

ADVERTISING FOLLOWING NEGATIVE PUBLICITY:  
THE EFFECT OF CONTENT AROUSAL ON POSITIVITY AND ATTITUDE  
TOWARD THE BRAND AFTER A CORPORATE CRISIS

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

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by  
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The undersigned, appointed by the dean of the Graduate School, have examined the thesis entitled

ADVERTISING FOLLOWING NEGATIVE PUBLICITY  
THE EFFECT OF CONTENT AROUSAL ON POSITIVITY AND ATTITUDE  
TOWARD THE BRAND AFTER A CORPORATE CRISIS

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In memory of my mother, Li-Ching Chao.

This thesis is dedicated to my mother, my grandparents and my family.

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Ming-Yi Chao

Dr. Paul Bolls, Thesis Supervisor

**ABSTRACT**

This study investigates whether positive emotion-arousing ads following a corporate crisis can evoke positivity and repair attitude toward the brand. A fractional factorial experiment was conducted to examine participants' emotional variance and attitudinal change in response to a positive emotion-arousing ad following negative publicity on a brand. As a result, 1) based on physiological measures, reading negative news stories about a corporate crisis was neither an arousing nor a negative emotional experience; viewing a positive emotion-arousing ad was arousing and decreased negative emotion compared to a neutral ad, but positive emotion evoked by both content-arousal levels was not different. 2) According to self-reported emotion, however, participants reported negative emotion after reading negative news stories about a corporate crisis; they continued to report positive emotion and arousal after viewing a positive ad compared to after viewing a neutral ad. 3) Finally, viewing a positive emotion-arousing ad resulted in an increase of favorable attitude toward the ad compared to viewing a neutral ad; however, content arousal did not generate a main effect of on the brand attitude mediated through the attitude toward the ad. Even though, viewing a positive emotion-arousing ad and a neutral ad both led to an increase of favorable brand attitude.

## CHAPTER 1: INTRODUCTION

This study investigates whether positive emotion-arousing ads following corporate negative publicity can evoke positivity and moderate attitude toward the brand. By an emotion-based approach, this study examined the emotional experience of the public, as well as tested the effectiveness of advertising in the context of a brand crisis. The Limited Capacity Model of Motivated Mediated Message Processing draws a picture of how emotion guides the dynamic information processing within the brain (A. Lang, 2000, 2006). In addition, this study utilized the dimensional emotion theory to gain a thorough understanding of emotion. A fractional factorial experiment was conducted. Content arousal was the independent variable. Dependent variables included skin conductance level, corrugator supercilii activity, orbicularis oculi activity, zygomaticus major activity, self-reported arousal, self-reported valence, attitude toward the ad and attitude toward the brand.

The goal of corporate responses to a brand crisis is to shape the public's perception, which is more important than the absolute reality (Benoit & Pang, 2007). Most crisis literature have merely focused on corporate response strategies, such as Benoit's image repair theory and Coombs's situational crisis communication theory (Benoit, 1997; Benoit & Pang, 2007; Coombs, 2000; 2007; Sturges, 1994). In particular, the popular venue of crisis communications is publicity. Professionals have valued public relations more than advertising due to credibility (Cameron, 1994; Celebi, 2007; Putrevu, 2005). This conventional, cognition-based phenomenon has focused on credibility and

perception, but people's emotional experience and attitude toward the brand during and after a brand crisis have been overlooked.

Only until recent years did a few studies examine emotion of the public triggered by a corporate crisis. Researchers have provided evidence of negative emotion of the public as addressed in news coverage on multiple types of crises (Jin, Pang, & Cameron, 2007). Furthermore, Jin (2009) empirically identified primary negative emotion, such as anger, sadness, fright and anxiety, corresponding to corporate response strategies and crisis types.

Based on the LC4MP, the mechanism of emotion guides information processing within the dynamic, continuous state of mental processes (A. Lang, 2000, 2006). According to this view, researchers and managers should not merely consider a corporate crisis as an episodic incident, but should be aware that all messages are continuously received and stored by the human brain, and further influence incoming information as the LC4MP has stated (A. Lang, 2000, 2006). Emotion is not only the preposition of behavior (P. Lang, 1995), but also is a component of attitude (Brown & Stayman, 1992; Cohen & Areni, 1991; Zajonc, 1980).

When considering an advertising campaign after a brand crisis, managers might encounter a practical question of whether to run an emotional ad because advertising has the merit to arouse positive emotion about the brand. From an aspect of emotion, such a practical question can be theoretically defined as how intensively an ad should trigger positivity. That is, the level of content arousal. An emerging stream of studies has investigated the effect of content arousal (e.g. A. Lang, Bolls, Potter, & Kawahara, 1999; Vettehen, Nuijten, & Peeters, 2008; Yoon, Bolls, & Muehling, 1999).

The LC4MP outlines the complex mental processing between mediated messages and the brain. The dimensional emotion theory also provides a theoretical framework to unveil human emotional experience. A fractional factorial experiment was conducted. As noted, the practical question is to what extent of positive emotion about a brand an advertisement should be elicited after a brand crisis. To be consistent with the theoretical framework, this study conceptualizes a likely distinction between informative and emotional ads as level of content arousal.

The independent variable was content arousal. The dependent variables were 1) arousal, measured by skin conductance level and self reports with the SAM scale, 2) valence, indexed by orbicularis oculi activity, zygomaticus major activity, corrugator supercillii activity and self reports with the SAM scale 3) attitude toward the ad, and 4) attitude toward the brand. This study recruited college students. A pretest was conducted to ensure: 1) relevance of the brands to collage students; 2) negative emotion elicited by negative news stories; and 3) a high contrast of emotion intensity evoked by two sets of ads.

## **CHAPTER 2: LITERATURE REVIEW**

The first step of the discussion was to scrutinize the conventional cognition-based approach prevailing in crisis literature and then turned to an emerging emotional approach. Next, this paper reviewed the merits of advertising as a crisis-communication tool, given its unique attribute of carrying affective cues. The LC4MP helps to delineate the dynamic, mental state where emotion motivates information processing. From the emotional aspect, the dimensional theory establishes a theoretical foundation for this study. Finally, the relationship between emotion and attitude was discussed.

### **Emotional Responses of the Public to A Corporate Crisis**

Most studies concerning crisis communications have focused on the organizations' response strategies, such as Benoit's image repair theory and Coombs's situational crisis communication theory (Benoit, 1997; Benoit & Pang, 2007; Coombs, 2000, 2007; Sturges, 1994). Based on Sturges's model of crisis phases and communication strategies, negative opinions grow fastest during the early built-up and break-out phases, but ideally diminish as news coverage decreases in the abatement and termination phases. This model also categorizes general strategies to reduce negative opinions for different phases (Sturges, 1994). Sturges's model depicts a general look at the primary interest of crisis literature. Major attention goes to the corporate side on effective strategies to communicate with the public. However, the public's response and attitude toward the brand have been overlooked.

Only until recent years have academic interests turned to a public-based approach, in particular from an emotional aspect (Jin, 2009; Jin et al., 2007). Jin et al. (2007) proposed the Integrated Crisis Mapping (ICM) model, which is both public-based and emotion-based. Depending on organizational involvement and the types of public coping strategies, the ICM model identifies the primary feelings, such as anxiety and sadness, of the public about the brand suffering from negative publicity (Jin et al., 2007).

Based on the findings of Jin et al. (2007), drawn from content analysis of news coverage, Jin (2009) continued to empirically examine emotion of the public during corporate crises. Anger, sadness and fright are three dominant types of emotion corresponding to different crisis types, and anxiety is the default emotion to be elicited across all crises (Jin, 2009). According to Weinberger & Lepkowska-White (2000), avoidance of response to a crisis would lead to a long-term loss. Negative information is not only reported more frequently, but also lasts over time (Weinberger & Lepkowska-White, 2000). When news media stop covering a corporate crisis, negative emotional experience might continue over time and might impair their attitude toward the brand afterward. A post-crisis campaign is necessary to deal with the negative emotion of the public about the brand. As news worthiness fades out, it would be difficult to pitch the corporate voice through public relations. Advertising seems like a valuable communication tool in such a context.

### **Advertising in Crisis Communications**

Facing negative criticism, most corporations would employ public relations rather than advertising to advocate for their stance. The reason behind this phenomenon is that

publicity has higher credibility compared to advertising (Cameron, 1994; Celebi, 2007; Putrevu, 2005). However, Cameron (1994) cautioned public relations managers not to over exaggerate the superiority of publicity over advertising; instead, managers should comprehensively understand the marketing tools. Perceived credibility of news coverage does not always guarantee better effectiveness, and consumers do not always discern the difference between the credibility of publicity and advertising (Cameron, 1994). Also, consumers do not always believe publicity statements (Celebi, 2007). In Van Hoyer and Lievens's study (2005), the authors examined the effectiveness of advertising and word of mouth on recruitment attractiveness when the advertiser was facing criticism. As a result, although word of mouth had higher credibility than a recruitment ad, credibility was not a significant factor mediating the effect of information source on the corporation's perceived attractiveness (Van Hoyer & Lievens, 2005). The above findings signal the potential of emotional ads in the case of brand crises.

The strength of advertising to compensate for public relations lies in the unique attribute to stir positive emotion, due to affect cues, such as storytelling style, music, pacing, visual effect, and so on. Two relevant studies provide evidence for the potential of advertising as a primary source to repair the public's attitude toward the brand. Cowden and Sellnow's study (2002) suggested advertising helps to present the corporation's perspectives during a crisis. Braun-Latour, Latour and Loftus (2006) conducted an experiment to test the effectiveness of affective ads versus promotional ads on consumers' attitude toward Wendy's following the a-finger-in-chili crisis. Results showed that people who viewed affective ads were more likely to return to Wendy's than those who viewed promotional ads (Braun-Latour et al., 2006).

Researchers have identified some advantages of emotional ads. For example, positivity evoked by the ad might lead to positive judgment of the message (Ray & Batra, 1982) and emotional ads might reduce defenses and require less effort (Tellis, 2004). In addition, a number of studies have addressed the impact of emotion on risk evaluation. As Yoo and MacInnis (2005) indicated, ad-evoked emotion can enhance the perceived credibility of the ad. In addition, mood can bias judgments (Gardner, 1985a); ad-evoked emotion can engage consumers with the ad so that the ad would seem more convincing (Bagozzi & Moore, 1994; Batra & Stayman, 1990; MacInnis & Stayman, 1993).

