viewing time measure. As depicted in Figure 2, participants in the sad condition who were exposed to the highly energetic commercial spent 24.50 seconds watching the commercial compared with 27.79 seconds for participants in the neutral condition. Participants in the sad condition who were exposed to the moderately energetic commercial spent 28.78 seconds watching the commercial compared with 27.24 seconds for participants in the neutral condition.

Discussion

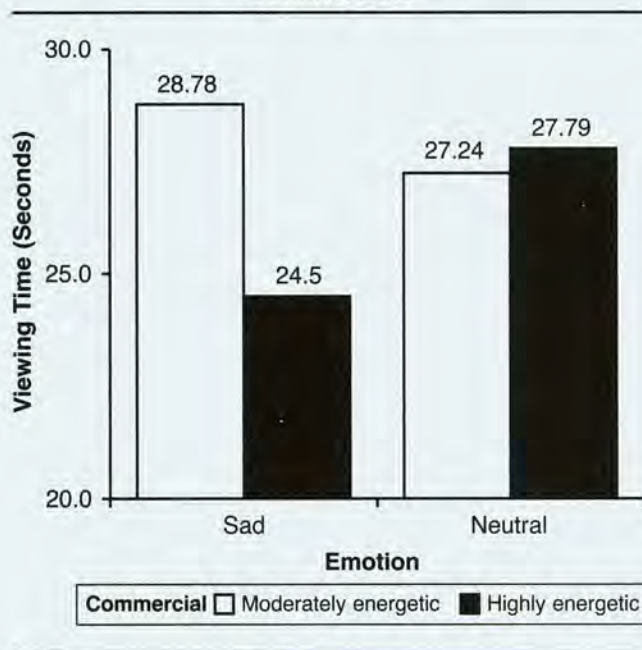
Study 2 demonstrates that media context affects consumers' willingness to watch specific types of commercials. In particular, when participants experienced a deactivating emo-

⁴The three-second buffer is based on tests the authors conducted on a variety of computers with various high-speed Internet connections. We used similar procedures in all viewing time studies. Furthermore, participants with extreme viewing times, suggesting that they did not follow instructions (i.e., attention failure; Oppenheimer, Meyvis, and Davidenko 2009), were dropped (Study 2: two participants; Study 2 follow-up: two participants; Study 3: one participant; Study 4: four participants).

⁵In all studies in this article, any significant results reported remain either significant or marginally significant when we analyze the censored viewing time measure using a Cox regression model. In addition, all significant results remain significant when the raw viewing time measure is transformed using a square-root transformation (to account for nonnormality) and analyzed using an analysis of variance (ANOVA).

³We present in-depth discussions of all pretest results in the Web Appendix.

FIGURE 2
Study 2: The Effect of Commercial Energy and Emotion on Viewing Time for Positive Commercials



tion from the media context, they spent less time watching a highly energetic commercial than participants who did not experience a deactivating emotion (H_{2a}). In addition, those experiencing a deactivating emotion spent less time watching a highly energetic commercial compared with a moderately energetic commercial (H_{2b}).

Negative Commercial Replication

To demonstrate that our findings are due to the level of energy in the commercial and that valence of the commercial does not play a role, we replicated the findings of the previous study using commercials that were negative in valence. We describe this replication next.

Method Design and Procedure

One hundred eight people ($M_{age} = 35$ years; 49% male) from an online panel participated in the main study for a small stipend. The study adopted a 2 (emotion: sad, neutral) \times 2 (commercial: highly energetic, moderately energetic) between-subjects design. The procedure was virtually identical to that of Study 2 except that participants were shown one of two 30-second antimethamphetamine public service announcements. We recorded the length of time that participants spent watching the commercials as our key dependent variable.

Results

Pretest. We conducted a pretest on 44 people to ensure that the commercials used in the study were similar to each other on many characteristics but were distinctly highly or moderately energetic ($M_{high} = 5.24$, $M_{moderate} = 4.28$; $t(43) = 6.24$, $p < .001$). The highly energetic commercial was above

the threshold identified in Study 1. Participants liked the commercials equally ($M_{high} = 3.55$, $M_{moderate} = 3.66$; $t(43) = .54$, n.s.) and perceived them to be similar in terms of how negative they were ($M_{high} = 2.16$, $M_{moderate} = 2.27$; $t(43) = 1.11$, n.s.).

Viewing time. We used the same procedure as in the previous study to determine the viewing time. The buffer-adjusted censored average viewing time was approximately 27 seconds. We tested our prediction using an ANOVA with emotion and commercial as the factors and used a cumulative hazard function as our dependent measure. The emotion \times commercial interaction was significant ($F(1, 102) = 4.45$, $p < .05$). In support of H_{2a} , the consumers who were exposed to the highly energetic commercial spent less time watching the commercial in the sad condition compared with the neutral condition ($M_{sad} = .33$, $M_{neutral} = .41$; $F(1, 102) = 3.97$, $p < .05$). There was no difference between the sad and neutral conditions when consumers were exposed to the moderately energetic commercial ($M_{sad} = .42$, $M_{neutral} = .38$; $F(1, 102) = .93$, n.s.).

Consistent with H_{2b} , participants in the sad condition spent less time watching the highly energetic commercial compared with the moderately energetic commercial ($F(1, 102) = 5.53$, $p < .05$). Participants in the neutral condition showed no difference in viewing time between the two commercial conditions ($F(1, 102) = .40$, n.s.).

Discussion

This follow-up to Study 2 replicates the findings of the previous study using commercials that were negative in valence, which rules out the possibility that people experiencing a deactivating emotion spend less time watching only positive highly energetic commercials. In the next study, we build on these findings by examining how consumers experiencing activating emotions (e.g., excitement) respond to commercials that are highly energetic.

