Consumers’ Response to Commercials:

When the Energy Level in the Commercial Conflicts with the Media Context

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This research examines how media-induced consumer activation level impacts consumer response to highly energetic commercials. Over six studies, including a Hulu field experiment, consumers experiencing a deactivating emotion (e.g., sadness induced by a movie) find it more difficult to watch highly energetic commercials compared to 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 to consumers who are not experiencing a deactivating emotion. These same effects are not observed 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 media that induces a deactivating emotion (e.g., sadness, relaxed, contentment) they should avoid running highly energetic commercials (e.g., with upbeat, enthusiastic spokespeople). Additionally, 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 shows that consumers experiencing a deactivating emotion will respond as much as 50% more favorably to moderately energetic commercials compared to highly energetic ones.

Keywords: Advertising, Emotion, Activation, Media, Processing Difficulty, Brand Recall
The advertising landscape is more challenging than ever before as 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 appear to have become the norm in advertising. For instance, our analysis of commercials on Hulu (hulu.com) found that over eighty-percent of the commercials embedded in content on the ad supported on-demand video service were rated to be relatively energetic. Thus, understanding how consumers respond to commercials that are relatively high in energy and the circumstances in which these commercials are ineffective would seem critical to 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 different emotions. Prior research suggests 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 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).

While 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. Additionally, this research focuses 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 as most commercials are likely viewed independently of each other. The focus of our research is on understanding these high energy commercials (more specific details comparing and contrasting our research design elements and findings to Rucker & Petty (2004) are provided in Appendix A).

The present research seeks 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 consumer’s 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. Additionally, consumers who experience an emotion that is low in activation have a more negative response to highly energy commercials compared to commercials that are also relatively high in energy, but 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. Our findings 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). Additionally, we demonstrate that when consumers are not experiencing an emotion that is low in activation, consumers 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 relatively high in energy, but ones that are only moderately energetic. Finally, since 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**

Past 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 (see Furnham, Gunter and Walsh 1998 for a review), the emotions induced by media have been shown to play a significant role in how consumers evaluate commercials. For instance, when a television program induces positive emotions, consumers respond more favorably to subsequent commercials, in terms of liking and recall, compared to when the television program induces negative emotions (Coulter 1998; Goldberg and Gorn 1987). Consumers watching sad television
content respond more favorably to sad commercials compared to happy commercials (Kamins et al. 1991). Thus, understanding how marketing communications are shaped by emotion is valuable (Kidwell, Hardesty, Murtha and Sheng 2011).

While this 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 once the level of energy reaches a certain threshold (see Figure 1; construct definitions are included in Appendix B). 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 different 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). However, 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 and mentally, whereas deactivation is a state of low physical and cognitive activity.
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 demonstrates 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 requiring 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). Additionally, 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, it 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) as people often use their current state as a reference point for judging a new experience (Tversky and Griffin 1991; Wilcox and Song 2011). For instance, people find it easier to process information when they transition from a task where it was hard to process information compared to when they transition from a task where it was easy to process
information (Hansen, Dechène, 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 where it was
easy to process price differences than from one where it was hard 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 the 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 did not expect higher levels of commercial energy
to increase processing difficulty at moderate levels of energy.

\[ H_{1a} \]: When consumers experience a deactivating emotion, the energy in a commercial will
increase the difficulty watching a commercial at high levels of energy.

\[ H_{1b} \]: When consumers experience a deactivating emotion, the energy in a commercial will 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 then understanding their response to such
commercials is of vital importance for managers. People are naturally inclined to move away
from tasks that they find cognitively demanding (see Botvinick 2007 for a recent review). 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 finds that people avoid situations when they experience cognitive conflict or find it difficult to process information (Botvinick 2007; MacLeod, Hunt and Mathews 1978). For instance, 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 ones that are the same color (Botvinick 2007). Additionally, people are less likely to select products that are difficult to process compared to similar ones 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 a deactivating emotion, compared to when they do not experience a deactivating emotion, they should spend less time watching highly energetic commercials. This effect should be attenuated because the state of deactivation is unlikely to be highly discrepant with the energy level of the commercial. Additionally, these same deactivated emotion consumers should spend less time watching highly energetic commercials compared to moderately energetic commercials. In a similar fashion, the relationship would be attenuated for consumers experiencing a non-deactivating emotion. Thus, we predict,

**H2:** The activation level of the emotion and the energy level of the commercial will interact to influence commercial viewing time. More specifically:

a) When a consumer experiences a deactivating (vs. a non-deactivating) emotion, they will spend less time viewing a highly energetic commercial; when a consumer experiences a deactivating (vs. a non-deactivating) emotion their viewing time will be less likely to be influenced for a moderately energetic commercial

b) When a consumer experiences a deactivating emotion, they will spend less time viewing a highly energetic (vs. moderately energetic) commercial; When a consumer
experiences a non-deactivating emotion, their viewing time will be less likely to be influenced by the commercial energy level (highly vs. moderately energetic).

One of the primary purposes of commercials is to have consumers remember the brand name. However, the extent to which highly energetic commercials will 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 they engage in 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 to when they give it extensive elaboration (i.e., they give it a lot of attention). The extent to which consumers engage in extensive 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, since 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 to people who do not experience a deactivating emotion.

**H3:** When consumers experience a deactivating emotion and subsequently watch a highly energetic commercial, they will demonstrate impaired brand recall compared to 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 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 is beneficial for marketers. If this negative response is due to consumers’ finding these commercials 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 individuals 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. However, 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 above the energy threshold can help managers identify consumers who are more or less prone to respond negatively to such commercials.

We predict that a consumer’s 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, who tend to avoid cognitively difficult activities, experience a deactivating emotion they should spend less time watching a highly energetic commercial compared to those who are not experiencing a deactivating emotion. However, when people who are high in need for cognition, who tend to engage in effortful thought, experience a deactivating emotion they should not avoid watching a highly energetic commercial so we expect there to be no difference in their viewing time compared to those who do not experience a deactivating emotion.
**H₄:** The need for cognition and the activation level of the emotion will interact to influence the viewing time of a highly energetic commercial. More specifically:

- **a):** When a low need for cognition consumer experiences a deactivating (vs. a non-deactivating) emotion, they will spend less time viewing a highly energetic commercial.
- **b):** When a high need for cognition consumer experiences a deactivating (vs. a non-deactivating) emotion, their viewing time for a highly energetic commercial will be 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 physical and mentally effortful behavior (Albarracin et al., 2008; Laran, 2010). A goal of inaction is characterized as a motivational state that reduces the desire to pursue effortful behavior (Albarracin 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 (Albarracin, 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 to those not primed with an action goal (Albarracín et al. 2008). Thus, if consumers experiencing a deactivating emotion are less likely to recall a brand after watching a highly energetic commercial because they find processing the commercial cognitively difficult, then 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 prior to watching a highly energetic commercial, they will be more likely to recall the brand in the commercial compared to those who are not primed with an action goal.