Chaudhuri (2001) argued prior knowledge, including both emotion and reason, serves as antecedents of perceived risk. On the other hand, surprisingly, rational thoughts were not significantly related to perceived risk (Chaudhuri, 2001). Therefore, emotion not only functions as part of knowledge, but also might mediate perceived credibility and risk.

In sum, the above studies mainly focus on the effectiveness of emotional ads on cognitive evaluation, such as perceived risk and judgment. However, the influence of emotional ads on emotional experience and attitude toward the brand, particularly in the context of brand crisis, remains a question.

### **Content Arousal as A Feature of Emotional Ads**

This study examined advertising effectiveness on crisis communications from an emotional point of view, the theoretical interest in emotional ads here is content arousal. Referred from a study of A. Lang et al. (1999), content arousal can be defined as the ability of an ad to elicit viewers' emotional arousal. Bolls, A. Lang and Potter (2001)

proposed that emotion can be considered as a message feature that differentiates media messages according to their emotional content.

In the review of Bagozzi, Gopinath and Nyer (1999) with respect to the role of emotion in marketing, the authors suggested to give emphasis on a person's experience of the message, rather than on the message content itself. Holbrook and O'Shaughnessy also have described an emotional ad as "in the case of arousal, an emotional appeal might associate the product with a desired state of vitality and liveliness while avoiding the extremes of sluggishness in one direction or overstimulation in the other" (Holbrook & O'Shaughnessy, 1984, p.55).

In short, content arousal is the intensity of emotional input of a message. Generally speaking, emotional ads are most often designed to elicit intensive emotion in viewers. Hence, this study perceives arousing content as a message feature of emotional ads. In order to be consistent with the theoretical definition from the aspect of emotion, this study defines "emotional ads" as "emotion-arousing ads." Furthermore, because a crisis-communication campaign aims to advocate for the corporation's stance, it is plausible that managers expect the ad to elicit positive emotion of the audience. So, the theoretical focus of this study is positive content arousal of an ad.

This study adopts two ways to manipulate content arousal from the studies of A. Lang, Chung, Lee, and Zhao (2005) and Bolls et al. (2001). First, an ad would be considered as an emotional ad, if it contains perceived emotional features (Bolls et al., 2001). For example, humor, warmth, passion, and indulgence are identified to frequently appear in emotional ads according to the conventional definition of emotional appeals of

an ad (Mai & Schoeller, 2009). Another way to distinguish an ad as emotional is having a pretest that people prejudge it as positively emotional or calm (A. Lang et al., 2005).

Content arousal has been an interest of prior studies. For example, A. Lang et al. (1999) investigated the impact of arousing content on information processing of television messages in terms of mental effort, message encoding, and storage. Furthermore, studies have emerged and emphasized the effect of arousing messages on attitudes. Sanbonmatsu and Kardes (1988) posed an evident relationship among arousal, message strength, and attitude formation. In a study of Yoon et al. (1999), authors defined emotional ads as arousing content. The authors examined the effect of arousal on attitude toward the ad, as well as attitude toward the claim components of the ad. Another experiment investigated the effectiveness of sensational features in news stories on arousal and likability toward the story (Vettehen et al., 2008). These examples have suggested an emerging stream of emphasizing the role of content arousal when they study the effect of emotion evoked by a message.

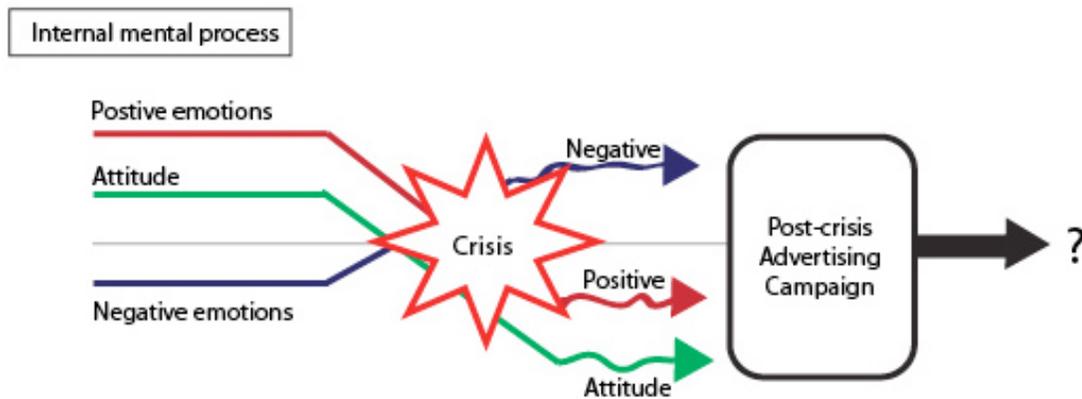
Next, the LC4MP and the dimensional emotion theory delineated a theoretical framework to discuss why arousal is the essential component of emotional motivation.

### **The Embodied Brain: Dynamic Mental Processes**

The nature of communication is dynamic, so is an individual's mental state of information processing. As a corporation faces negative publicity, advocate voices via public relations and advertising also inject different voices to the public. All the conflicting messages from multiple publics come to the final destination, the brain. In

recent media research, the LC4MP has provided a paradigm of the dynamic, ongoing message processing within the brain (A. Lang, 2000, 2006).

Emotion is the fuel of motivation that guides behavior. The LC4MP views an individual as a message recipient with a central information processor, the brain. The brain encodes incoming messages, stores them in the short-term memory and may or may not be further stored in long-term memory, as well as retrieves the prior information from long-term memory (A. Lang, 2000, 2006). Message encoding, storage and retrieval occur simultaneously and continuously. The brain allocates cognitive resources to each stage disproportionately (A. Lang, 2000, 2006). The degree of cognition resource allocation depends on the motivational activation systems, composed of appetitive and aversive systems (A. Lang, 2000, 2006). Same with the evolutionary view, the appetitive and aversive systems are the emotional mechanism underlying the dynamic process within the brain. Arousal is the fuel to activate the motivational systems.



**Figure 1. Dynamic Mental Processes**

To explicate the emotional processes during and after negative news coverage on a corporation, Figure 1 illustrates the emotional variance within an individual's mental state. Individuals have both positive and negative emotion about a brand, which results in

brand attitude formation. The pre-crisis emotion and attitude compose a baseline of brand evaluation. According to the LC4MP, negative publicity on a brand is a source of risk that activates the aversive system. Evidenced by the prior studies (Jin, 2009; Jin et al., 2007), the public suffers negative emotion about the brand facing negative publicity. As shown in Figure 1, the level of negative emotion weighs more than the positive after the outburst. Because emotion serves as an antecedent of attitude, it is plausible that attitude might plummet, too. Most crisis literacy stop here at the abatement and termination phases where news coverage ceases (Sturges, 1994). Weinberger & Lepkowska-White (2000) cautioned that the impact of negative information lasts over time, as the LC4MP assumes that such experience would be stored in memory. However, the effective of brand ads following a brand crisis still remains unknown. This study proposes the following research question:

**RQ: Following negative publicity, can a positive emotion-arousing ad evoke positivity and further moderate brand attitude of the public compared to a neutral ad?**

## **Emotion**

The definition of emotion has not reached a consensus. For the inquiry into the public's emotional responses to a corporate crisis, the dimensional emotion theory offers a theoretical framework for the present study. From the dimensional perspective, emotion has an evolutionary function to motivate and guide individuals to survive. In other words, emotion drives behavior to approach benefits, or to escape from threats so that individuals can survive (Dillard & Meijnders, 2002). Accordingly, emotion plays a central role in guiding behavior as addressed by the motivational activation system in the

LC4MP (A. Lang, 2000, 2006). Therefore, negative emotion implies a risk that might make consumers reevaluate or even break the relationship with a brand.

- **The Dimensional Theory of Emotion**

The dimensional perspective views emotion as “action dispositions” (P. Lang, 1995, pp. 372). Dimensional theorists have conceptualized emotion as a reflective result of motivational systems; they also have identified emotion as a two-dimensional space, composed of arousal and valence (Bolls et al. 2001; Bradley, Codispoti, Cuthbert, & P. Lang, 2001; Bradley & P. Lang, 2000, 2007; Cacioppo & Gardner, 1999; P. Lang, 1995). Valence refers to the direction of emotion underlying two motivational subsystems: the appetitive and aversive system (Barrett, 1998; Bolls et al., 2001; P. Lang, 1995). The appetitive system motivates behavior to approach beneficial sources like food and the aversive system drives withdrawal behavior from dangers in an environment (Barrett, 1998; Bolls et al., 2001; P. Lang, 1995). Valence varies with arousal, which is the intensity of emotion (Bolls, 2010; Bolls et al., 2001; P. Lang, 1995). Therefore, valence and arousal are not two separate dimensions independent of each other; instead, both constitute a two-dimension space (Bolls, 2010; Bolls et al., 2001). In other words, valence varies according to the level of emotion activation. For the valence dimension, Cacioppo and Gardner (1999) suggested an appetitive system and aversive system may occur and exist at the same time in either one of three modes: (1) reciprocal activation, which occurs when one system increases while the other one decreases, (2) uncoupled activation, which occurs when one system increases while the other is not affected, (3) nonreciprocal activation, which occurs when two systems increase or decrease at the same time, but Bradley and P. Lang (2007) suggested a reciprocal relationship. Therefore,

to understand emotional experience, media researchers need to study both positive and negative channels together (Bolls, 2010).

Measures of emotion have been a critical issue among psychologists. According to the dimensional view of emotion, there are three types of data to index emotion: behavior, language, and physiology (Bolls et al., 2001; Bradley & P. Lang, 2000). To gain a thorough understanding of viewers' emotional experience, this study gauged emotion by self-reported and physiological measures as a means of triangulation. Adopting both types of measures helps to understand the emotional experience not only from a reflective, unconscious level moment by moment through the message, but also from a conscious summary of the phenomenon experience of the entire message (Potter & Bolls, 2011).

- **Physiological Measures**

Physiological measures equip media studies with the capability to capture reflective, unconscious emotional variance in a real-time fashion. Among physiological measures, facial electromyography (EMG) and skin conductance are widely used physiological indicators of emotion. Researchers have suggested these indicators as valid and reliable (Bolls, 2010; Ravaja, Saari, Laarni, Kallinen, & Salminen, 2005).