Study 3: Expanding the Types of Emotions Examined

Our theory suggests that highly energetic commercials should primarily influence consumer response when consumers are in a state of deactivation. We would not expect such commercials to influence consumer response when consumers experience an activating emotion because there is less of a discrepancy between the level of arousal in the emotion and in the commercial. However, understanding how consumers respond to commercials above or below the threshold is important because previous research has suggested that people experiencing activating emotions may prefer commercials that are higher in energy (Rucker and Petty 2004). Thus, in Study 3 we investigate how consumers experiencing a positive deactivating emotion (relaxation), an activating emotion (excitement), and a neutral state respond to highly versus moderately energetic commercials. Consistent with the results of prior studies, we expect that people experiencing relaxation will spend less time viewing a highly energetic commercial compared with

a moderately energetic commercial. However, when consumers are not experiencing a deactivating emotion (i.e., those in a neutral state or experiencing excitement), we do not expect differences in the level of energy in the commercial to influence consumer response.

Method Design and Procedure

Two hundred three people from an online panel participated in the study ($M_{\text{age}} = 36$ years; 47% male). The study employed a 3 (emotion: relaxed, excited, neutral) \times 2 (commercial: highly energetic, moderately energetic) between-subjects design and was conducted using an online survey. Participants were informed that the purpose of the study was to examine people's reactions to different videos and commercials. Because we were manipulating two positive emotions, we relied on an emotion induction that would give us more control over the emotions that people experienced before watching the commercial (Labroo and Patrick 2008). Specifically, we had participants write about a time when they felt relaxed or a time when they felt excited (for detailed participant instructions, see the Web Appendix).

Approximately one-third of the participants were told that the researchers were developing a questionnaire to understand which life events make people feel relaxed and were asked to write about an event that made them relaxed (relaxed condition). A second third of participants were instructed that the researchers were developing a questionnaire that would allow them to understand which life events make people excited and were asked to write about an experience that made them excited (excited condition). The last third of participants were told that the researchers were developing a questionnaire that would allow them to understand which life events are typical and were asked to write about a typical day (neutral condition).

After writing about their life events, participants were shown one of two 30-second Geico commercials that were highly or moderately energetic (the same ones from Study 2). We measured how long they watched the commercial as our key dependent variable.

Results

We used the same procedure as in the previous studies. The buffer-adjusted censored average viewing time was approximately 27 seconds. To account for the censoring of our viewing time data, we used a cumulative hazard function as our dependent measure. The ANOVA results indicate that the emotion \times commercial interaction was significant ($F(2, 196) = 3.40, p < .05$). In support of H_{2a} , in the relaxed condition the time spent watching a highly energetic commercial was less than that in the neutral and excited conditions ($F(1, 196) = 6.45, p < .05$). Furthermore, pairwise comparisons revealed that consumers in the relaxed condition who were exposed to the highly energetic commercial spent less time watching the commercial ($M_{\text{relaxed}} = .21$) compared with those in the neutral condition ($M_{\text{neutral}} = .24$; $F(1, 196) = 4.77, p < .05$) and those in the excited condition ($M_{\text{excited}} = .25$; $F(1, 196) = 5.48, p < .05$).

When consumers were exposed to the moderately energetic commercial, the time spent watching it in the relaxed

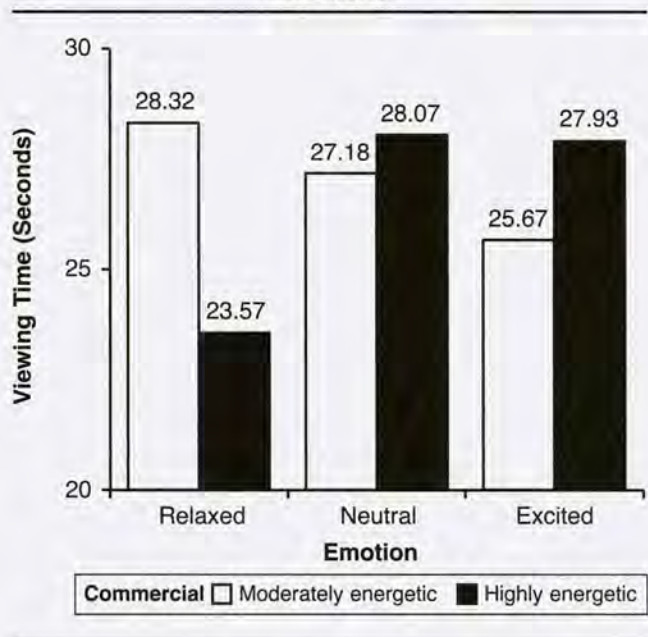
condition was not different from that in the neutral and excited conditions ($F(1, 196) = .98, n.s.$). Moreover, participants in the relaxed condition did not spend significantly less time watching the moderately energetic commercial ($M_{\text{relaxed}} = .25$) compared with those in the neutral condition ($M_{\text{neutral}} = .24$; $F(1, 196) = .33, n.s.$) or excited condition ($M_{\text{excited}} = .23$; $F(1, 196) = 1.27, n.s.$). In support of H_{2b} , participants in the relaxed condition spent less time watching the highly energetic commercial compared with the moderately energetic commercial ($F(1, 196) = 5.50, p < .05$). However, as we expected, there was no significant difference in viewing time of the commercials in the neutral condition ($F(1, 196) = .14, n.s.$) and the excited condition ($F(1, 196) = 1.32, n.s.$).

As we depict in Figure 3, participants in the relaxed condition who were exposed to the highly energetic commercial spent 23.57 seconds watching the commercial compared with 28.07 seconds for those in the neutral condition and 27.93 seconds for those in the excited condition. However, participants in the relaxed condition who were exposed to the moderately energetic commercial spent 28.32 seconds watching the commercial compared with 27.18 seconds for those in the neutral condition and 25.67 seconds for those in the excited condition.