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

We present six studies to test these predictions. Study 1 presents the results of a field study conducted on Hulu to test if when consumers experience a deactivating emotion, the energy in a commercial will increase the difficulty watching the commercial at high levels of energy and will not increase the difficulty watching a commercial at moderate levels of energy. Studies 2 and 3 test the interaction of deactivating emotion and energy level of commercials 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 this study was to demonstrate that when the level of energy in commercials is above a certain threshold to create a discrepancy (i.e., highly energetic), the energy in a commercial will increase the difficulty of watching a commercial (H1a). We also wanted to show that the relationship between commercial energy and difficulty watching would not emerge when the level of energy was below the threshold (i.e., moderately energetic; H1b). Given the popularity and strong growth in streamed online content, we conducted a field study on Hulu (www.hulu.com), which is 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 then evaluated the commercial in terms of how difficult it was to watch and how energetic it was perceived to be.

**Method**
Participants were instructed 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 were then asked to indicate whether they could watch video content and listen to sound before continuing. 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 on Hulu that was a documentary entitled 9/11: The Falling Man about the 9/11 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). Since 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 that lasted about seven minutes. All participants saw 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 the segment and the target commercial. The initial set of questions was about the target commercial. Participants indicated how difficult they found watching the commercial to be using a two-item scale (“watching the commercial was hard”, “watching the commercial was difficult”, r = .91; Luce 1998). Participants then indicated how energetic they perceived the commercial to be on a four-item, seven-point bipolar scale (not energetic to energetic, dull to exciting, not animated to animated, inactive to active; α = .81; Barrett and Russell 1998; Russell and Mehrabian 1977). Given previous research suggesting an
effect of commercial valence, we assessed how positively people perceived the commercial to be in order 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 to happy, displeasure to pleasure, feel bad to feel good, sadness to joy, negative to positive; $\alpha = .90$; Barrett and Russell 1998; Russell and Mehrabian 1977). Finally, participants were asked to briefly describe the commercial that they just watched. Participants were then asked some questions about the video segment and asked to briefly describe 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 tested hypotheses by first examining the relationship between perceived energy and perceived difficulty using a quadratic function, by regressing difficulty on mean-centered energy and mean-centered energy squared ($\text{energy}^2$) 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 H1a, 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 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 ($\beta = .12$, $t(181) = .89$, NS), which is consistent with H1b. 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 ($\beta = -.28$, $t(181) = -1.49$, NS). 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. They 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, they can feature positive commercials in deactivating programming, but just 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: Role of Context Emotion and Commercial Energy**

The purpose of Study 2 was 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 expected that people would spend less time watching a highly energetic commercial when they experience a state of deactivation compared to when they do not experience a state of deactivation ($H_{2a}$). Additionally, those in a state of deactivation would spend less time watching a highly energetic commercial compared to a moderately energetic commercial ($H_{2b}$).

**Method**

*Design and procedure.* One hundred forty-two people ($M_{Age} = 36; 46\%$ male) from an online panel participated in the main study for a small stipend. The study adopted a $2$ (emotion: sad or neutral) $x$ $2$ (commercial: highly or moderately energetic) between-subjects design. Participants were 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 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 was a commercial for Geico featuring an energetic movie announcer. The moderately energetic commercial was a commercial for Geico starring 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”; see Web Appendix for more details on pretests). As expected, participants watching 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 highly or moderately energetic. The results confirmed that the highly energetic commercial was highly energetic and the moderately energetic commercials was moderately energetic (\(M_{\text{High}} = 5.33, M_{\text{Mod}} = 4.76; F(1, 71) = 5.69, p < .05\)). Additionally, 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{Mod} = 5.93; F(1, 71) = .60, NS). They perceived the commercials to be similar in terms of how positive they were (M\text{High} = 5.81, M\text{Mod} = 5.92).³

*Viewing time.* As we were primarily interested in people who chose to watch only a portion of the commercial compared to those who watched the entire commercial, we truncated the measure at 33 seconds. Thirty-three seconds allows three 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 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 H2a, consumers exposed to the highly energetic commercial spent less time watching the commercial in the sad condition compared to the neutral condition (M\text{Sad} = .34; M\text{Neutral} = .41; F(1, 136) = 3.75, p = .05). There was also 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, NS).

As predicted by H2b, participants in the sad condition spent less time watching the highly energetic commercial compared to 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, NS).

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 exposed to the highly energetic commercial spent 24.50 seconds watching the commercial compared to 27.79 in the neutral condition. However, participants in the sad condition exposed to the moderately energetic commercial spent 28.78 seconds watching the commercial compared to 27.24 in the neutral condition.

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Insert Figure 2 about here
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**Discussion**

Study 2 demonstrates that media context impacts consumers’ willingness to watch specific types of commercials. In particular, when participants experienced a deactivating emotion from the media context they spent less time watching a highly energetic commercial compared to when they did not experience a deactivating emotion (H2a). Additionally, those experiencing a deactivating emotion spent less time watching a highly energetic commercial compared to a moderately energetic commercial (H2b).

**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.

**Method**

*Design and procedure.* One hundred-eight people (M_{Age} = 35; 49% male) from an online panel participated in the main study for a small stipend. The study adopted a 2 (emotion: sad or neutral) x 2 (commercial: highly energetic or 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 anti-meth public service announcements that were pretested to be negative, but
highly or moderately energetic. We recorded how long they 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 highly or moderately energetic ($M_{\text{High}} = 5.24, M_{\text{Mod}} = 4.28; t(43) = 6.24, p < .001$). Additionally, the highly energetic commercial was above the threshold identified in Study 1. Participants liked the commercials equally ($M_{\text{High}} = 3.55, M_{\text{Mod}} = 3.66; t(43) = .54, \text{NS}$) and they perceived the commercials to be similar in terms of how negative they were ($M_{\text{High}} = 2.16, M_{\text{Mod}} = 2.27; t(43) = 1.11, \text{NS}$).

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

Additionally, consistent with $H_{2b}$, participants in the sad condition, spent less time watching the highly energetic commercial compared to 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 ($F(1, 102) = .40, \text{NS}$).