Arousal can be operationalized as variation of electrodermal activity that varies with emotional intensity triggered by psychologically meaningful stimuli (Bradley & P. Lang, 2007; Dawson, Schell & Filion, 2007; Potter & Bolls, 2011). Electrodermal activity is measured by sympathetic action potentials in the peripheral nerves. Electrodermal activity represents psychological sweat produced by eccrine sweat glands on the palms of the hands and near the soles of the feet (Bradley & P. Lang, 2007; Dawson et al., 2007; Potter & Bolls, 2011; Stern, Ray, & Quigley, 2001). Eccrine sweat

glands on the mentioned sites are believed to be responsive to psychologically meaningful objects in order to motivate behavior to fight or flight, rather than thermal stimuli to merely regulate temperature (Bradley & P. Lang, 2007, Dawson et al., 2007; Potter & Bolls, 2011; Stern et al., 2001).

For the dimension of valence, convincing evidence has showed Facial EMG as a valid indicator of emotional valence by recording voltage amplitude, which represents muscle activity on certain regions on the face (Potter & Bolls, 2011; Stern et al., 2001). In a review of Larsen, Berntson, Poehlmann, Ito and Cacioppo (2008), genuine positive emotion can be indexed by zygomaticus major activity on the cheek area, along with orbicularis oculi muscle activity slightly inferior to the left eye. Given that zygomaticus major activity also activates during a fake smile (e.g. to conceal embarrassment), coactivation of orbicularis oculi and zygomaticus major activity is the Duchenne smile that represents authentic pleasantness (Bradley et al., 2000; Ekman, Davidson, & Friesen, 1990). Corrugator supercilii activity on the skin surface above the left brow has been used to reflect negative emotion (Potter & Bolls, 2011).

Accordingly, negative stories on a brand should have impact on the consumers of that brand and appear to be a psychologically dangerous source. Negative criticism might activate the motivational system toward the aversive direction to some degree. Evidence can be inferred from a study, which suggests that risky pictures and words elicit higher arousal than non-risky messages (A. Lang et al., 2005). Another study also states that sensational features like dramatic story subjects (negative in the study) evoke arousal (Vettehen et al., 2008). These examples indicate that negative messages lead to an increase of arousal elicited by the source.

**H1a: Reading a negative news story will be an arousing emotional experience as evidenced by an increase in skin conductance level from baseline activity while participants read the story.**

According to the theoretical mechanism of motivational activation, if arousal is elicited by a stimulus, such emotion should be triggered toward either the appetitive or aversive direction. Hence, negative publicity would prime emotional arousal in the aversive direction. A recent experiment provides evidence that dramatic, negative news stories decrease likability (Vettehen et al., 2008). Additionally, researchers have identified negative discrete emotion (Jin, 2009; Jin et al., 2007); hence, it is evident that negative emotion is a product of a dramatic, negative source. The source of negativity activates the aversive system to protect a person from an unpleasant, risky object. This study extends the current findings (Jin, 2009; Jin et al., 2007) to further test the emotional experience with physiological measures from a dimensional aspect.

**H1b: Reading a negative news story will be a negative emotional experience as evidenced by an increase in corrugator supercilii activity from baseline activity while participants read the story.**

Similarly, a positive emotion-arousing ad should be able to evoke stronger emotion in a positive way, because the stimulus primes the activation toward the appetitive direction. Recently, Poels and Dewitte (2008) replicated the linear reactions of the hypothesis of motivational activation in the advertising context. The more arousing an ad is, the more positive a person would feel (Poels & Dewitte, 2008). Also, another study of Bigné, Andreu and Gnoth (2005), based on a dimensional view on emotion, found that positive arousal leads to visitors' pleasant experience in a theme park. If intensive positive emotion can be evoked by brand ads, the appetitive system might dominate over the aversive system because of a reciprocal relationship between those two systems

(Bradley & P. Lang, 2007). Such activation in the appetitive direction might encourage a person to like the brand ad, which is the positive source of emotion.

**H2a: Viewing a positive emotion-arousing ad will evoke higher skin conductance level compared to viewing a neutral ad.**

**H2b: Viewing a positive emotion-arousing ad will evoke higher orbicularis oculi compared to viewing a neutral ad.**

**H2c: Viewing a positive emotion-arousing ad will evoke higher zygomaticus major activity compared to viewing a neutral ad.**

**H2d: Viewing a positive emotion-arousing ad will evoke less corrugator supercillii activity compared to viewing a neutral ad.**

- **Self-Reported Arousal and Valence**

In addition to physiological measures, self-reported measures as a means of triangulation help media researchers to thoroughly understand emotion. Different from the real-time nature of physiological measures, self-reported data provide a conscious summary of the emotional experience over the entire episode of a message (Bolls, 2010). Media researchers have assessed the conscious assessment on emotion by the Self-Assessment Manikin (SAM) scale with 9-point pictorial ratings (Bradley & P. Lang, 1994). The SAM scale has been widely accepted as a reliable and valid instrument for rating emotional responses to pictures (Hazlett & Hazlett, 1999). Also, one of the advantages of the SAM scale is to minimize participants' cognitive efforts to put emotion into words. So, the SAM scale avoids the difficulties of individuals' capability to precisely describe their emotion by a verbal checklist (Morris, Woo, Geason & Kim, 2002). In the realm of media research, studies have emerged combining the SAM scale

with physiological measures to investigate embodied emotional processes of mediated messages (Codispoti & Cesarei, 2007; Hazlett & Hazlett, 1999; Lee & A. Lang, 2009).

**H3a: Self-reported arousal will be higher after viewing a positive emotion-arousing ad compared to after viewing a neutral ad.**

**H3b: Self-reported valence will be more positive after viewing a positive emotion-arousing ad compared to after viewing a neutral ad.**

### **Emotion and Attitude**

A plethora of studies have been devoted to the relationship among emotional responses evoked by ads, attitude toward the ad, and attitude toward the brand. For example, an early study of Batra and Ray (1986) suggested emotional responses evoked by ads appear to be an antecedent of attitude toward the ad, which mediates brand attitude. Before drawing the hypotheses, this study briefly reviewed the theoretical base of the relationship between emotion and attitude.

As Thurstone (1931) defined, “attitude is the affect for or against a psychological object” (p 255). Similar to the dimensional view, Thurstone (1931) perceived affect as two primitive forms: appetitive for benefits or aversive against dangers. Attitude is a “potential action” concerning the degree and direction of being favorable or unfavorable toward the psychological object (Thurstone, 1931, pp.255). According to this definition, emotion serves as the driving force behind attitude, which is a predictor of behavior. P. Lang defined emotion, “emotion is disposition of behavior” (P. Lang, 1995, pp. 372). Batra and Ray (1986) proposed a chain effect that corroborates the aforementioned theoretical claims: emotional response → attitude toward the ad → attitude toward the brand → behavior.

As Homer (2006) argued, advertising literacy has inflated the effect of cognitive components on attitude. From a cognition-based perspective, attitude has been widely known as an evaluation of an object, according to people's belief about the object (Ajzen, 2001). However, belief is not the only factor behind attitude, but people's attitude also stems from affect (Fazio, 2007). In other words, affect also serves as part of knowledge about an object (Fazio, 2007).

In fact, Zajonc (1980) articulated that affect and cognition are two independent evaluation systems; in particular that affect may not be necessarily a result of cognitive appraisal. Zajonc (1980) proposed that affect precedes cognition as an antecedent of attitude. In line with this view, other researchers have found affect directly influences attitude (Brown & Stayman, 1992; Cohen & Areni, 1991). Some studies have also suggested affective judgments underlying attitude are accessed in memory faster than cognitive judgments (Ajzen, 2001). Affect is more dominant over cognition, when emotion and cognition are mismatching (Lavine, Thomsen, Zanna, & Borgida, 1998).

Accordingly, the attitude-component hypothesis of emotion is consistent with the evolutionary view of the dimensional emotion theory, which views an emotional state to be activated by the level of arousal in either a positive or negative direction. In the case of a brand crisis, negative publicity irritates the public about the concerned brand. Thus, such negative emotion drives the stakeholders and even the general public to be wary of the brand. It is plausible that the negative emotion further impairs the attitude of the public toward the brand. For example, Vettehen et al. (2008) found that negative, sensational news stories decrease readers' liking of the news, based on the LC4MP. Studies concerning emotion evoked by a crisis have already identified discrete negative

emotion (Jin 2009; Jin et al. 2007). Hence, this study extends the current understanding to test the impact of negative emotion on the public's attitude toward the brand.

**H4: Reading a negative news story about a corporate crisis will result in less favorable attitude toward the brand.**

As news coverage on a corporate crisis terminates, it becomes difficult for public relations to repair brand image. During the aftermath, advertising is an ideal tool to continue on image repair communication. According to the dimensional emotion theory, the appetitive system motivates people to approach the positive source of emotion. If an emotional source is able to elicit strong positive emotion, it is possible that people would like and accept the source. Poels and Dewitsee (2008) replicated a linear relationship between arousal and valence (positive) and concluded that pleasure relates to the likability of the ad; particularly, arousal predicts motivational power. Accordingly, they suggest incorporating both valence and arousal as part of copy test before launching an ad (Poels & Dewitsee, 2008).

More studies support the abovementioned. Edell and Burke (1987) suggested feelings evoked by an ad contribute to prediction of both attitudes toward the ad and toward the brand. Brown, Homer, and Inman (1998) reviewed the literature with respect to the relationship between ad-evoked feelings and advertising responses; affective responses have direct, substantial impact on attitude formation toward the ad. Bigné et al. (2005) also found that the pleasant theme park experience relates to consumer loyalty. These findings demonstrate how the appetitive system motivates a person to assess the emotion source.

**H5: Viewing a positive emotion-arousing ad after reading a negative news story will result in a favorable attitude toward the ad compared to viewing a neutral ad.**

The ultimate objective of a crisis-communication campaign is to repair brand attitude of the public. Batra and Ray (1986) confirmed that ad-evoked emotion directly impacts attitude toward the ad and indirectly influences attitude toward the brand. Similarly, other studies have echoed the same finding that attitude toward the ad directly impacts brand attitude (e.g. Gardner, 1985b; Homer, 1990; Mitchell & Olson, 1981; Till & Baack, 2005).

**H6: Viewing a positive emotion-arousing ad after reading a negative news story will result in an increase in a favorable attitude toward the brand compared to viewing a neutral ad.**

## CHAPTER 3: METHOD

### Design

This study employed a 2 (content arousal: positive emotion- arousing, neutral) × 6(brand) fractional factorial design. The premise of this research question was negative emotion induction by reading negative stories about a brand. Six brands (Toyota, Dell, Apple, Taco Bell, Pedigree and Tylenol) were selected. After reading negative news stories, participants continued to view brand ads.