Discussion

The results of this study replicate those of prior studies. Participants who experienced a deactivating emotion spent less time watching a highly energetic commercial compared with those who experienced a neutral state or an activated state. The level of activation in the emotion had no influence on participants' viewing times when the commercial was moderately energetic. In addition, participants spent

FIGURE 3
Study 3: The Effect of Commercial Energy on Viewing Time for Activating and Deactivating Emotions



less time viewing the highly energetic commercial compared with the moderately energetic commercial when they experienced a deactivating emotion. Importantly, we also demonstrated that participants did not spend significantly more time watching highly energetic commercials compared with commercials that were lower in energy (i.e., moderately energetic), which previous research would not have predicted (Rucker and Petty 2004). The purpose of the next study is to provide initial support for our process by demonstrating that the negative response to highly energetic commercials is mitigated when people are inclined to engage in effortful thought (i.e., high in need for cognition).

Study 4: Moderating Role of Need for Cognition

In Study 4, we aim to show that when consumers are in a state of deactivation, the amount of time they spend watching highly energetic commercials depends on their need for cognition (H_{4a} and H_{4b}). This result would not only provide evidence for our underlying process but also highlight that there are individual differences in people's propensity to respond negatively to highly energetic commercials, which is a relevant insight for managers. We expect that when people low in need for cognition are in a state of deactivation, they will spend less time watching a highly energetic commercial compared with those who are not in a state of deactivation (H_{4a}). However, we do not expect there to be differences in viewing times for people high in need for cognition who experienced a deactivating emotion compared with those who did not experience a deactivating emotion (H_{4b}). Finally, to extend our findings, we also induce another deactivating emotion, contentment, which is a positive emotion that is characterized by a state of deactivation (Barrett and Russell 1998). Research has found contentment to be an important driver of behavior that is distinct from other positive emotions (Griskevicius, Shiota, and Nowlis 2010).

Method Design and Procedure

One hundred sixty people ($M_{\text{age}} = 37$ years; 52% male) from an online panel participated in the main study for a small payment. The study was a single three-level factor (emotion: sad, content, neutral) between-subjects design with need for cognition as a measured factor. We conducted the study using an online survey. Participants were told that the purpose of the study was to examine people's reactions to different videos and commercials. Participants in the sad condition were then asked to watch a music video that played a sad song ("Gandalf's Fall" from *The Lord of the Rings: The Fellowship of the Ring*). Participants in the contentment condition were asked to watch a music video that played a song designed to induce a state of contentment (Yanni's "One Man's Dream"). In the neutral condition, participants did not watch a video, because it is difficult to induce a neutral mood using music (Cohen, Pham, and Andrade 2008).

Participants were then shown a 30-second MasterCard commercial featuring the Muppets that was pretested to be

highly energetic. We measured commercial viewing length by recording the number of seconds that participants remained on the screen after the start of the commercial before moving to the next screen. Next, as a manipulation check of the emotion induction, participants in both emotion conditions (i.e., sadness and contentment) indicated the extent to which the video they watched made them feel sad and the extent to which it made them feel content (1 = "not at all," and 7 = "very much"). Afterward, participants completed the 18-item Need for Cognition scale (Cacioppo, Petty, and Kao 1984; $\alpha = .96$; for a complete list of items as well as additional reliability and validity details, see the Web Appendix).

Results

Pretests. We conducted a pretest on 90 people and demonstrated that participants who watched the sad video reported feeling sadder than those in the neutral condition ($M_{\text{sad}} = 2.19$, $M_{\text{neutral}} = 1.45$; $t = 2.77$, $p < .01$) or the content condition ($M_{\text{sad}} = 2.19$, $M_{\text{content}} = 1.50$; $t = 2.60$, $p = .01$). Similarly, participants who watched the contentment video reported feeling more content than those in the neutral condition ($M_{\text{content}} = 3.33$, $M_{\text{neutral}} = 2.72$; $t = 2.02$, $p < .05$) or the sad condition ($M_{\text{content}} = 3.33$, $M_{\text{sad}} = 2.66$; $t = 2.72$, $p < .05$). We also conducted a pretest on 31 people and demonstrated that participants considered the commercial to be highly energetic ($M = 5.78$), with a mean that was significantly different from the midpoint ($t(30) = 12.95$, $p < .001$). The mean for this commercial was also above the threshold identified in Study 1.

Manipulation checks. An ANOVA with sadness as the dependent measure and emotion as the factor (excluding participants in the neutral condition because they did not watch a video) indicated a main effect of emotion such that participants in the sadness condition reported feeling sadder than those in the contentment condition ($M_{\text{sad}} = 3.28$, $M_{\text{content}} = 2.42$; $F(1, 103) = 5.90$, $p < .05$). In addition, participants in the contentment condition reported feeling more content than those in the sadness condition ($M_{\text{sad}} = 3.44$, $M_{\text{content}} = 4.45$; $F(1, 103) = 7.89$, $p < .01$). Thus, the results confirm the validity of our emotion manipulation.

Viewing time. We use the same procedure as in the previous studies. The buffer-adjusted censored average viewing time for the commercial was approximately 27 seconds. To account for the censoring of our viewing time data, we used a cumulative hazard function as our dependent measure. We tested our prediction using regression analysis. However, to account for our three-level emotion manipulation (sadness, contentment, and neutrality), we recoded our emotion variable into two categorical variables (Aiken and West 1991). One categorical variable, sadness, was coded such that sadness was 1 and the remaining conditions were 0. The other categorical variable, contentment, was coded such that contentment was 1 and the remaining conditions were 0. Thus, the sadness variable tested the difference in sadness versus the neutral condition and contentment variable tested the difference in contentment versus the neutral condition. We then regressed viewing time on sadness,

contentment, the mean-centered need for cognition, the sadness \times need for cognition interaction, and the contentment \times need for cognition interaction.