**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 only spend less time watching 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 Emotions Examined**

Our theory suggests that highly energetic commercials should primarily influence consumer response when they are in a state of deactivation. We would not expect such commercials to influence consumer response when they experience an activating emotion as there is less of a discrepancy between the level of arousal in the emotion and that of the commercial. However, understanding how consumers respond to commercials above or below the threshold is important since previous research suggests that people experiencing activating emotions may prefer commercials that are higher in energy when they experience a state of activation (Rucker and Petty 2004). Thus, in Study 3 we looked at how consumers experiencing a positive deactivating emotion (relaxation), an activating emotion (excitement), and a neutral state respond to highly and moderately energetic commercials. Consistent with the results of prior studies, we expected people experiencing relaxation to spend less time viewing a highly energetic commercial compared to moderately energetic commercial. However, when consumers were not experiencing a deactivating emotion (i.e., those in a neutral state or experiencing excitement) we did 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_{Age} = 36; 47% male). The study employed a 3 (emotion: relaxed, excited, or neutral) x 2 (commercial: highly energetic or moderately energetic) between-subjects design. The study was conducted using an online survey. Participants were instructed 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 that they felt relaxed or a time that they felt excited (see Web Appendix for detailed participant instructions).

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

Viewing time. We use 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. ANOVA results indicate that the emotion by 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 exposed to the highly energetic commercial spent less time watching the commercial ($M_{\text{Relaxed}} = .21$) compared to 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 than that in the neutral and excited conditions ($F(1, 196) = .98, \text{NS}$). Additionally, participants in the relaxed condition did not spend significantly less time watching the moderately energetic commercial ($M_{\text{Relaxed}} = .25$) compared to those in the neutral condition ($M_{\text{Neutral}} = .24$; $F(1, 196) = 1.27, \text{NS}$) or those in the excited condition ($M_{\text{Excited}} = .23$; $F(1, 196) = 1.32, \text{NS}$). In support of $H_{2b}$, participants in the relaxed condition spent less time watching the highly energetic commercial compared to the moderately energetic commercial ($F(1, 196) = 5.50, p < .05$). However, as expected, there was no significant difference in viewing time of the commercials in the neutral condition ($F(1, 196) = .14, \text{NS}$) and the excited condition ($F(1, 196) = 1.32, \text{NS}$).

As depicted in Figure 3, participants in the relaxed condition exposed to the highly energetic commercial spent 23.57 seconds watching the commercial compared to 28.07 in the neutral condition and 27.93 in the excited condition. However, participants in the relaxed condition exposed to the moderately energetic commercial spent 28.32 seconds watching the commercial compared to 27.18 in the neutral condition and 25.67 in the excited condition.
Discussion

The results of this study replicate those of prior studies. Participants experiencing a deactivating emotion spent less time watching a highly energetic commercial compared to 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. Additionally, participants spent less time viewing the highly energetic commercial compared to 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 to commercials that were lower in energy (i.e., moderately energetic), which would not be predicted by previous research (Rucker and Petty 2004). The purpose of the next study was 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., those high in need for cognition).

Study 4: Moderating Role of Need for Cognition

In Study 4, we wanted to show that when consumers are in a state of deactivation the amount of time consumers spend watching highly energetic commercials depends on consumers’ need for cognition (H₄ᵃ and H₄ᵇ). Demonstrating this 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 expected 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 to those who are not in a state of deactivation (H₄ᵃ). However, we did not expect there to be differences in viewing times for
people high in need for cognition who experienced a deactivating emotion compared to those who did not experience a deactivating emotion (H4b). Finally, to extend our findings, we also induced another deactivating emotion, contentment, which is a positive emotion that is characterized by a state of deactivation (Barrett and Russell 1998). Contentment has been found 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 ($M_{\text{Age}} = 37$; 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, contentment or neutral) between-subjects design with need for cognition as a measured factor. The study was conducted using an online survey. Participants were instructed 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). 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 as 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 how long participants watched the commercial by recording how many seconds they 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 the video
made them feel content (1 = “not at all” and 7 = “very much”). Afterwards, participants completed the 18-item Need for Cognition scale (Cacioppo, Petty and Kao 1984; α = .96; See Web Appendix for complete list of items as well as additional reliability and validity details).

**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 (M_{Sad} = 2.19, M_{Neutral} = 1.45; t = 2.77, p < .01) or the contentment condition (M_{Sad} = 2.19, M_{Contentment} = 1.50; t = 2.60, p = .01). Similarly, participants who watched the contentment video reported feeling more content than those in the neutral (M_{Contentment} = 3.33, M_{Neutral} = 2.72; t = 2.02, p < .05) or the sad condition (M_{Contentment} = 3.33, M_{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 the neutral condition since they did not watch a video) found a main effect of emotion such that participants in the sad condition reported feeling sadder than those in the contentment condition (M_{Sad} = 3.28; M_{Content} = 2.42; F(1, 103) = 5.90, p < .05). Additionally, participants in the contentment condition reported feeling more content than those in the sad condition (M_{Sad} = 3.44; M_{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 the fact that we had three levels of our emotion manipulation (sadness, contentment, and neutral), we recoded our emotion variable into two categorical variables (Aiken and West 1991). One categorical variable was coded such that sadness was one and the remaining conditions were zero (sadness). The other categorical variable was coded such that contentment was one and the remaining conditions were zero (contentment). 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 (contentment). We then regressed viewing time on sadness, contentment, mean-centered need for cognition, the sadness by need for cognition interaction and the contentment by need for cognition interaction.

The sadness by 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 the mean (high need for cognition). 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 ($\beta = .03, t(150) = -.92, \text{NS}$) and contentment ($\beta = .01, t(150) = .20, \text{NS}$) 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 demonstrate that the effect of deactivating emotion on viewing time remain significant until need for cognition reaches 3.70 in the sad condition and 4.13 in the contentment condition.

**Discussion**
Study 4 demonstrates that the amount of time people spend watching a highly energetic commercial, when they experience a deactivating emotion, depends on consumers’ need for cognition (H4a and H4b). 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 when (H4a). 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 (H4b). These findings provide evidence for our process that people experiencing a deactivating emotion find highly energetic commercials cognitively difficult to watch and they avoid the commercials. Next, we examine how a situational variable that affects people’s desire to engage in effortful thought influences consumers’ response to highly energetic commercials.