Each of the mentioned brands had two ads, including a positive emotion-arousing ad (A) and a neutral ad (N). However, participants only viewed six ads, three of which were positive emotion-arousing and three were neutral. Two conditions were manipulated. Condition 1 included three emotion-arousing ads and three neutral ads so that this experiment repeatedly measured participants' responses to ads in each level of content arousal. On the other hand, the level of content arousal of each ad was mirrored in condition 2. Participants were randomly assigned to either of the conditions.

Condition 1: Toyota (A), Dell (N), Apple (A), Taco Bell (N), Pedigree (A), Tylenol (N)

Condition 2: Toyota (N), Dell (A), Apple (N), Taco Bell (A), Pedigree (N), Tylenol (A)

This experiment employed the fractional factorial design, in which participants only viewed six ads, rather than viewing one brand at two levels. By this way, participants were not able to identify the actual manipulation. In addition, because the theoretical interest of this study was the level of content arousal, such a design excluded the confounding variable of brand-specific effect. For analysis, this study collapsed data across brands by level of content arousal.

## **Independent Variable**

### ***Content Arousal***

This study manipulated content arousal at two levels: positive emotion-arousing ads to represent arousing content, compared to monotonic, fact-based ads as neutral content. To maximize the level of content arousal, TV commercials were used because they have more affect cues than print ads. All the ads were selected from YouTube.

As earlier mentioned, the parameters for this study to select positive emotion-arousing ads were humor, warmth, passion and indulgence appeared in an ad, according to the conventional definition of emotional appeals (Mai & Schoeller, 2009). On the other hand, for neutral content, people were viewing fact-based, straightforward ads. To ensure the impact of content arousal on viewers' emotional arousal, the selected positive ads were also prejudged as emotional or calm in terms of arousal by an online pretest.

A total of 25 college students took part in the online pretest. Each person viewed twelve selected brand ads, six of them were emotional ads and the others were comparatively neutral ads. Participants rated each ad with the Self Assessment Manikin scale (SAM) where 1 referred to a bored figure, while 9 referred to an excited figure. The data was submitted to a paired sample t test to compare the difference of viewers' arousal after viewing the emotional ad from the neutral ad of the same brand. As a result, new ads replaced with the initial selected neutral ads for Apple and Dell because of lack of significant contrast between the initial selections. Both Tylenol's positive emotional and neutral ads were replaced with new ones because means contradicted the expected direction.

Difference of evoked viewers' arousal by level of content arousal	T	df	Sig.
DELL	0.72	24	0.25
APPLE	0.57	24	0.58
TYLENOL	-14.96	24	0.00
PEDIGREE	2.74	24	0.12
TACO BELL	6.75	24	0.00
TOYOTA	18.8	24	0.00

**Table 1. Difference of Viewers' Emotional Arousal Evoked by Level of Content Arousal**

Brand ads by content arousal		mean	SD
DELL	Emotional ad	5.24	1.81
	Neutral ad	4.40	0.50
APPLE	Emotional ad	4.28	1.82
	Neutral ad	3.32	2.16
TYLENOL	Emotional ad	2.76	1.62
	Neutral ad	4.56	2.27
PEDIGREE	Emotional ad	4.88	2.60
	Neutral ad	3.84	1.86
TACO BELL	Emotional ad	4.92	1.94
	Neutral ad	2.76	1.96
TOYOTA	Emotional ad	5.08	1.61
	Neutral ad	2.60	1.58

**Table 2. Descriptive Statistics of Viewers' Emotional Arousal Evoked by Level of Content Arousal**

## Dependent Variables

### *Viewers' Arousal: Skin Conductance Level*

As mentioned earlier, skin conductance level has been adopted to measure viewer arousal, the intensity or strength of emotion, over a given period of message exposure (Potter & Bolls, 2011). Skin conductance level can be detected by galvanic muscle

activity on the surface of the palms and the soles (Potter & Bolls, 2011). To record skin conductance level, this study used 8 mm disposable AG/AGCL (silver-silver chloride floating) electrodes, which were already filled with the Isotonic Recording Electrode Gel made by the BIOPAC Systems Inc. specifically for skin conductance recording. Two electrodes were affixed on the palm of the non-dominant hand. In order to control proper hydration of the skin, the recording site on the non-dominant-hand palm was prepped with a towel damped with distilled water before placement. Signal sensitivity was set at 2 microSiemens. The signal was sampled at a rate of 500 Hz (Potter & Bolls, 2011).

### ***Viewers' Arousal: Self-Reported with the SAM Scale***

In addition to the physiological measure of biological reflective indicator, viewers' arousal can also be assessed from cognitive appraisal indexed by the SAM scale (Bradley & P. Lang, 1994). The SAM scale, used to indicate arousal, is a bipolar scale. At one end of the scale is an excited, wide-open eyes face marked as 9, while at the other end of the scale is a sleepy figure marked as 1. Participants were instructed to rate the degree of their elicited emotion either toward the excited figure or toward the bored figure after viewing each message (Codispoti & Cesarei, 2007). See appendix A.

### ***Valence: Facial EMG on Orbicularis Oculi, Zygomaticus Major and Corrugator***

#### ***Supercilii Muscle Areas***

- Corrugator Supercilii Facial EMG

Corrugator supercilii activity has been widely accepted as a valid indicator of embodied negative emotion (Potter & Bolls, 2011). Two 4 mm AG/AGCL (silver-silver

chloride floating) electrodes were placed slightly “above the brow on an imaginary vertical line that traverses the inner commissure of the eye fissure (Fridlund & Cacioppo, 1986, pp.572; Potter & Bolls, 2011).” Prior to electrode placement, the recording site was prepped with an alcohol pad to reduce the impedance level. The signal was amplified at 50k, filtered through a high pass to 10 Hz and a low pass to 500 Hz, as well as sampled at a rate of 500 Hz per second for analysis.

- Orbicularis Oculi and Zygomaticus Major Facial EMG

Activity on the orbicularis oculi region along with activity on the zygomaticus major muscle region have been recognized as the most genuine way to capture embodied positive emotion. To measure positive emotional activation, this study utilized two 4 mm AG/AGCL (silver-silver chloride floating) electrodes placed on the orbicularis oculi region located below the outer commissure of the left eye fissure; also, two electrodes were placed on the zygomaticus major region located midway along an imaginary line joining the cherion and the corner of the mouth on the left cheek (Fridlund & Cacioppo, 1986, pp.572; Potter & Bolls, 2011). Prior to electrode placement, the recording sites were prepped with an alcohol pad to reduce the impedance level. The signal was amplified at 50k, filtered through a high pass to 10 Hz and a low pass to 500 Hz, as well as sampled at a rate of 500 Hz per second for analysis.

***Valence: Self-Reported with the SAM Scale***

The SAM scale has been used to index participants’ emotional valence with a 9-point scale with a happy, smiling figure on one extreme and an unhappy, frowning figure at the other extreme. Participants indicated their emotional state toward either the smiling

figure or the frowning figure along the scale (Codispoti & Cesarei, 2007). Similarly, for self-reported arousal after a message, participants rate their excitement or calmness toward an excited figure or toward a sleeping figure (Codispoti & Cesarei, 2007). See appendix A.

### ***Attitude toward the Ad***

A widely adopted definition of attitude has been the evaluation of an object varying with strength, which can be measured in four dimensions: good-bad, favorable-unfavorable, pleasant-unpleasant, and likable-dislikable (Till & Baack, 2005; Yen, 2007). To index attitude change according to each pair of adjectives, this study used a seven-point bipolar scale for each measure (Wise, Bolls, Kim, Venkataraman, & Meyer, 2008). A reliability test was computed. The Cronbach's alpha value was 0.82.

### ***Attitude toward the Brand***

Participants were first exposed to a brand logo for five seconds prior to each message in the following phases: onset of the experiment, before reading the news, and before watching brand ads. Then, they answered a set of questionnaires to rate their attitude toward the brand. Three reliability tests were computed for the change of attitude toward the brand during each phase. The Cronbach's alpha for attitude toward the brand before any message exposure was 0.92; the value after reading negative news stories was 0.92 and the value for post-ad exposure was 0.89. Therefore, the measures for brand attitude were reliable for multiple types of message exposure.

## **Control of Confounding Variables: Crisis Types and Coping Strategies**

In order to exclude confounding variables, all the crises used in this study were limited to one type, and so were corporate response strategies. Based on Coomb's typology of crises and categories of corporate response strategies, this paper used product recalls to represent technical breakdowns (Coombs, 2000). Product recalls occur frequently and directly impact the majority of consumers. In the past few years, product recalls of Firestone, Mattel, Dell's laptops and Toyota's vehicles all stirred intensive criticism. Many of them ran advertisements to repair brand image but the effectiveness was unknown. Therefore, the type of product recalls was considered in this study.

To maximize level of arousal, this study used TV commercials for the experiment. In order to avoid the memory factor, all the ads were regular brand commercials and did not directly address the crisis itself. Therefore, confounding variables, such as crisis types, response strategies and media, were excluded.

## **Stimuli**

Six brands were selected out of brands that had actual nationwide product recalls according to the relevance to college students. These brands were Toyota, Dell, Apple, Pringles, Pedigree and Tylenol (Brand 1 to 6). A pretest was conducted to ensure the relevance of the brands to college students.

To induce negative emotion, six negative news stories regarding product recalls of the mentioned brands were modified based on the actual news stories. The length of each story was about one page. See appendix B.

Two TV commercials of each brand were selected, one of which was positive emotion-arousing (A) and the other one was relatively neutral (N). A pretest was conducted to ensure negative emotion was triggered by negative news stories about a corporate crisis as well as the contrast of emotional intensity between pleasant ads and neutral ads. See appendix C.

### **Participants**

Undergraduate students were recruited mostly from the Missouri School of Journalism. A total of 55 college students (17 males and 38 females, average age = 21) took part in this study, 29 of them running physiological measures. They signed a consent form and received course credit for their participation.

### **Procedure**

**1. Briefing.** Participants did the experiment individually. Upon arrival, the researcher welcomed participants and introduced them to the experiment room to sit in a reclining chair. The researcher briefed the objective and the general agenda of the experiment, particularly the electrode placement involved. Participants read the informed consent and signed it if they agreed to take part.

**2. Sensor placement.** The researcher prepped the recording regions and placed sensors on these sites for physiological data collection. Once the sensor placement was finished, the researcher went back to the control room to launch the experiment.

**3. Pretest of attitude toward the brand.** At the beginning, participants were told to relax themselves when a 30-second black screen played. Then they completed a pretest to rate their attitude toward ten brands; four of which were distracters.