The sadness \times need for cognition interaction was marginally significant ($t(150) = 1.77, p < .10$) and the contentment by need for cognition interaction was significant ($t(150) = 2.31, p < .05$). We explored the interactions by centering need for cognition at one standard deviation below (low need for cognition) and above (high need for cognition) the mean. In support of H_{4a} , at low levels of need for cognition, the effects of sadness ($\beta = -.07, t(150) = -2.27, p < .05$) and contentment ($\beta = -.07, t(150) = -2.46, p < .05$) were significant and negative. In support of H_{4b} , at high levels of need for cognition, the effects of sadness ($\beta = .03, t(150) = -.92, n.s.$) and contentment ($\beta = .01, t(150) = .20, n.s.$) were not significant.

We also conducted a floodlight analysis to determine the region of significance for those who are low in need for cognition in both the sadness and contentment conditions. The results show that the effect of deactivating emotion on viewing time remains significant until need for cognition reaches 3.70 in the sadness condition and 4.13 in the contentment condition.

Discussion

Study 4 demonstrates that when people experience a deactivating emotion, the amount of time they spend watching a highly energetic commercial depends on their need for cognition (H_{4a} and H_{4b}). When participants who are low in need for cognition are in a state of deactivation, they are more likely to avoid watching a highly energetic commercial (H_{4a}). However, when participants who are high in need for cognition are in a state of deactivation, they do not avoid watching a highly energetic commercial (H_{4b}). These findings provide evidence for our process that people experiencing a deactivating emotion find highly energetic commercials cognitively difficult to watch and avoid such commercials. Next, we examine how a situational variable that affects people's desire to engage in effortful thought influences their response to highly energetic commercials.

Study 5: The Role of Action Goals

Marketing communications often induce a mindset that can color how subsequent messaging is perceived (e.g., Nike's "Just do it!" slogan). The purpose of Study 5 is to examine how an action goal elicited by marketing communications motivates consumers to process highly energetic commercials when they are in a state of deactivation. Drawing on previous research demonstrating that an action goal motivates people to engage in tasks that are mentally challenging (Albarracín et al. 2008; Laran 2010), we expect an action goal to attenuate the effect of deactivation on consumers' lower motivation to process highly energetic commercials. Consequently, we either induce or do not induce an action goal before having consumers watch a highly energetic commercial. We expect that when no action goal is evoked, participants experiencing a deactivating emotion (sadness) will show impaired brand recall compared with those who

do not experience a deactivating emotion (anger) (H_3). However, we expect evocation of an action goal to mitigate this effect (H_5) such that those experiencing a deactivating emotion will not show impaired recall of the brand.

Method Design and Procedure

One hundred thirty-four people from an online panel participated in the study ($M_{age} = 37$ years; 55% male). The study employed a 2 (emotion: sad, angry) \times 2 (action goal: present, absent) between-subjects design. Participants were informed that they would be participating in three short studies. Similar to Study 3, we had participants write about either a sad event that happened in their lives or an event that made them angry. Approximately half of the participants were told that the researchers were interested in life events that make people sad and were asked to write about a very sad day in their life (sad condition). The remaining participants were told that the researchers were interested in life events that make people angry and were asked to write about an experience that made them angry (angry condition).

The next study was purportedly a marketing study. Participants were instructed that they would be evaluating two marketing messages: a sponsor's message and a commercial. They were further instructed that they would answer questions about both messages after viewing them. On the next screen, participants viewed a sponsor's message that served as an action goal induction. Specifically, in the action goal condition, participants were shown a screen that contained text on a black background. The text read, "This program is brought to you by Action Energy. Energy for your active life!" In the no-action goal condition, participants were shown a similar screen with text that read, "This program is brought to you by Organic Farms. Food for your natural life!" This method of inducing an action goal has been used effectively in previous research (Laran 2010). Each sponsor's message remained on the screen for approximately 15 seconds before participants were automatically advanced to the next screen.

On the next screen, participants were then shown a 30-second Capital One commercial featuring Alec Baldwin that was pretested to be highly energetic. They were instructed to watch the entire commercial, during which time the button to proceed was disabled. Thus, participants were forced to watch the entire commercial. Afterward, participants were asked to briefly describe the commercial. They were then asked to indicate the extent to which the sponsor's message made them think about concepts associated with action on a three-item, seven-point scale ("action," "energy," and "active"; 1 = "not at all," and 7 = "very much"; $\alpha = .94$). As a manipulation check for the emotion manipulation, participants indicated how sad the writing task made them feel on a seven-point scale ("not sad/sad") and how angry the writing task made them feel on a seven-point scale ("not angry/angry").

The final study was a brand evaluation study, which was designed to serve as a filler task between the Capital One commercial and our brand recall measure. Participants were asked to evaluate 20 brands on a seven-point scale ("bad/good"), none of which were another credit card company.

After evaluating the brands, participants were asked to recall the company from the commercial that they watched earlier in the session. We coded this measure as 1 if participants recalled the company name and 0 if they did not recall it.

Results

Pretests. An important consideration in our action goal manipulation is that we wanted the sponsor's message to prime the concept of action without necessarily making participants feel more aroused because this could lead them to find it difficult to process the message. Thus, we conducted a pretest on 50 people to ensure that participants did not actually experience elevated levels of arousal in response to viewing the sponsors' message. However, we did expect them to focus more on concepts associated with action. As we expected, participants did not report any differences in arousal in the action goal condition ($M = 2.58$) versus no-action goal condition ($M = 1.93$; $F(1, 48) = 2.27$, n.s.). However, participants in the action goal condition did think more about concepts associated with action ($M = 4.65$) than did those in the no-action goal condition ($M = 2.23$; $F(1, 48) = 21.72$, $p < .001$). We also conducted a pretest on 35 participants, which demonstrated that participants considered the commercial highly energetic ($M = 5.49$), with a mean that was significantly different from the midpoint ($t(34) = 7.32$, $p < .001$) and above the threshold identified in Study 1.