**Study 5: 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!”). The purpose of Study 5 was 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. Based 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 expected an action goal to attenuate the effect of a state of deactivation on consumers’ lower motivation to process highly energetic commercials. Consequently, we induced or did not induce an action goal before having consumers watch a highly energetic commercial. We expected that when no action goal was evoked, participants experiencing a deactivating emotion (sadness) would show impaired brand recall compared to those who did not experience an activating emotion (anger; H3). However, we
expected evoking an action goal to mitigate this effect (H5) such that those experiencing a deactivating emotion would 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; 55% male). The study employed a 2 (emotion: sad or angry) x 2 (action goal: present or absent) between-subjects design. Participants were instructed that they would be participating in three short studies. Similar to Study 3, we had participants write about 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 to write about a very sad day in their life (sad condition). The remaining participants were instructed that the researchers were interested in life events that make people angry and 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 after viewing each message. 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 and the button to proceed was disabled during the commercial. Thus, participants were forced to watch the entire commercial. After watching the commercial 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, 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 to sad) and how angry the writing task made them feel on a seven-point scale (not angry to 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 different brands on a seven-point scale (bad to good) none of which were from a 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 one if participants recalled the company name and zero 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 expected, participants did not report
any differences in arousal in the action (M = 2.58) versus no action goal conditions (M = 1.93; F(1, 48) = 2.27, NS). However, participants in the action goal condition did think more about concepts associated with action in the action goal condition (M = 4.65) than in the no action goal condition (M = 2.23; F(1, 48) = 21.72, p < .001). We also conducted a pretest on 35 participants that demonstrated that participants considered the commercial to be 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 found a main effect of emotion such that participants in the sad condition reported feeling sadder than those in the angry condition (MSad = 5.08; MAngry = 3.43; F(1, 129) = 22.19, p < .001). The interaction was not significant (F(1, 129) = .03, NS). An ANOVA with anger as the dependent measure, and emotion and action goal as the factors found a main effect of emotion such that participants in the angry condition reported feeling angrier than those in the sad condition (MSad = 2.70; MAngry = 5.13; F(1, 129) = 51.52, p < .001). The interaction was not significant (F(1, 129) = 1.22, NS). The results confirm the validity of our emotion manipulations. Additionally, we analyzed the extent to which the sponsor’s message made people think about action using 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 to those in the no action goal condition (MAction = 4.39; MNoAction = 3.53; F(1, 129) = 7.37, p < .01). The interaction was not significant (F(1, 129) = .33, NS). 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 interaction was significant (Wald’s $\chi^2 = 4.64, p < .05$; see Figure 4). As predicted by H3, when an action goal was absent, participants who experienced sadness were less likely to recall the brand (73.5%) compared to those who experienced anger (90.9%; Wald’s $\chi^2 = 3.17, p < .10$), but the difference was only marginally significant. This provides partial support for H3. As predicted by H5, when an action goal was present, for those that experienced sadness there was no difference in brand recall (92.3%) compared to those who experienced anger (81.5%; Wald’s $\chi^2 = 1.66$, NS). When participants experiencing sadness had an action goal, they were more likely to recall the brand (92.3%) compared to those in the no action goal condition (73.5%; Wald’s $\chi^2 = 4.18, p < .05$). When participants experiencing anger had an action goal, there was no difference in brand recall (81.5%) compared to those in the no action goal condition (90.9%; Wald’s $\chi^2 = 1.10$, NS).

Discussion

Study 5 demonstrates that consumers experiencing a deactivating emotion exposed to a highly energetic commercial display impaired recall. 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 the negative response they have to such commercials when they are in a state of deactivation. Additionally, these findings, as well as those in Studies 1 and 4, provide
evidence that people experiencing a deactivating emotion find processing highly energetic commercials cognitive demanding.

**General Discussion**

This research shows that sad movies, television shows and videos (deactivating programming) can negatively impact the effectiveness of highly energetic commercials. Following such a program, consumers find watching highly energetic commercials difficult (Study 1). As a result, they watch less of both a positive (Study 2) and 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). Additionally, we show that consumers experiencing a deactivating emotion exposed to a highly energetic commercial appear 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). Further, the generalizability of these findings is widespread (see meta-analysis reported later). Thus, in situations where 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 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 or contentment). More importantly, our results suggest that under many circumstances a moderately energetic commercial may be a safer bet for advertisers.

A multi-study 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. non-deactivating 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: $\eta = .22$). We followed procedures suggested by Rosenthal and Rosnow (2008) and confirmed that the effect sizes were homogeneous ($\chi^2(6) = 0.53, \text{ns}$); 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 unfavorably to a highly energetic commercial compared to consumers in a non-deactivating emotional state (Rosenthal and Rubin 1982). Finally, we used standard file drawer technique to determine that it would take over 55 null studies to reduce the significance of our results to the .05 (two-tailed), reinforcing the robustness of the results. We had expected that the role of emotion deactivating (vs. non-deactivating) conditions would be minimal for the moderate energy level commercial a meta-analysis of the five effects confirmed it (average weighted $\eta$ is .07).

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: $\eta = .17$, the effect sizes were homogeneous ($\chi^2(4) = 0.59, \text{ns}$). The average weighted $\eta$ is .20, the overall relationship is significant at $p < .001$ level, and it would require over 25 null studies to reduce the significance of our results to the .05 level (2-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 to a highly energetic commercial. We had expected that the role of commercial
energy in the non-deactivating conditions would be minimal, a meta-analysis of the five effects confirmed it (average weighted $\eta$ is .06).  

**Theoretical Contributions**

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

This research also adds to the work 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. This is an important finding not only for advertising and marketing but contributes to 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 is likely to be less
effective for approximately 40% of media (coding of contemporary primetime television finds 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 suggests that managers may benefit greatly by selectively placing highly energetic commercials in programming unlikely to produce a deactivating emotion among viewers (e.g., *Modern Family*).

Our results suggest an exciting opportunity for advertisers. It suggests advertisers can 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. Further these moderately energetic commercials may prove more distinctive for the brand given that the majority of advertisers are using highly energetic commercials.

If the media 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 their commercial. In cases where 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 watching TV content that tends to be deactivating (e.g., a sad movie like *The Champ*) find a highly energetic commercial (e.g., Mastercard’s Muppets) more difficult to watch than those watching a neutral documentary (that evokes a neutral emotion). We also show that this difficulty may have a negative impact on brand recall and viewing time. This has important implications for advertisers as it suggests that they must not only consider the
context in which their commercial is displayed (i.e., what TV 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 instance, 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 finds that if they reach that target with the wrong commercial the advertiser’s 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 mediums highlights the continuing importance of understanding the effectiveness of commercials, as they are broadcast in a variety of media contexts besides television. For example, it questions the wisdom of “behavioral retargeting” whereby following a consumer’s product search, a banner ad will appear on subsequent unrelated web pages. Anecdotal evidence suggests that these product banner ads are often quite upbeat and follow consumers into deactivating contexts (e.g., the news). 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 implications more broadly as well. Increasing evidence suggests that consumers overall are generally in a more deactivated emotional state. As
unemployment creeps up (United States Bureau of Labor Statistics 2014), consumers commute almost an hour every day (United States Census Bureau 2013), and sleep less (National Sleep Foundation 2013) we would expect consumers to generally be in a more deactivated state (e.g., fatigued; Barrett & Russell 1998). Thus, when they watch TV they may react negatively to highly energetic commercials regardless of the program they are watching. That is, while 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 level of motivation of the consumer. While the vast majority of consumers encounter advertisements in an unmotivated state, this 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, within the message itself, consumers can be induced 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.