**4. Negative emotion induction by reading news stories.** Participants first viewed a five-second black screen and meanwhile the researcher started collected basal physiological data. Next, participants read a news story about a corporate product recall showed on the screen. After reading the story, participants indicated their emotional arousal and valence on the SAM scale. They repeated the above process to complete a total of six news stories.

**5. Change of attitude toward the brand after reading news stories.** Upon completion of the news section, they viewed a brand logo for five seconds and further answered questionnaires regarding their attitude toward the brand.

**6. Watching positive brand ads and reporting attitude toward the ad.** Participants continued to view a five-second black screen and the researcher started collecting basal physiological data. An ad played on the screen in a sequence. When the ad ended, participants reported their emotional arousal and valence on the SAM scale, as well as their attitude toward the ad. They repeated the above steps to complete a total of six brand ads.

**7. Change of brand attitude after watching brands ads.** Once participants completed the section of brand ads, a brand logo appeared on the screen for five seconds followed by the questionnaires of brand attitude. Participants completed six sets of questionnaires of the attitude toward the brand. At the end, they answered demographic questionnaires.

During the presentation of a black screen, a news story and an ad, the researcher collected skin conductance level, corrugator supercillii activity, orbicularis oculi activity and zygomaticus major activity. Upon completion of demographic questionnaires, the researcher removed all the sensors from participants and debriefed to them. Participants were then thanked and received one research credit when experiment dismissed. The entire study took about 50 minutes to complete.

## CHAPTER4: RESULTS

To analyze the physiological data, including: skin conductance level, corrugaor supercillii activity, orbicularis oculi activity and zygomaticus major activity, the first task was to conduct data reduction and to calculate change score from the base line of each data point.

### **Data Reduction**

Time that each participant spent on a news story varied. The shortest time that a person reasonably spent on a one-page story was 20 seconds. Four participants were excluded from analysis because they took less than 15 seconds. Next, the data of each story was averaged over an appropriate interval and finally resulted in 20 data points.

Of the selected ads, ten were 30 seconds and two were 60 seconds. For the 60-second ads, physiological data was averaged over a 2-second interval and resulted in 30 data points.

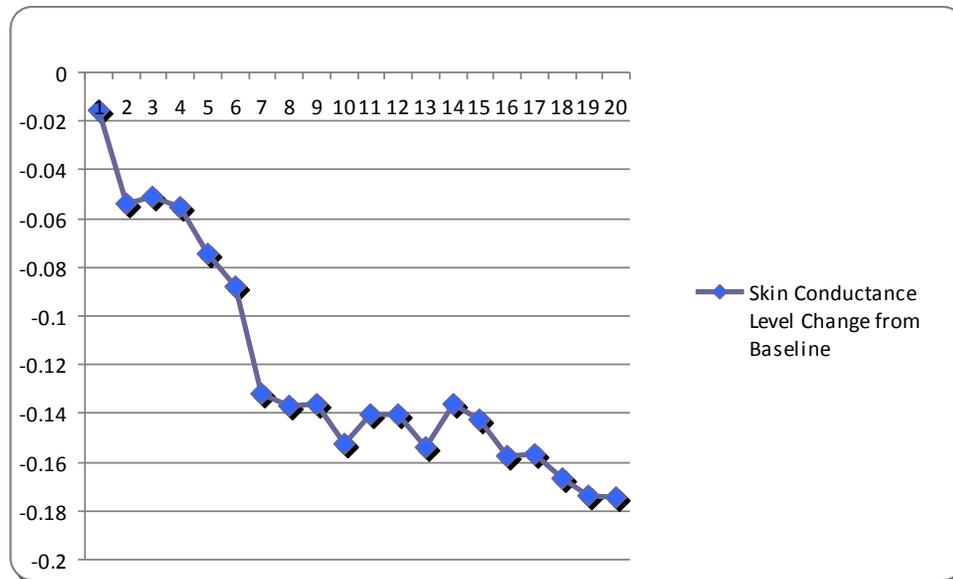
#### 1. Calculation of the Change Scores

This study recorded physiological measures for 15 seconds as the baseline before launching a stimulus, but only the final five seconds prior to the onset of a message was selected and averaged into a basal mean score. Physiological data of each data point subtracted the mean basal score and then resulted in a change score from the base line of a data point.

## Physiological data

### H1a

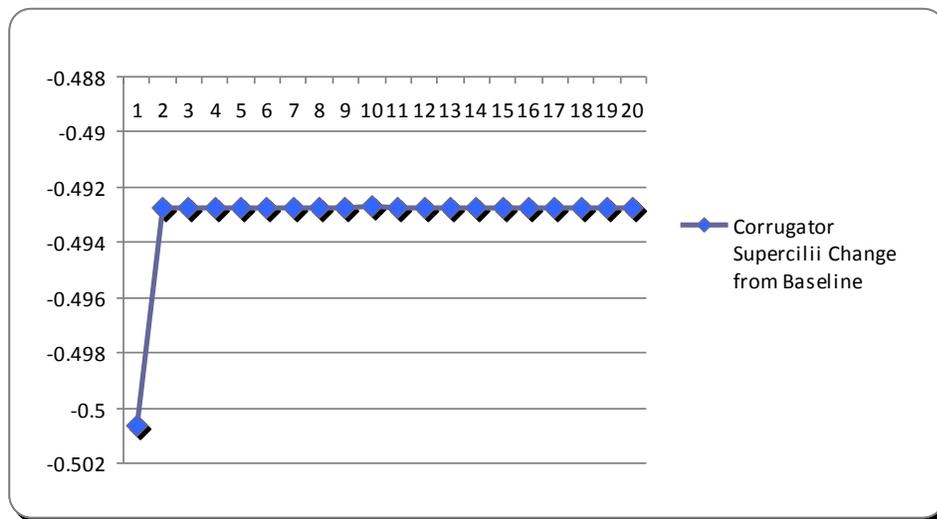
Hypothesis 1a predicted that reading a negative news story would be an arousing emotional experience as evidenced by an increase in skin conductance level from baseline activity while participants read the story. To test H1, a repeated-measures ANOVA on time was used. A significant effect of a negative story on skin conductance level activity was found ( $F(2.76, 66.15) = 3.4, p < 0.05, \epsilon^2 = 0.12$ ). The overall value of skin conductance during news exposure was less than before exposure. As shown in Figure 2, the longer participants read, the smaller the change score would be. When participants read the negative news, they were less and less excited. Moreover, the change scores were negative. Overall speaking, news stories were not arousing. H1a was not supported.



**Figure 2. Skin Conductance Change Level from Baseline during the Exposure to a Negative News Story across 20 Data Points**

H1b

Hypothesis 1b predicted that reading a negative news story would be a negative emotional experience as evidenced by an increase in corrugator supercilii activity from baseline activity while participants read the story. Average change scores of corrugaor supercilii activity across time ware submitted to a repeated-measures ANOVA. As a result, no main effect of negative publicity on corrugaor supercilii activity was found ( $F(1, 24.02) = 1.1, p=0.32, \epsilon^2= 0.41$ ). H1b was not supported.



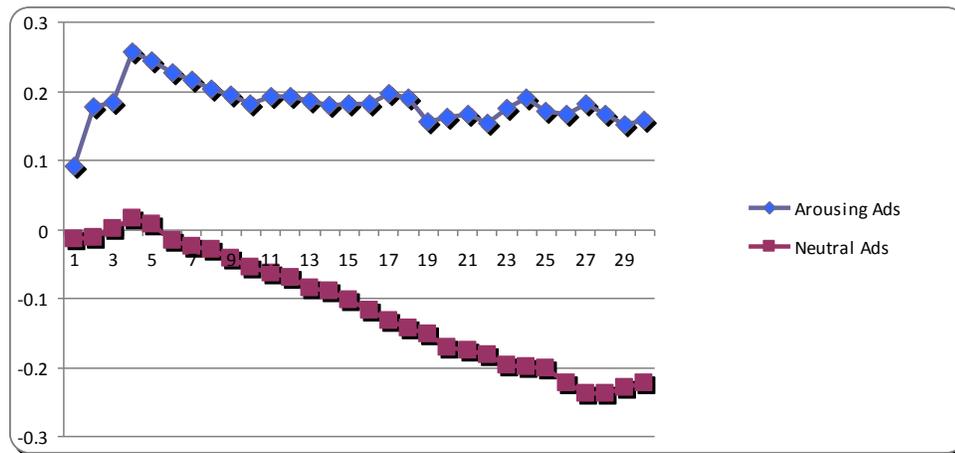
**Figure 3. Corrugator Supercilii Activity Change from Baseline during the Exposure to a Negative News Story across 20 Data Points**

As shown in Figure 3, mean scores of corrugator supercilii change from baseline were negative and did not vary over time. Participants did not experience negative emotion when reading these stories.

H2a

Hypothesis 2a predicted that viewing a positive emotion-arousing ad would evoke higher skin conductance level activation compared to viewing neutral ads. The data of

skin conductance level was submitted to a 2 (content arousal: positively arousing, neutral)  $\times$  30 (time) repeated-measures ANOVA. Results revealed a main effect of arousing content on skin conductance ( $F(1, 28) = 7.01, p < 0.05, \epsilon^2 = 0.2$ ), so was a significant effect of time on skin conductance ( $F(29, 81) = 3.31, p < 0.05, \epsilon^2 = 0.11$ ). Also, the interaction of content arousal by time was significant ( $F(29, 812) = 0.79, p < 0.05, \epsilon^2 = 0.95$ ).



**Figure 4. The Effect of Content Arousal on Skin Conductance Level Change from Baseline across 30 Data Points**

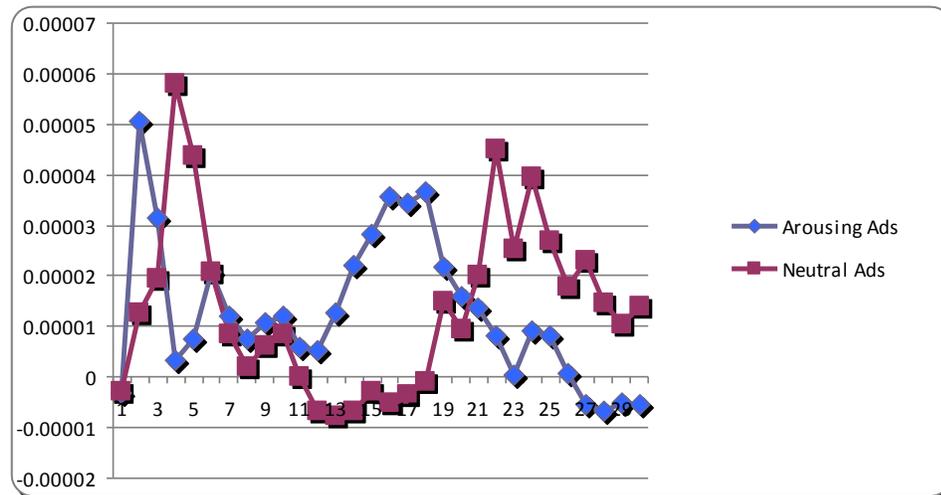
As shown in Figure 4, when participants were viewing a positive emotion-arousing ad, they did exhibit higher skin conductance level than viewing a neutral ad over time. The mean scores of skin conductance level change from the baseline were all positive in the condition of arousing ads, while mean score of change were all negative and decreasing across data points in the neutral condition.