Manipulation checks. An ANOVA with sadness as the dependent measure and emotion and action goal as the factors showed a main effect of emotion such that participants in the sad condition reported feeling sadder than those in the angry condition ($M_{\text{sad}} = 5.08$, $M_{\text{angry}} = 3.43$; $F(1, 129) = 22.19$, $p < .001$). The interaction was not significant ($F(1, 129) = .03$, n.s.). An ANOVA with anger as the dependent measure and emotion and action goal as the factors indicated a main effect of emotion such that participants in the angry condition reported feeling angrier than those in the sad condition ($M_{\text{sad}} = 2.70$, $M_{\text{angry}} = 5.13$; $F(1, 129) = 51.52$, $p < .001$). The interaction was not significant ($F(1, 129) = 1.22$, n.s.). The results confirm the validity of our emotion manipulations. In addition, we analyzed the extent to which the sponsor's message made people think about action using an ANOVA with emotion and action goal as the factors. The results showed a main effect of action goal such that participants in the action goal condition reported that the sponsor's message made them think more about action compared with those in the no-action goal condition ($M_{\text{action}} = 4.39$; $M_{\text{no action}} = 3.53$; $F(1, 129) = 7.37$, $p < .01$). The interaction was not significant ($F(1, 129) = .33$, n.s.). Thus, the results confirm the validity of our action manipulation.

Brand recall. We eliminated one person from our analysis for failing to follow the instructions of the writing task (the person only wrote one word during the task). We examined the effect of emotion and action goal on brand recall using logistic regression with recall as the dependent measure and emotion, action goal, and their interaction as the independent variables. The emotion by action goal interac-

tion was significant (Wald $\chi^2 = 4.64$, $p < .05$; see Figure 4). As we predicted in H_3 , when an action goal was absent, participants who experienced sadness were less likely to recall the brand (73.5%) than those who experienced anger (90.9%; Wald $\chi^2 = 3.17$, $p < .10$), but the difference was only marginally significant. This provides partial support for H_3 . As we predicted in H_5 , when an action goal was present, for those who experienced sadness there was no difference in brand recall (92.3%) compared with those who experienced anger (81.5%; Wald $\chi^2 = 1.66$, n.s.). When participants experiencing sadness had an action goal, they were more likely to recall the brand (92.3%) than those in the no-action goal condition (73.5%; Wald $\chi^2 = 4.18$, $p < .05$). When participants experiencing anger had an action goal, there was no difference in brand recall (81.5%) compared with those in the no-action goal condition (90.9%; Wald $\chi^2 = 1.10$, n.s.).

Discussion

Study 5 demonstrates that consumers experiencing a deactivating emotion display impaired recall after being exposed to a highly energetic commercial. However, this effect is attenuated when consumers are exposed to a marketing message that induces an action goal. Importantly, these results show that managers can actually influence consumers' response to highly energetic commercials and reduce their negative response to such commercials when they are in a state of deactivation. Moreover, these findings, as well as those in Studies 1 and 4, provide evidence that people experiencing a deactivating emotion find it cognitively demanding to process highly energetic commercials.

General Discussion

This research shows that sad movies, television shows, and videos (deactivating programming) can negatively influence the effectiveness of highly energetic commercials. Fol-

FIGURE 4
Study 5: The Effect of Action Goal and Emotion on Brand Recall



lowing such a program, consumers find it difficult to watch highly energetic commercials (Study 1). As a result, they watch less of both a positive (Study 2) and a negative highly energetic commercial (Study 2 follow-up). We further replicate the effect for a positive deactivating emotion (Study 3). This effect is attenuated when the consumer is high in need for cognition (Study 4). In addition, we show that consumers experiencing a deactivating emotion who are exposed to a highly energetic commercial seem to process the commercial in less depth and thus display impaired brand recall. However, advertising messages that prime action can mitigate this effect (Study 5). Furthermore, the generalizability of these findings is widespread (see the meta-analysis reported subsequently). Thus, in situations in which we can anticipate (or test for) consumers' emotional state, we can know which commercials will be more effective. When consumers are watching serious dramas or relaxing media content, they are likely to be in a state of deactivation and will react negatively to highly energetic advertising. Managers would be advised to carefully think through their advertising and placement strategy for high-energy commercials in media contexts that have the potential to induce deactivating emotions (e.g., sadness, contentment). More importantly, our results suggest that under many circumstances, a moderately energetic commercial may be a safer bet for advertisers.

A multistudy research article like this one has the opportunity to assess the robustness of the research findings. We used meta-analytic techniques to assess the overall strength of the effect, the overall significance of the effect, and the robustness of our results. We first calculated the effect sizes associated with the planned contrasts (i.e., deactivating vs. nondeactivating emotion for highly energetic commercials on the outcome variables in the framework: Study 2: $\eta = .16$; Study 2a: $\eta = .24$; Study 2b: $\eta = .21$; Study 2 follow-up: $\eta = .19$; Study 3: $\eta = .18$; Study 4: $\eta = .19$; Study 5: $\eta = .22$).⁶ We followed procedures suggested by Rosenthal and Rosnow (2008) and confirmed that the effect sizes were homogeneous ($\chi^2(6) = .53$, n.s.); the average weighted eta is .19, and the overall relationship was significant at $p < .001$ (using Rosenthal and Rosnow's [2008] p -value combination technique). This tells us that consumers in a deactivating emotional state respond 47% more