**Future Research**

Further 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 understand it in the context of previous research.

Moreover, while our investigation focuses on sadness and contentment, a question remains as to whether these findings would extend to other emotional states (e.g., guilt). For instance, might someone experiencing guilt find virtuous options, which are inconsistent with guilt, difficult? Additionally, all our studies reported in this paper have predominantly focused
on television commercials, a highly under researched 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 research may also want to examine the impact of the mindset of the consumer. In
the studies presented here, participants were told that we were examining peoples’ reactions to
videos and commercials which may have put consumers into an evaluative mode before
watching and heighten responses. This is a common limitation of experimental work where
ethics demand we tell participants what they will be doing. Perhaps future research can identify a
way to examine more naturally occurring behavior.

Finally, previous research finds that negative emotional states impact preference for
positive options (Cohen and Andrade 2004; Erber, Wegner and Therriault 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
option being selected. Future research needs to re-examine these insights using an activation lens
as opposed to a valence one. Further, it would be useful to understand why we observe an
asymmetry in effects. That is, while deactivating emotions lead consumers to respond negatively
to highly energetic commercials the evidence finds that activating emotions do not lead to a
negative response to moderately energetic commercials. In future research it would be interesting
to explore why people find it cognitively taxing to switch from a deactivating state to one that is
high energy. 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 on a
seven-point scale and above is sufficiently discrepant with a deactivating emotional state. It
would be interesting to further characterize this discrepancy and test its generalizability.
In sum, our results find there may be a real competitive opportunity for advertisers willing to consider the design of their commercials in relation to their placement in a media context or particular TV show. This represents not only an opportunity to increase advertising effectiveness and sales revenues, but also a chance to enhance the experience of customers as customers interface with their brand.
References


---, Wei Wang, and Joshua Leeper (2009), “Immediate Increase in Food Intake Following Exercise Messages,” *Obesity*, 17 (7), 1451-52.


Pham, Michel Tuan (1996), “Cue Representation and Selection Effects of Arousal on


FOOTNOTES

1 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.

2 One 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 as their description of the video segment indicated that they did not watch the correct video. Ten participants were not included as 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 instruction to return to the survey to answer questions immediately after the target commercial (Oppenheimer, Meyvis, and Davidenko 2009).

3 The results of all pretests are discussed in-depth in the Web Appendix.

4 The three second buffer is based on tests by the authors conducted on a variety of computers with various high-speed internet connections. Similar procedures used in all viewing time studies. Furthermore, participants with extreme viewing time, suggesting that they did not follow instructions (i.e., failure of attention; Oppenheimer, Meyvis, and Davidenko 2009), were dropped (Study 2: 2; Study 2 Follow-up: 2; Study 3: 1; Study 4: 4).

5 In all studies in this paper, any significant results reported remain either significant or marginally significant when the censored viewing time measure is analyzed using a cox regression model. Additionally, all significant results remain significant when the raw viewing time measure is transformed using a square-root transformation (to account for non-normality) and analyzed using ANOVA.

6 We also included the results from two earlier viewing time studies that were very similar to Study 2 that used different commercials (details available from the first author). Study 2a involved 133 undergraduates, a 2 (mood: sad (Champ Video) vs. neutral (Einstein Video)) x 2 (commercial energy: high vs. moderate) design and viewing time was the dependent variable. It was analyzed like Study 2 and the four contrasts were: highly energetic (F(1, 127) = 7.47, p < .01), moderate energy (F(1, 127) = .04, NS), deactivating condition (F(1, 127) = 4.00, p < .05), and non-deactivating condition (F(1, 127) = .384, NS). Study 2b involved 94 online panel respondents, a 2 (mood: sad (Champ Video) vs. neutral (Einstein Video)) x 2 (commercial energy: high vs. 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, NS), deactivating condition (F(1, 90) = .384, NS), and non-deactivating condition (F(1, 90) = .70, NS).

7 We first calculated the effect sizes associated with the planned contrasts pertaining to deactivating vs. non-deactivating emotion 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 (\( \chi^2(4) = 0.76 \), NS), the average weighted \( \eta \) is .07, and the overall relationship was not significant.

8 We also used meta-analytic techniques to assess the effect sizes associated with the planned contrasts pertaining to highly vs. moderately energetic commercial for the non-deactivating 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 (\( \chi^2(4) = 0.12 \), NS), the average weighted \( \eta \) is .06, and the overall relationship was not significant.
FIGURE 1
Conceptual Model

Cognitive Conflict
Deactivating Media and Highly Energetic Commercial

Processing Difficulty
Study 1

Commercial Effectiveness
Viewing Time
Studies 2, 3, 4
Brand Recall
Study 5

Need for Cognition
Study 4
Action Goal
Study 5

H1
H2
H3
H4
H5

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

FIGURE 3
Study 3: The Effect of Commercial Energy on Viewing Time for Activating and Deactivating Emotions
FIGURE 4
Study 5: The Effect of Action Goal and Emotion on Brand Recall