H2b

Hypothesis 2b predicted that viewing a positive emotion-arousing ad would evoke higher orbicularis oculi activity compared to viewing a neutral ad. A 2 (content arousal:

positively arousing, neutral)  $\times$  30 (time) repeated-measures ANOVA was calculated.

There was no main effect of content arousal on orbicularis oculi ( $F(1, 28) = 0, p = 0.98, \epsilon^2 = 0$ ). The content arousal by time interaction was not significant, too ( $F(4.03, 112.76) = 2.06, p = 0.9, \epsilon^2 = 0.69$ ). H2b was not supported.



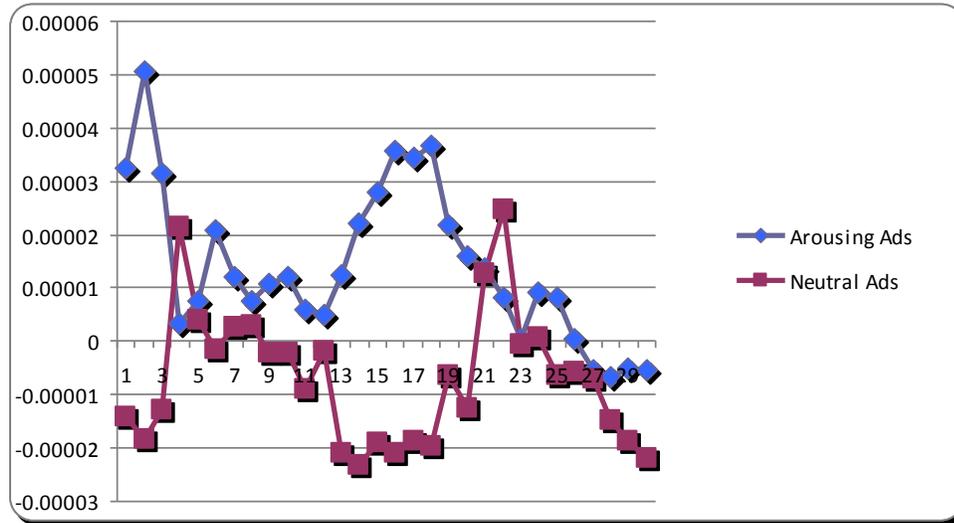
**Figure 5. The Effect of Content Arousal on Orbicularis Oculi Activity Change from Baseline across 30 Data Points**

A post-hoc analysis was conducted to specifically examine data from data point 15 to data point 30. A 2 (content arousal: positively arousing, neutral)  $\times$  16 (time) repeated-measures ANOVA was computed. Results showed no significant effect during the selected time frame ( $F(1,28) = 0.02, p = 0.9, \epsilon^2 = 0.01$ ). The content arousal by time interaction was not significant ( $F(2.98, 83.52) = 2.47, p = 0.68, \epsilon^2 = 0.81$ ). H2b was not supported.

H2c

Hypothesis 2c predicted that viewing a positive emotion-arousing ad would evoke higher zygomaticus major activity compared to viewing a neutral ad. A 2 (content arousal: positively arousing, neutral)  $\times$  30 (time) repeated-measures ANOVA was conducted. No

main effect of content arousal on zygomaticus major activity was found ( $F(1, 28) = 0.81$ ,  $p = 0.38$ ,  $\varepsilon^2 = 0.28$ ). The content arousal by time interaction was not significant ( $F(3.45, 96.52) = 1.7$ ,  $p = 0.17$ ,  $\varepsilon^2 = 0.57$ ). H2c was not supported.



**Figure 6. The Effect of Content Arousal on Zygomaticus Major Activity Change from Baseline across 30 Data Points**

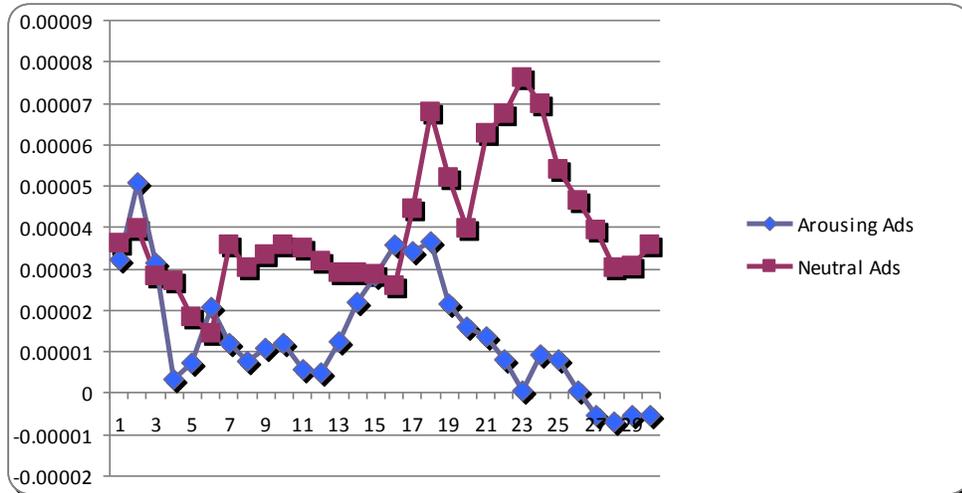
Although not significant, mean scores of zygomaticus major change from the baseline showed the predicted direction. Mean scores in the arousing condition remained positive, while those in the neutral condition remained negative for most of the time. Hence, a post-hoc analysis was conducted to specifically examine data from data point 13 to data point 23. A 2 (content arousal: positively arousing, neutral)  $\times$  11 (time) repeated-measures ANOVA was computed. Result showed no significant effect during the selected period ( $F(1,28) = 0.02$ ,  $p = 0.19$ ,  $\varepsilon^2 = 0.07$ ). The content arousal by time interaction was not significant ( $F(1.63, 45.63) = 1.88$ ,  $p = 0.17$ ,  $\varepsilon^2 = 0.63$ ). H2c was not supported.

As showed in Figure 5 and Figure 6, it was obvious that a divergent pattern appeared in the scores of both content arousal levels. Within the window between data

point 13 and data point 27, the change scores of arousing ads went higher than scores of neutral ads in both channels. As mentioned earlier, the authentic way to measure positive emotion is to use orbicularis oculi muscle activity and the zygomaticus major muscle activity (Bradley & P. Lang, 2007; Ekman et al., 1990). A post hoc analysis was computed to average the data of orbicularis oculi and zygomaticus major. The average scores within data point 13 to data point 27 were submitted to a 2 (content arousal: positively arousing, neutral)  $\times$  15 (time) repeated-measures ANOVA. As a result, no main effect of level of content arousal was found ( $F(1, 28) = 0.27, p = 0.61, \epsilon^2 = 0.1$ ), but the interaction between level of content arousal and time was significant ( $F(2.23, 62.44) = 2.26, p = 0.11, \epsilon^2 = 0.75$ ) within the selected window. Still, there was no a main effect. H2b and H2c were not supported.

#### H2d

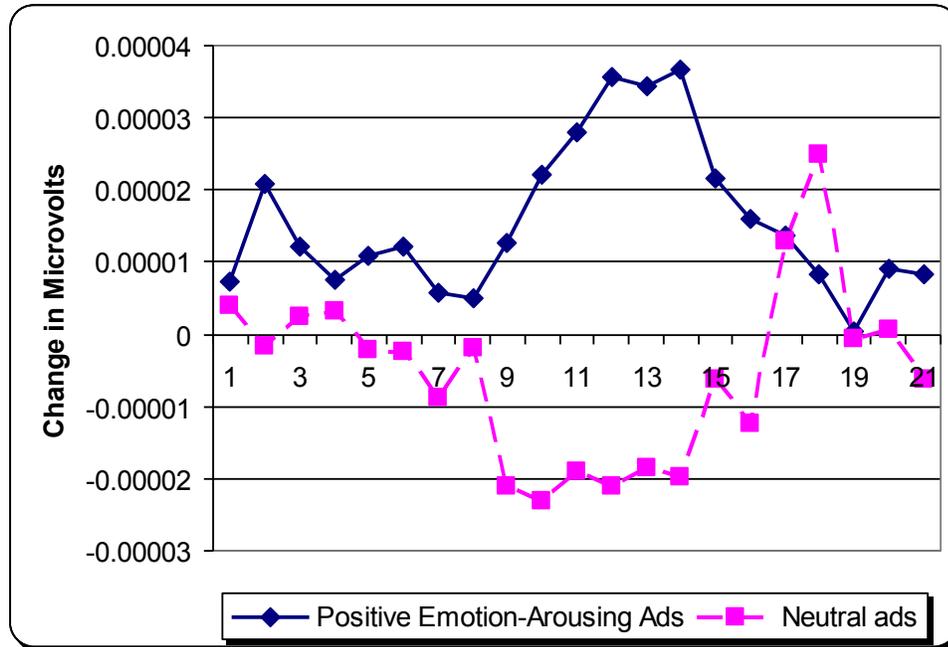
Hypothesis 2d predicted that viewing a positive emotion-arousing ad would evoke less corrugator supercilii activity compared to viewing a neutral ad. The data of corrugator supercilii activity was submitted to a 2 (content arousal: positively arousing, neutral)  $\times$  30 (time) repeated-measures ANOVA. No main effect of content arousal on corrugator supercilii activity was found ( $F(2, 28) = 3.07, p = 0.09, \epsilon^2 = 0.99$ ), neither was the content arousal by time interaction ( $F(5.5, 154.05) = 2, p = 0.75, \epsilon^2 = 0.67$ ). H2d is not supported.



**Figure 7. The Effect of Content Arousal on Corrugator Supercilii Activity Change from Baseline across 30 Data Points**

Although the effect of arousing content on corrugator supercilii activity was not significant, it was very close. As shown in Figure 7, arousing ads appeared to elicit less corrugator supercilii activity than neutral ads for most of the time. Particularly after data point 16, the contrast between two conditions was getting higher as time went on. Negative emotion in the neutral condition even reached a peak, while those in the arousing condition declined to the lowest negative value.