⁶We also included the results from two previous viewing time studies that used different commercials but were otherwise very similar to Study 2 (details available from the first author). Study 2a involved 133 undergraduates, a 2 (mood: sad [*The Champ* video], neutral [Einstein video]) \times 2 (commercial energy: high, moderate) design, and viewing time was the dependent variable. We analyzed Study 2a like Study 2, and the four contrasts were high energy ($F(1, 127) = 7.47$, $p < .01$), moderate energy ($F(1, 127) = .04$, n.s.), deactivating condition ($F(1, 127) = 4.00$, $p < .05$), and nondeactivating condition ($F(1, 127) = .384$, n.s.). Study 2b involved 94 online panel respondents, a 2 (mood: sad [*The Champ* video], neutral [Einstein video]) \times 2 (commercial energy: high, moderate) design, and viewing time was the dependent variable (again analyzed like Study 2). The four contrasts were highly energetic commercial ($F(1, 90) = 4.29$, $p < .05$), moderately energetic commercial ($F(1, 90) = .28$, n.s.), deactivating condition ($F(1, 90) = 298$, $p < .10$), and nondeactivating condition ($F(1, 90) = .70$, n.s.).

unfavorably to a highly energetic commercial compared with consumers in a nondeactivating emotional state (Rosenthal and Rubin 1982). Finally, we used standard file drawer technique to determine that it would take more than 55 null studies to reduce the significance of our results to the .05 level (two-tailed), reinforcing the robustness of the results. We had expected that the role of emotion deactivating (vs. nondeactivating) conditions would be minimal for the moderate energy level commercial a meta-analysis of the five effects confirmed it (average weighted η is .07).⁷

Similarly, we looked at the cells pertaining to highly and moderately energetic commercials for a deactivating emotion (Study 2: $\eta = .23$; Study 2a: $\eta = .18$; Study 2b: $\eta = .18$; Study 2 follow-up: $\eta = .23$; Study 3: $\eta = .17$), and the effect sizes were homogeneous ($\chi^2(4) = .59$, n.s.). The average weighted eta is .20, the overall relationship is significant at $p < .001$, and more than 25 null studies would be required to reduce the significance of our results to the .05 level (two-tailed), again reinforcing the robustness of the results. This tells us that consumers in a deactivating emotional state respond 50% more favorably to a moderately energetic commercial compared with a highly energetic commercial. We had expected that the role of commercial energy in the nondeactivating conditions would be minimal, and a meta-analysis of the five effects confirmed it (average weighted η is .06).⁸

Theoretical Contributions

This research makes several theoretical contributions. The conflict between a state of deactivation and highly energetic stimuli makes it difficult for consumers to watch such content and results in a negative response. Whereas previous research has shown that an emotion's level of activation can influence consumers' responses to products that are active or passive (Rucker and Petty 2004), the present research examines consumer reactions to advertising that is highly energetic and arousing. Furthermore, the present research establishes that advertising that is moderately activating does not have this effect and thus offers an effective alternative for managers.

This article also contributes to research on conflict and shows that emotion can serve as the basis for conflict. Ours is the first research to demonstrate that people in a deactivating emotional state actually find highly energetic stimuli difficult to watch. This is an important finding not only for

⁷We first calculated the effect sizes associated with the planned contrasts pertaining to deactivating versus nondeactivating emotions for moderately energetic commercials (Study 2: $\eta = .12$; Study 2 follow-up: $\eta = .10$; Study 3: $\eta = .07$; Study 2a: $\eta = .02$; Study 2b: $\eta = .06$); the effect sizes were homogeneous ($\chi^2(4) = .76$, n.s.), the average weighted eta is .07, and the overall relationship was not significant.

⁸We also used meta-analytic techniques to assess the effect sizes associated with the planned contrasts pertaining to highly versus moderately energetic commercial for the nondeactivating emotions (Study 2: $\eta = .04$; Study 2 follow-up: $\eta = .06$; Study 3: $\eta = .06$; Study 2a: $\eta = .06$; Study 2b: $\eta = .09$); the effect sizes were homogeneous ($\chi^2(4) = .12$, n.s.), the average weighted eta is .06, and the overall relationship was not significant.

the fields of advertising and marketing but also for the broad range of disciplines concerned with emotion. This work demonstrates the important role of activation in consumer behavior. Our research extends work on emotional activation (Russell and Barrett 1999) to show that the activation level of emotions serves as an important motivational driver of consumer perception, judgment, and behavior.

Managerial Implications

This research stands to fundamentally change the way in which advertisers approach the use of commercials. The prevalent practice is to produce commercials that are positive and upbeat (e.g., Geico's movie trailer announcer). Our research shows that this tactic is likely to be less effective for approximately 40% of media (coding of contemporary prime-time television has shown that 40% of programming is serious and somber [e.g., *The Good Wife*]; Schneider 2013). This research suggests that firms will realize substantially greater success if they use moderately energetic commercials rather than the highly energetic ones that continue to dominate. Alternatively, it indicates that managers may benefit greatly by selectively placing highly energetic commercials in programming that is unlikely to produce a deactivating emotion among viewers (e.g., *Modern Family*).

Our results suggest an opportunity for advertisers to feature positive commercials in the deactivating dramas that have become so popular (e.g., *The Americans*). Moderately energetic commercials in these contexts should be quite effective. Furthermore, these moderately energetic commercials may prove more distinctive for the brand given that the majority of advertisers are using highly energetic commercials.

If the medium is somber, an upbeat commercial will lead to shorter viewing times and lower brand recall. The good news is that firms and advertisers can easily assess the activation level of the emotion induced by a program. Critically, they need to consider how the media-induced emotion interacts with the energy level of the commercial. In cases in which advertisers are buying bulk time and have less information about programming, a safer strategy would be to run moderately energetic commercials.