![Bar chart showing the effect of action goal and emotion on brand recall. The chart compares the percentage of correct brand recall under different emotions and action goals.](chart)
## APPENDIX A
### SUMMARY OF PAST AND CURRENT RESEARCH ON ENERGY LEVEL OF EMOTION AND CONSUMER RESPONSE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotion Induction</strong></td>
<td>News article (e.g., effects of a natural disaster on a small village in Africa; p. 14)</td>
<td>Video (e.g., The Champ); Autobiographical recall</td>
</tr>
<tr>
<td><strong>Emotion Manipulation Check</strong></td>
<td>Confirmed manipulation of emotion (e.g., sadness - how sad, gloomy, and down the article made them feel).</td>
<td>Confirmed manipulation of emotion and established divergent validity (i.e., showed that other emotions were not also induced) by asking all of the negative emotions from the positive and negative affect scale (PANAS; Watson, Clark and Tellegen 1988).</td>
</tr>
<tr>
<td><strong>Commercial Energy Manipulation Check</strong></td>
<td>NA</td>
<td>Confirmed manipulation commercial energy by asking how energetic participants perceived the commercial to be on a four-item (i.e., not energetic to energetic, dull to exciting, not animated to animated, inactive to active).</td>
</tr>
<tr>
<td><strong>Sample</strong></td>
<td>N = 43 Undergraduates</td>
<td>N = 851 Community sample</td>
</tr>
<tr>
<td><strong>Conceptualization of independent variable</strong></td>
<td>Degree to which product use entailed passive or active behavior</td>
<td>Activating stimulus</td>
</tr>
<tr>
<td><strong>Operationalization of construct</strong></td>
<td>Print ad</td>
<td>TV commercial</td>
</tr>
<tr>
<td><strong>Sample Stimulus</strong></td>
<td>Active-frame print advertisement 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)</td>
<td>Viewing time Brand recall (i.e., 1= recalled Capital One, 0 = did not recall Capital One) Perceived difficulty (i.e., a two-item scale “watching the commercial was hard”, “watching the commercial was difficult” 1= Not at all 7 = Very much so)</td>
</tr>
<tr>
<td>**Passive-frame print advertisement 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)</td>
<td>Study 1 Perceived Difficulty regressed on Perceived Energy Study 1, 2 &amp; 3 Emotion x Commercial Energy Specific contrasts within Commercial Energy Specific contrasts within Emotion Study 4 Moderation: Need for Cognition Study 5 Moderation: Action Goal</td>
<td></td>
</tr>
<tr>
<td><strong>Dependent Variable</strong></td>
<td>Relative preference measure (i.e., “1 = strongly prefer Brensa, 9 = strongly prefer Landro) and a dichotomous choice of participants’ preference (1 = Brensa, 2 = Landro) were standardized and combined to form a Preference Index.</td>
<td>Viewing time Brand recall (i.e., 1= recalled Capital One, 0 = did not recall Capital One) Perceived difficulty (i.e., a two-item scale “watching the commercial was hard”, “watching the commercial was difficult” 1= Not at all 7 = Very much so)</td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
<td>Emotion x Message Frame</td>
<td>Study 1 Perceived Difficulty regressed on Perceived Energy Study 1, 2 &amp; 3 Emotion x Commercial Energy Specific contrasts within Commercial Energy Specific contrasts within Emotion Study 4 Moderation: Need for Cognition Study 5 Moderation: Action Goal</td>
</tr>
<tr>
<td><strong>Finding</strong></td>
<td>Sadness leads to greater relative preference for passive resort compared to anger. Comparisons with neutral control not significant.</td>
<td>Deactivated emotional state leads to shorter viewing time, less brand recall and greater perceived difficulty compared to neutral controls and activated emotional states.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Matching is preferred</td>
<td>When in a deactivated state, a highly energetic commercial entails greater processing difficulty</td>
</tr>
<tr>
<td><strong>Mechanism posited</strong></td>
<td>Affect-as-information – a passive state signals that inactivity is desirable and appropriate (p.9)</td>
<td>Processing difficulty – When in a deactivated state, a highly energetic commercial is difficult to process</td>
</tr>
<tr>
<td><strong>Means of testing mechanism</strong></td>
<td>--</td>
<td>Tests moderation of Need for Cognition and Action Goal</td>
</tr>
</tbody>
</table>
### APPENDIX B

**REVIEW OF CONSTRUCT DEFINITIONS, MANIPULATIONS, MEASURES, AND REPRESENTATIVE STUDIES**

<table>
<thead>
<tr>
<th>Construct</th>
<th>Definition</th>
<th>Manipulation</th>
<th>Measure</th>
<th>Representative Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotion</strong></td>
<td>A feeling state characterized by positive or negative valence as well as high or low activation</td>
<td>(see specific emotion)</td>
<td>(see specific emotion)</td>
<td>Russell &amp; Barrett 1999¹</td>
</tr>
<tr>
<td>Deactivating Emotion</td>
<td>An affective state that is characterized by lower arousal (e.g., sadness, contentment, relaxation)</td>
<td>(see specific emotion)</td>
<td>(see specific emotion)</td>
<td>Russell &amp; Barrett, 1999</td>
</tr>
<tr>
<td>Activating Emotion</td>
<td>An affective state that is characterized by higher arousal (e.g., anger, excitement)</td>
<td>(see specific emotion)</td>
<td>(see specific emotion)</td>
<td>Russell &amp; Barrett, 1999</td>
</tr>
<tr>
<td>Sadness</td>
<td>An emotion that is negative and deactivating that is often associated with irrevocable loss</td>
<td>Video clip (e.g., 7 minutes of 9/11: The Falling Man) (Study 1, 2, &amp; 4)</td>
<td>Sad: Not at all – Extremely</td>
<td>Russell &amp; Barrett, 1999; Smith &amp; Lazarus 1993</td>
</tr>
<tr>
<td>Contentment</td>
<td>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</td>
<td>Video clip (i.e., Yanni music video) (Study 4)</td>
<td>Content: Not at all - Very much</td>
<td>Griskevicius, Shiota, &amp; Nowlis 2010; Russell &amp; Barrett, 1999; Watson &amp; Tellegen, 1985</td>
</tr>
<tr>
<td>Anger</td>
<td>An emotion that is negative and activating that is often associated with blaming another person</td>
<td>Autobiographical recall (Study 5)</td>
<td>Not angry - Angry</td>
<td>Russell &amp; Barrett, 1999; Smith &amp; Lazarus 1993</td>
</tr>
<tr>
<td>Relaxation</td>
<td>An emotion that is positive and deactivating that is associated with the absence of a threat</td>
<td>Autobiographical recall (Study 3)</td>
<td>Relaxed: Not at all – Very Much</td>
<td>Russell &amp; Barrett, 1999; Watson &amp; Tellegen, 1985</td>
</tr>
<tr>
<td>Excitement</td>
<td>An emotion that is positive and activating that is associated with anticipation</td>
<td>Autobiographical recall (Study 3)</td>
<td>Excited: Not at all – Very Much</td>
<td>Russell &amp; Barrett, 1999; Watson &amp; Tellegen, 1985</td>
</tr>
<tr>
<td>Highly Energetic Commercial</td>
<td>Television commercials that are arousing for the viewer to experience, characterized by energetic, exciting, animated and active content</td>
<td>Show energetic commercial</td>
<td>not energetic-energetic; dull-exciting; not animated-animated; inactive-active</td>
<td>Barrett &amp; Russell 1998; Russell &amp; Mehrabian 1977</td>
</tr>
<tr>
<td>Need for Cognition</td>
<td>An individual’s tendency to engage in and enjoy effortful cognitive endeavors</td>
<td>N/A – individual difference measure</td>
<td>18-Item Need for Cognition Scale (see web appendix)</td>
<td>Cacioppo, Petty, &amp; Kao 1984</td>
</tr>
<tr>
<td>High</td>
<td>People intrinsically motivated to engage in and enjoy cognitively effortful activities</td>
<td>N/A – individual difference measure</td>
<td>18-Item Need for Cognition Scale (see web appendix)</td>
<td>Cacioppo, Petty, &amp; Kao 1984</td>
</tr>
<tr>
<td>Low</td>
<td>People who possess low motivation to engage in effortful thought</td>
<td>N/A – individual difference measure</td>
<td>18-Item Need for Cognition Scale (see web appendix)</td>
<td>Cacioppo, Petty, &amp; Kao 1984</td>
</tr>
<tr>
<td>Action Goal</td>
<td>A motivational state that leads to the pursuit of high-effort behavior</td>
<td>Sponsors message (i.e., “This program is brought to you by Action Energy. Energy for your active life!”)</td>
<td>Thought about concepts associated with action: Not at all – Very Much</td>
<td>Albaracin et al., 2008 Laran, 2010</td>
</tr>
</tbody>
</table>