Therefore, a post-hoc analysis on corrugator supercilii change after data point 11 was submitted to a 2 (content arousal: positively arousing, neutral)  $\times$  16 (time) repeated-measures ANOVA. During the selected period, results showed a significant main effect of content arousal on corrugator supercilii change ( $F(1, 28) = 4.86, p < 0.05, \epsilon^2 = 0.15$ ). However, content arousal by time interaction was not significant ( $F(2.0, 81.09) = 1.7, p = 0.18, \epsilon^2 = 0.57$ ). H2d was partially supported.



**Figure 8. The Effect of Content Arousal on Corrugator Supercilii Activity Change from Baseline from Data Point 15 to Data Point 30**

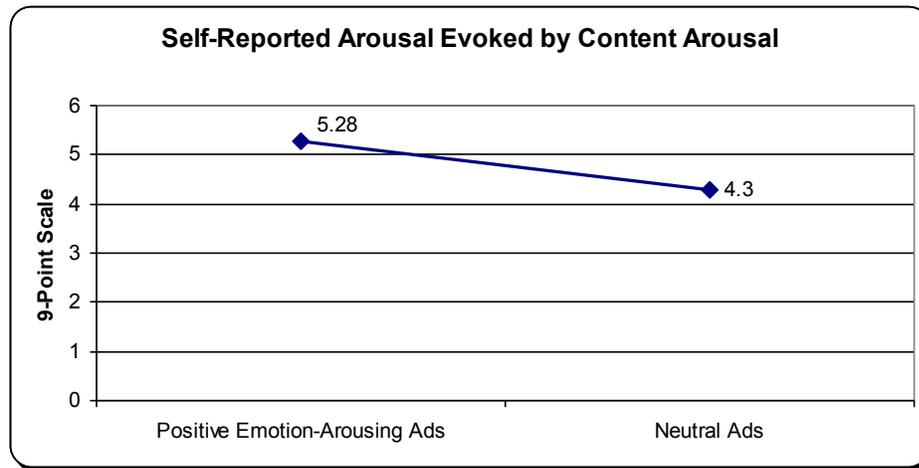
### Self-Reported Data

Self-reported arousal and valence were collected with a 9-point SAM scale where 1 referred to the most negative and the calmest figures, while 9 referred to the most positive and the most excited figures. Self-reported attitude toward the ad and toward the brand were measured with a 7-point scale. To be consistent with the SAM scale, the attitude scale was reversed so that 1 referred to the most unfavorable score and 7 referred to the most favorable score.

H3a

H3a predicted that self-reported arousal would be higher after viewing a positive emotion-arousing ad compared to after viewing a neutral ad. A repeated-measures ANOVA on content arousal was conducted. Results indicated a significant effect of

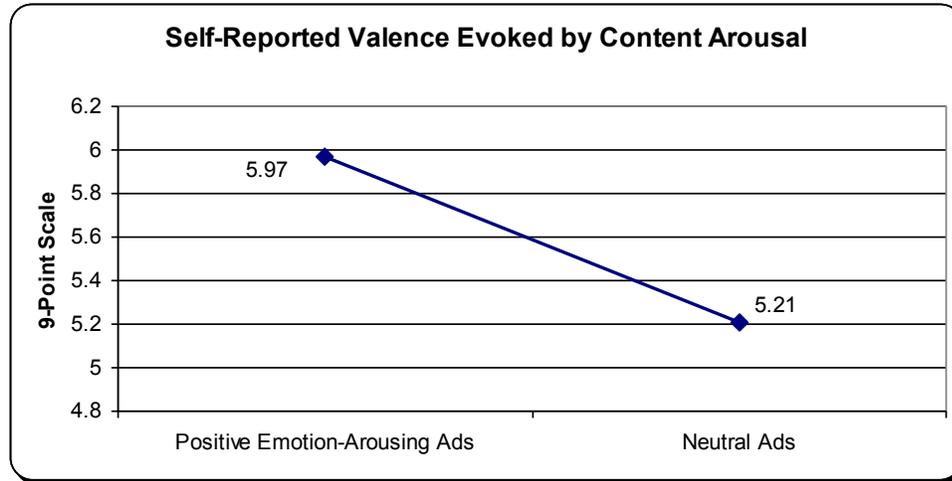
content arousal on self-reported arousal ( $F(1, 54) = 21.18, p < 0.01, \epsilon^2 = 0.28$ ). H3a was supported. Participants gave higher ratings of self-reported arousal after viewing a positive emotion-arousing ad ( $m = 5.28, SD = 1.15$ ) than after viewing a neutral ad ( $m = 4.3, SD = 1.27$ ).



**Figure 9. Self-Reported Arousal Evoked by Content Arousal**

H3b

H3b predicted that self-reported valence would be more positive after viewing a positive emotion-arousing ad compared to after viewing a neutral ad. A repeated-measures ANOVA was conducted. Results revealed a significant effect of content arousal on self-reported valence ( $F(1, 54) = 13.04, p < 0.05, \epsilon^2 = 0.2$ ). H3b was supported. Participants reported a higher self-reported valence after viewing a positive emotion-arousing ad ( $m = 5.97, SD = 1.28$ ) than after viewing a neutral ad ( $m = 5.21, SD = 1.23$ ).

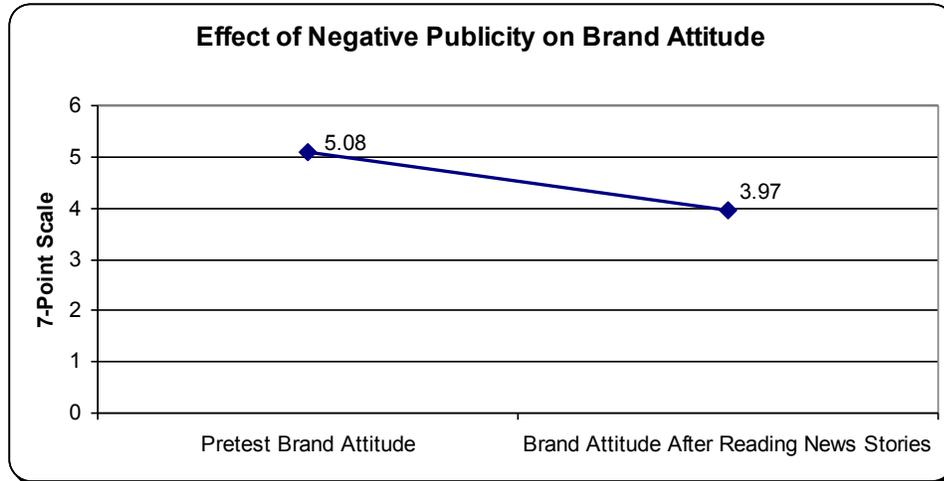


**Figure 10. Self-Reported Valence Evoked by Content Arousal**

Two post-hoc descriptive analyses were computed to analyze participants' report of emotional experience after reading negative news stories. After viewing negative news stories about a corporate crisis, means of self-reported arousal was 4.83 (SD = 1.5) and means of self-reported valence was 2.7 (SD = 0.88) on a 9-point scale where 1 referred to the most negative and calm figure.

H4

H4 predicted that reading a negative news story about a corporate crisis would result in a less favorable attitude toward the brand. To examine H4, a repeated-measures ANOVA was conducted. There was a main effect of corporate negative publicity on participants' attitude toward the brand ( $F(1, 54) = 99.04, p < 0.01, \epsilon^2 = 0.65$ ). H4 was supported. After reading negative corporate news, participants' attitude toward the brand was less favorable ( $m = 3.97, SD = 0.81$ ) than before ( $m = 5.08, SD = 0.74$ ).

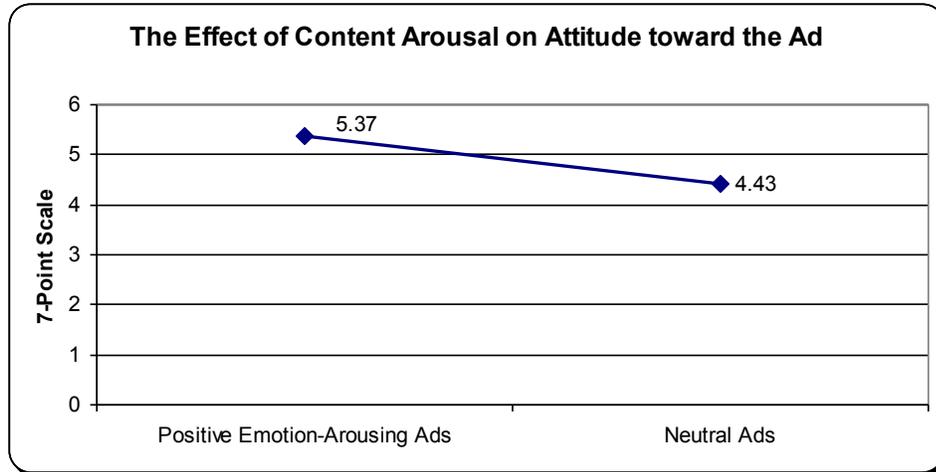


**Figure 11. The Effect of a Negative News Story about a Corporate Crisis on Attitude toward the Brand**

H5

H5 predicted that viewing a positive emotion-arousing ad after reading a negative news story would result in a favorable attitude toward the ad compared to viewing neutral ads.

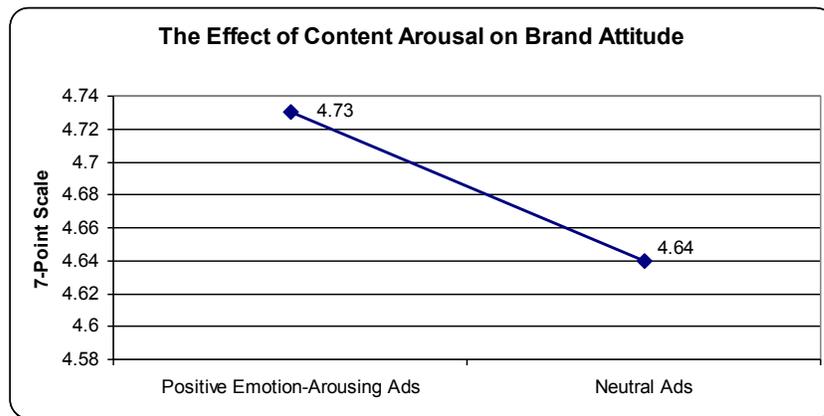
A repeated-measures ANOVA was conducted. Results revealed a significant effect of content arousal on participants' attitude toward the ad ( $F(1, 54) = 61.43, p < 0.01, \epsilon^2 = 0.53$ ). H5 was supported. After reading negative news stories, viewing a positive emotion-arousing ad led to a favorable attitude toward the ad ( $m = 5.36, SD = 0.79$ ), compared to a neutral ad ( $m = 4.43, SD = 0.88$ ).