We demonstrate that people who are watching video content that tends to be deactivating (e.g., a sad movie such as *The Champ*) find a highly energetic commercial (e.g., MasterCard's Muppets) more difficult to watch than those watching a neutral documentary (which evokes a neutral emotion). We also show that this difficulty may have a negative impact on brand recall and viewing time. This finding has important implications for advertisers because it suggests that they must consider not only the context in which their commercial is displayed (i.e., what television show consumers are watching) but also the energy level of the commercial that is viewed (i.e., how arousing and stimulating their commercial is). For example, our findings suggest that when watching a show that induces a deactivating emotion (e.g., *Homeland*), a highly energetic commercial (e.g., featuring an energetic announcer for Geico) may have a negative impact on memory for Geico (brand recall). Much of the focus among advertisers is on maximizing reach within their target demographic. Our research indicates that

if they reach that target with the wrong commercial, their money may be wasted.

Numerous online media are steadily growing and gaining in popularity. One of the most well-known of these online media sites is Hulu. Our field study results demonstrate the importance of carefully placing commercials in content across media outlets. Our overall results suggest that managers would benefit from placing moderately energetic commercials in contexts (or programs) that produce a deactivating emotion (e.g., sadness, contentment) and highly energetic commercials in shows that evoke activating emotions (e.g., anger). The growth of these alternative media highlights the continuing importance of understanding the effectiveness of commercials because they are broadcast in a variety of media contexts other than television. For example, our research questions the wisdom of "behavioral retargeting" in which a banner ad appears on subsequent unrelated web pages following a consumer's product search. Anecdotal evidence suggests that these product banner ads are often quite upbeat and may follow consumers into deactivating contexts (e.g., news websites). Our research suggests that this practice may lead the advertisement to be difficult to process and prove detrimental to the brand.

This research would seem to have broader implications as well. Increasing evidence has suggested that consumers are in a more deactivated emotional state in general. As unemployment increases (U.S. Bureau of Labor Statistics 2014), people commute almost an hour every day (U.S. Census Bureau 2013), and they sleep less (National Sleep Foundation 2013), we would expect consumers to be in a more deactivated state in general (e.g., fatigued; Barrett and Russell 1998). Thus, when they watch television, they may react negatively to highly energetic commercials regardless of the program they are watching. That is, although the program may be upbeat, the consumer's fatigue will persevere and render all highly energetic advertisements ineffective.

Study 4 suggests the mitigating effects of the consumer's level of motivation. Although the majority of consumers encounter advertisements in an unmotivated state, this finding offers another strategy for managers who want to use highly energetic advertisements. They can target consumers who are higher in need for cognition (e.g., by using consumer profession as a proxy), or as we demonstrate in Study 5, the message itself can induce consumers to engage in more extensive elaboration. Thus, presenting consumers with call-to-action prompts, such as a phone number to call or a URL to visit, would evoke an action goal and render highly energetic advertisements more effective.

Further Research

Additional investigation is necessary to formally assess the underlying role of both cognitive and affective mechanisms and how and when they work together. Such an investigation would help further elucidate the phenomenon and help scholars understand it in the context of previous research.

Moreover, our investigation focuses on sadness and contentment, and the question remains whether these findings would extend to other emotional states (e.g., guilt). For example, might someone experiencing guilt find virtuous

options (which are inconsistent with guilt) difficult? In addition, all our studies reported in this article have predominantly focused on television commercials, a highly underresearched area. It would be useful to further generalize the results to other media and ad types, such as print media and radio and the corresponding print and radio ads.

Future studies might also examine the impact of the consumer's mindset. In the studies presented here, participants were told that we were examining people's reactions to videos and commercials, which might have put them into an evaluative mode before watching and thus might have heightened their responses. This is a common limitation of experimental work in which ethics demand that we tell participants what they will be doing. Perhaps further research can identify a way to examine more naturally occurring behavior.

Finally, previous research has found that negative emotional states influence preference for positive options (Cohen and Andrade 2004; Erber, Wegner, and Theriault 1996; Puccinelli 2006). However, our research suggests that the results for the preferences for positive options might also be explained by the mismatch of activation levels between the emotional state and the selected option. Future studies need to reexamine these insights using an activation

lens as opposed to a valence lens. Furthermore, it would be useful to understand why we observe an asymmetry in effects. That is, whereas deactivating emotions lead consumers to respond negatively to highly energetic commercials, the evidence shows that activating emotions do not lead to a negative response to moderately energetic commercials. It would be worthwhile to explore why people find it cognitively taxing to switch from a deactivating state to one that is highly energetic. Moreover, how large a discrepancy is required for people to find it difficult to watch a highly energetic commercial? Our findings suggest that an energy level of 5.20 or greater on a seven-point scale is sufficiently discrepant with a deactivating emotional state. It would be fruitful to further characterize this discrepancy and test its generalizability.

In summary, our results show that there may be a real competitive opportunity for advertisers that are willing to consider the design of their commercials in relation to the commercials' placement in a media context or particular television show. This represents an opportunity not only to increase advertising effectiveness and sales revenues but also to enhance the customer experience as people interface with the brand.