¹ Note Russell and Barrett (1999) distinction between “core affect” and “prototypical emotional episode” is not relevant to the current investigation.
**WEB APPENDIX**

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

NANCY M. PUCCINELLI
KEITH WILCOX
DHRIUV GREWAL

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**DETAILS OF PRETESTS**

**Pretests for Study 2**

We conducted a pretest on 46 people from the same online panel as the main study to validate the videos used for the emotion induction. Participants watched one of two videos from the main study. Afterwards, they were asked to indicate the extent to which they currently felt a range of different emotions on a five-point scale (1 = “not at all” and 5 = “extremely”). Specifically, we selected all of the negative emotions from the positive and negative affect scale (PANAS; Watson, Clark and Tellegen 1988), as well as sadness. As expected, participants watching the sad video reported feeling sadder than those who watched the neutral video (M<sub>Sad</sub> = 3.44, M<sub>Neutral</sub> = 1.19; F(1, 44) = 58.56, \( p < .001 \)). Participants also showed differences in several other negative emotions between the neutral and sad conditions, as one might expect, since the negative affect measures were highly correlated. However, after controlling for the effect of sadness (as a covariate) none of these differences remained significant. Additionally, when we controlled for the effect of each of the other negative emotions (as covariates) in our analysis of sadness the effect of our sadness manipulation remained significant. Thus, the results support the efficacy of our sadness manipulation.

We also conducted a pretest on 73 people from the same online panel as the main study to ensure that the commercials used in the study were similar to each other on many characteristics, but different in terms of the level of energy. Participants watched one of the two commercials by the insurance company Geico from the main study. The highly energetic commercial was an ad for Geico featuring an energetic movie announcer. The moderately energetic commercial was an ad for Geico starring Ed “Too Tall” Jones, a former NFL football player. Participants were randomly assigned to watch one of the two commercials. Afterwards, participants indicated how energetic they perceived it to be on a four-item, seven-point bipolar scale (not energetic to energetic, dull to exciting, not animated to animated, inactive to active; \( \alpha = .81 \); Barrett and Russell 1998; Russell and Mehrabian 1977). They then indicated how positive they perceived it to be on a five-item, seven-point bipolar scale (unhappy to happy, displeasure to pleasure, feel bad to feel good, sadness to joy, negative to positive; \( \alpha = .90 \); Barrett and Russell 1998; Russell and Mehrabian 1977). Finally, they indicated how much they liked it on a two-item, seven-point bipolar scale (dislike to like, not enjoy to enjoy; \( r = .90 \)), how funny they considered it to be (1 = “not at all” and 7 = “very much”) and how frivolous they considered it to be (1 = “not at all” and 7 = “very much”). The results demonstrate that the highly energetic commercial was indeed viewed higher in terms of energy than the moderately energetic commercial (M<sub>High</sub> = 5.33, M<sub>Mod</sub> = 4.76; F(1, 71) = 5.69, \( p < .05 \)). Additionally, participants liked the commercials equally (M<sub>High</sub> = 6.11, M<sub>Mod</sub> = 5.93; F(1, 71) = .60, NS). They perceived the commercials to be similar in terms of how positive they were (M<sub>High</sub> = 5.81, M<sub>Mod</sub> = 5.92; F(1,
71) = .27, NS), how funny they were (M_{High} = 6.11, M_{Mod} = 6.19; F(1, 71) = .14, NS), and how frivolous they were (M_{High} = 4.03, M_{Mod} = 4.58; F(1, 71) = 2.31, NS).

**Pretest for Study 2 Follow-up**

We conducted a pretest on 44 people from the same online panel as the main study to ensure that the commercials used in the study were similar to each other on many characteristics, but different in terms of the level of energy. The results demonstrate that the highly energetic commercial was indeed viewed higher in terms of energy than the moderately energetic commercial (M_{High} = 5.24, M_{Mod} = 4.28; t(43) = 6.24, \( p < .001 \)). Additionally, participants liked the commercials equally (M_{High} = 3.55, M_{Mod} = 3.66; t(43) = .54, NS). They also perceived the commercials to be similar in terms of how negative they were (M_{High} = 2.16, M_{Mod} = 2.27; t(43) = 1.11, NS).

**Pretest for Study 3**

We conducted a pretest on 86 people from the same online panel as the main study to validate the emotion induction. Participants wrote about a relaxed experience, an exciting experience or their typical day (neutral condition). Afterwards, they were asked to indicate the extent to which they felt excited and relaxed on a seven-point scale (1 = “not at all” and 7 = “very much”). They were also instructed to indicate how intensely they felt any emotions during the writing task (1 = “not intense at all” and 7 = “very intense”). Participants who wrote about a relaxed experience felt more relaxed (M_{Relaxed} = 5.87) than those in the excited condition (M_{Excited} = 4.11; F(1, 83) = 23.47, \( p = .001 \)) or the neutral condition (M_{Neutral} = 3.44; F(1, 83) = 4.73, \( p < .001 \)). Participants who wrote about an exciting experience felt more excited (M_{Excited} = 5.89) than those in the relaxed condition (M_{Relaxed} = 4.26; F(1, 83) = 3.32, \( p = .001 \)) or the neutral condition (M_{Neutral} = 2.96; F(1, 83) = 5.76, \( p < .001 \)). Additionally, there was no difference in the intensity of emotions experience between the excited (M_{Excited} = 5.11) and relaxed conditions (M_{Relaxed} = 4.29; F(1, 83) = 1.38, NS).