APPENDIX A

Summary of Previous and Current Research on Energy Level of Emotion and Consumer Response

Research Component	Rucker and Petty (2004)	Present Research
Emotion induction	News article (e.g., effects of a natural disaster on a small village in Africa; p. 14)	Video (e.g., <i>The Champ</i>); autobiographical recall
Emotion manipulation check	Confirmed manipulation of emotion (e.g., sadness: how sad, gloomy, and "down" the article made participants feel)	Confirmed manipulation of emotion and established divergent validity (i.e., showed that other emotions were not also induced) by asking about all of the negative emotions from the Positive and Negative Affect Schedule (Watson, Clark and Tellegen 1988)
Commercial energy manipulation check	N.A.	Confirmed manipulation of commercial energy by asking how energetic participants perceived the commercial to be on four-item, seven-point bipolar scales (i.e., "not energetic/energetic," "dull/exciting," "not animated/animated," and "inactive/active")
Sample	N = 43 Undergraduates	N = 851 Community sample
Conceptualization of independent variable	Degree to which product use entailed passive or active behavior	Activating stimulus
Operationalization of construct	Print ad	Television commercial
Sample stimulus	Active-frame print advertisement that contained phrases such as "Brensa is perfect for people who want to actively explore over 48 acres of land including: Winding lagoons, tropical gardens, sparkling beaches," and "Brensa is for those who are ready for action" (p. 11). Passive-frame print advertisement that contained phrases such as "Brensa is perfect for people who want to relax and rest in over 48 acres of land including: Winding lagoons, tropical gardens, sparkling beaches," and "Brensa is for those who are ready to relax" (p. 11).	Highly energetic 30-second Capital One commercial featuring Alec Baldwin (Study 5)

**APPENDIX A
Continued**

Research Component	Rucker and Petty (2004)	Present Research
Dependent variable	A relative preference measure (i.e., 1 = "strongly prefer Brensa," and 9 = "strongly prefer Landro") and a dichotomous choice of participants' preference (1 = Brensa, 2 = Landro) were standardized and combined to form a preference index.	Viewing time, brand recall (i.e., 1 = "recalled Capital One," and 0 = "did not recall Capital One"), and perceived difficulty (i.e., two-items: "Watching the commercial was hard," and "Watching the commercial was difficult"; 1 = "not at all," and 7 = "very much so")
Analysis	Emotion × message frame	<ul style="list-style-type: none"> •Study 1: Perceived difficulty regressed on perceived energy •Studies 1, 2, and 3: Emotion × commercial energy, specific contrasts within commercial energy, specific contrasts within emotion •Study 4 moderation: Need for cognition •Study 5 moderation: Action goal
Finding	Sadness leads to greater relative preference for passive resort compared with anger. Comparisons with neutral control were not significant.	Deactivated emotional state leads to shorter viewing time, less brand recall, and greater perceived difficulty compared with neutral controls and activated emotional states.
Conclusion	Matching is preferred.	When in a deactivated state, a highly energetic commercial entails greater processing difficulty.
Mechanism posited	Affect-as-information: A passive state signals inactivity is desirable and appropriate (p. 9).	Processing difficulty: When in a deactivated state, a highly energetic commercial is difficult to process.
Means of testing mechanism	—	Tests moderation of need for cognition and action goal

Notes: N.A. = not applicable.

**APPENDIX B
Review of Construct Definitions, Manipulations, Measures, and Representative Studies**

Construct	Definition	Manipulation	Measure	Representative Studies
Emotion	A feeling state characterized by positive or negative valence as well as high or low activation	See specific emotion	See specific emotion	Russell and Barrett (1999) ^a
Deactivating emotion	An affective state that is characterized by lower arousal (e.g., sadness, contentment, relaxation)	See specific emotion	See specific emotion	Russell and Barrett (1999)
Activating emotion	An affective state that is characterized by higher arousal (e.g., anger, excitement)	See specific emotion	See specific emotion	Russell and Barrett (1999)
Sadness	An emotion that is negative and deactivating that is often associated with irrevocable loss	Video clip (e.g., seven minutes of 9/11: <i>The Falling Man</i> ; Studies 1, 2, and 4) Autobiographical recall (Studies 3 and 5)	Sad: "not at all/extremely"	Russell and Barrett (1999); Smith and Lazarus (1993)
Contentment	An emotion that is positive and deactivating that is often associated with a feeling of satiety and satisfaction experienced after the fulfillment of basic physical needs	Video clip (i.e., Yanni music video; Study 4)	Content: "not at all/very much"	Griskevicius, Shiota, and Nowlis (2010); Russell and Barrett (1999); Watson and Tellegen (1985)
Anger	An emotion that is negative and activating that is often associated with blaming another person	Autobiographical recall (Study 5)	"Not angry/angry"	Russell and Barrett (1999); Smith and Lazarus (1993)
Relaxation	An emotion that is positive and deactivating that is associated with the absence of a threat	Autobiographical recall (Study 3)	Relaxed: "not at all/very much"	Russell and Barrett (1999); Watson and Tellegen (1985)
Excitement	An emotion that is positive and activating that is associated with anticipation	Autobiographical recall (Study 3)	Excited: "not at all/very much"	Russell and Barrett (1999); Watson and Tellegen (1985)

APPENDIX B
Continued

Construct	Definition	Manipulation	Measure	Representative Studies
Highly Energetic Commercial	Television commercials that are arousing for the viewer to experience, characterized by energetic, exciting, animated, and active content	Show energetic commercial	"Not energetic/energetic"; "dull/exciting"; "not animated/animated"; "inactive/active"	Barrett and Russell (1998); Russell and Mehrabian (1977)
Need for Cognition	A person's tendency to engage in and enjoy effortful cognitive endeavors			
High need for cognition	People who are intrinsically motivated to engage in and enjoy cognitively effortful activities	N.A. (individual difference measure)	18-item Need for Cognition scale (see Web Appendix)	Cacioppo, Petty, and Kao (1984)
Low need for cognition	People who possess low motivation to engage in effortful thought	N.A. (individual difference measure)	18-item Need for Cognition scale (see Web Appendix)	Cacioppo, Petty, and Kao (1984)
Action Goal	A motivational state that leads to the pursuit of high-effort behavior	Sponsors message (e.g., "This program is brought to you by Action Energy. Energy for your active life!")	Thought about concepts associated with action: "not at all/very much"	Albarracín et al. (2008); Laran (2010)

^aRussell and Barrett's (1999) distinction between "core affect" and "prototypical emotional episode" is not relevant to the current investigation. Notes: N.A. = not applicable.

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