**Pretests for Study 4**

We conducted a pretest on 90 people from the same online panel as the main study to validate the videos used for the emotion induction. Participants watched one of two videos from the main study and were told to watch the entire video because they would be asked questions about the video later on in the survey. The neutral condition did not watch a video. Afterwards, all participants were asked to indicate the extent to which they currently felt both the negative and positive emotions from the PANAS on a five-point scale (1 = “not at all” and 5 = “extremely”). We also included contentment and sadness in the list. As expected, planned contrasts revealed that participants who watched the sad video reported feeling sadder than those in the neutral condition (M_{Sad} = 2.19, M_{Neutral} = 1.45; t = 2.77, \( p < .01 \)) or the contentment condition (M_{Sad} = 2.19, M_{Contentment} = 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_{Contentment} = 3.33, M_{Neutral} = 2.72; t = 2.02, \( p < .05 \)) or the sad condition (M_{Contentment} = 3.33, M_{Sad} = 2.66; t = 2.72, \( p < .05 \)). We also looked at the effect of the videos on other emotions. Between the three levels of our emotion factor there were several significant differences, particularly between contentment and sadness since they differed in terms of valence. To test whether our contentment emotion induction influenced other positive emotions, we compared the contentment condition to the neutral condition. The results showed that of the positive emotions...
only contentment was significantly different from the neutral condition. A similar analysis comparing the sad condition to the neutral condition found that of the negative emotions only sadness was significantly different from the neutral condition.

Finally, we conducted a pretest on 31 people from the same online panel as the main study to ensure that the commercial used in the study was highly energetic. Participants watched the commercial and then indicated how energetic the commercial was using the same four items used in the Study 2 pretest ($\alpha = .83$). Participants considered the commercial to be highly energetic ($M = 5.78$) with a mean that was significantly different from the midpoint ($t(30) = 12.95, p < .001$).

**Pretests for Study 5**

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 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. Fifty people from the same online panel as the main study participated. Participants watched one of two sponsor’s message from the main study and were told to watch the entire video because they would be asked questions about the video later on in the survey. Afterwards, participants indicated the extent to which the video made them feel aroused on a three-item, seven-point bipolar scale (not energetic to energetic, not aroused to aroused, not excited to excited; $\alpha = .92$) and the extent to which they thought 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 expected, participants did not report any differences in arousal in the action ($M = 2.58$) versus no action goal conditions ($M = 1.93$; $F(1, 48) = 2.27$, NS). However, participants in the action goal condition did think more about concepts associated with action in the action condition ($M = 4.65$) than in the no action goal condition ($M = 2.23$; $F(1, 48) = 21.72, p < .001$).

We also conducted a pretest on 35 people from the same online panel as the main study to ensure that the commercial used in the study was highly energetic. Participants watched the commercial and then indicated how energetic the commercial was in the same scales as the commercial pretests for previous studies ($\alpha = .83$). Participants considered the commercial to be highly energetic ($M = 5.49$) with a mean that was significantly different from the midpoint ($t(34) = 7.32, p < .001$).

**STUDY 3 PARTICIPANT INSTRUCTIONS**

Participants were given one of the following three sets of instructions.

**Relaxed Condition (Deactivated Emotional State)**

Over the course of their lifetimes, people experience events that make them relaxed. We are currently developing a questionnaire that will provide us with a systematic understanding of what these events entail. As a preliminary step, we'd like you to write about a time in your life where you felt very relaxed. Please describe the event as vividly as possible. Answering the following questions might help you come up with the vivid description we need:

- How exactly did you feel?
- What specific things happened to make you feel the way you did?
- Did the event elicit thoughts or imagery that lead to your feelings?

*Excited Condition (Activated Emotional State)*

Over the course of their lifetimes, people experience events that make them excited. We are currently developing a questionnaire that will provide us with a systematic understanding of what these events entail. As a preliminary step, we'd like you to write about a time in your life where you felt very excited. Please describe the event as vividly as possible. Answering the following questions might help you come up with the vivid description we need:
- How exactly did you feel?
- What specific things happened to make you feel the way you did?
- Did the event elicit thoughts or imagery that lead to your feelings?

*Neutral Condition*

Over the course of their lifetimes, people experience events that are very typical. We are currently developing a questionnaire that will provide us with a systematic understanding of what these events entail. As a preliminary step, we'd like you to write about your typical day. Please describe the day in as much detail as possible.

**NEED FOR COGNITION SCALE**

1) I would prefer complex to simple problems.
2) I like to have the responsibility of handling a situation that requires a lot of thinking.
3) Thinking is not my idea of fun. (R)
4) I would rather do something that requires little thought than something that is sure to challenge my thinking abilities? (R)
5) I try to anticipate and avoid situations where there is a likely chance I will have to think indepth about something. (R)
6) I find satisfaction in deliberating hard and for long hours.
7) I only think as hard as I have to. (R)
8) I prefer to think about small, daily projects to long-term ones? (R)
9) I like tasks that require little thought once I've learned them? (R)
10) The idea of relying on thought to make my way to the top appeals to me.
11) I really enjoy a task that involves coming up with new solutions to problems.
12) Learning new ways to think doesn't excite me very much? (R)
13) I prefer my life to be filled with puzzles that I must solve.
14) The notion of thinking abstractly is appealing to me.
15) I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
16) I feel relief rather than satisfaction after completing a task that required a lot of mental effort? (R)
17) It's enough for me that something gets the job done; I don't care how or why it works? (R)
18) I usually end up deliberating about issues even when they do not affect me personally. (R) refers to items that are reverse-scored. (α = .96; Scale source: Cacioppo, Petty, Kao 1984)

The validity and reliability of this scale is well established (e.g., Osberg 1987; Sadowski and Gulgoz 1992). Cacioppo, Petty, Kao (1984) report a Cronbach’s alpha = .90 and that the 18-item
version correlates .95 with the longer Need for Cognition Scale. They also report that “the validating factor analysis of the short form revealed that: (a) the first extracted factor explained a comparatively large proportion of the variance in the items, (b) subsequent factors explained fairly equal (though, of course, decreasing) proportions of the remaining variance, (c) all but one of the items had substantial loadings on the first factor, and (d) all but one of the items had higher loadings on the first than subsequent factors. According to Carmines and Zeller (1979), these are the four features that would be expected if the 18-item NCS was measuring a single phenomenon given the properties of an unrotated principle components factor analysis” (Cacioppo, Petty, & Kao 1984, p. 306-307). This scale has been frequently used in the marketing literature (e.g., Inman, MCAlister and Hoyer 1990; Haugtvedt, Petty and Cacioppo 1992).

REFERENCES