**Figure 12. The Effect of Content Arousal on the Attitude toward the Ad**

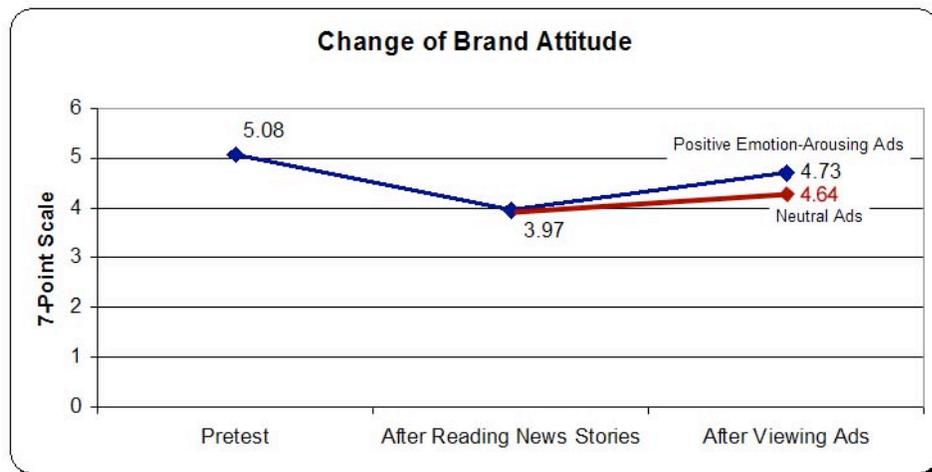
H6

H6 predicted that viewing a positive emotion-arousing ad after reading a negative news story would result in an increased favorable attitude toward the brand compared to viewing a neutral ad. A repeated-measures ANOVA was conducted. There was no significant effect of content arousal on participants' attitude toward the brand ( $F(1, 54) = 0.28, p = 0.6, \epsilon^2 = 0.05$ ), although the means scores were in the direction as predicted. H6 was not supported.



**Figure 13. The Effect of Content Arousal on the Attitude toward the Brand**

A post-hoc analysis was conducted to examine the change of brand attitude across messages. The score of brand attitude in both levels of content arousal were averaged. The resulting data was applied to a repeated-measures ANOVA on messages (pretest, negative news and positive brand ads). A significant effect of messages on brand attitude was found ( $F(1.81, 97.91) = 63.05, p < 0.01, \epsilon^2 = 0.54$ ). As a result, after reading negative stories about a corporate crisis, participants' attitude toward the brand decreased (mean = 3.97, SD = 0.81) from the pretest (mean = 5.08, SD = 0.74). However, after viewing brand ads, participants' attitude toward the brand rebounded, regardless of level of content arousal as shown in Figure 14, but still lower than the original level of brand attitude.



**Figure 14. Change of Brand Attitude after Reading Negative News Stories and after Viewing Ads**

### Regression analyses

Regression analyses were computed to examine the relationship between self-reported emotion and attitude toward the ad by level of content arousal. Also the relationship

between attitude toward the ad and brand attitude by level of content arousal was computed.

- Self-Reported Arousal and Valence vs. Attitude toward the Ad

Results suggested self-reported arousal to be a significant predictor of attitude toward the ad when participants viewed positive emotion-arousing ads. However, when participants viewed neutral ads, both self-reported arousal and self-reported valence were not significant predictors of attitude toward the ad.

Self-reported emotion by content arousal	F	R <sup>2</sup>	t	Beta	P
Positive emotion-arousing ad					
Arousal	(1, 53) = 17.25	0.25	4.15	0.5	0.00
Valence	(1, 53) = 24.47	0.32	4.95	0.56	0.00
Neutral ad					
Arousal	(1,53)= 0.01	0.00	-0.12	-0.16	0.91
Valence	(1, 53) = 3.4	0.06	1.84	0.25	0.07

**Table 3. Regression Analysis of Self-Reported Arousal and Valence vs. Attitude toward the Ad by Content Arousal**

- Attitude toward the Ad vs. Brand Attitude

The results of two post hoc regression analyses showed attitude toward the ad evoked by both levels of content arousal was a significant predictor of participants' brand attitude. Also, attitude toward the ad induced by a neutral ad was a stronger predictor of brand attitude compared to a positive emotion-arousing ad.

Attitude toward the ad by content arousal	F	R <sup>2</sup>	t	Beta	P
Positive emotion-arousing ad	F(1, 53) = 13.25	0.2	3.64	0.45	0.01
Neutral ad	F(1, 53) = 14.56	0.22	3.82	0.46	0.00

**Table 4. Regression Analysis of Attitude toward the Ad vs. Brand Attitude by Content Arousal**

## CHAPTER 5: DISCUSSION

The overarching question of this study was whether a positive emotion-arousing ad following negative publicity on a brand would evoke positivity and further repair consumers' attitude toward the brand. This study employed the LC4MP and the dimensional emotion theory to answer the question. To unfold emotional experience during media use, physiological measures indexed the reflective responses to messages across the exposure, and language indicated participants' experience of the entire process.

As A. Lang and Ewoldsen (2010) have pointed out, when pursuing an effect, researchers should not overlook the dynamic process during the use of messages. Albeit the physiological data did not reveal a main effect of content arousal on valence, mean scores still provided a general picture of the continuous, moment-to-moment variation during the message exposure.

### **Psychophysiological Emotion**

- During Negative News Stories

Among physiological measures of emotion, variance of skin conductance level was alone found to be a result of reading negative news stories over time. However, according to the skin conductance level activity, the longer people read, the calmer they would be. Because the averaged change scores from the baseline were all negative and decreasing, news stories did not trigger participants' emotion in a physiological sense. In other words, these stories did not really activate the aversive system within the mental

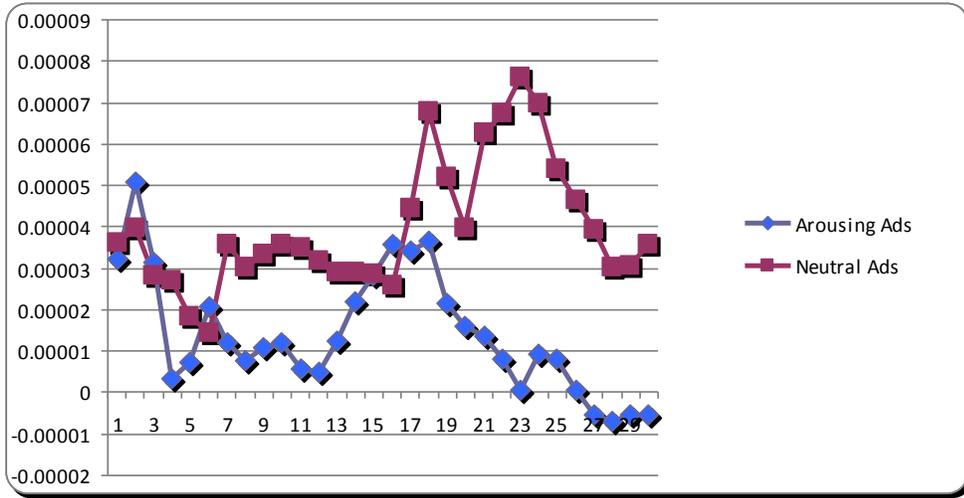
state. Of course, because these stories were not arousing, it is plausible that no significant change of negative emotion would be found.

Four reasons are likely to be responsible for the absence of skin conductance level activity when participants were reading the stories. First, these news stories were presented in print, which might have a nature of being less arousing than other types of media. Second, the failure to elicit skin conductance level may have resulted from the fact that news stories were not severe enough to be an imminent danger to participants. Although brand relevance to college students was controlled, after all, participants were not direct stakeholders of the recalls. Therefore, the negative stories might not have been extremely and directly threatening to the students. Third, college students may have been desensitized to such messages because they have been immersed with a huge amount of information every day. Finally, the crisis type might be blamed, too. When removing sensors from participants, the researcher chatted with participants as an informal short interview. Product recalls seemed to some participants to be frequent industrial incidents that most companies would encounter.

- During Brand Ads

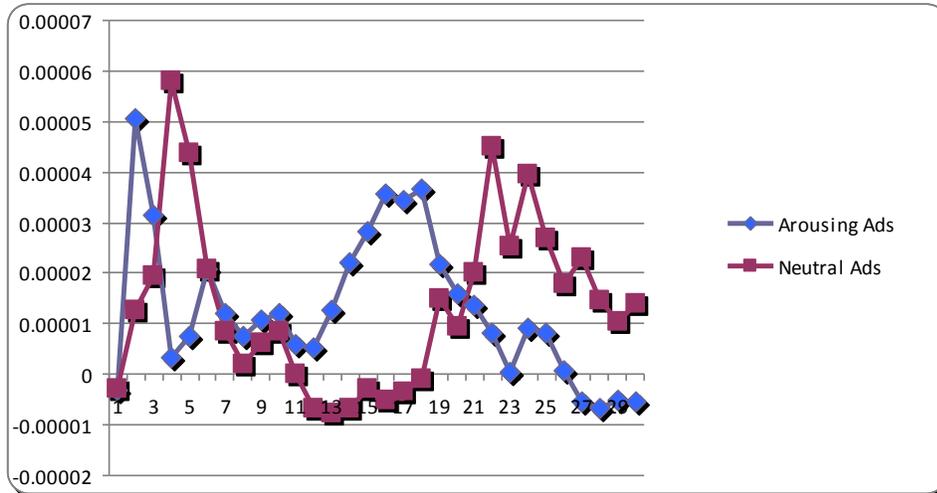
As evidenced by skin conductance level activity, a positive emotion-arousing ad was more arousing than a neutral ad. However, physiological data of the dimension of valence was not evident. Obicularis oculi and zygomaticus major change scores did not reveal positive emotional responses to a positive emotion-arousing ad compared to a neutral ad. However, as shown in Figure 7, viewing a positive emotion-arousing ad resulted in a decrease in corrugator supercilii activity compared to viewing a neutral ad for most of the time, particularly after data point 16. A post hoc analysis on corrugator

supercilii after data point 15 revealed a main effect of content arousal on negative emotional responses.

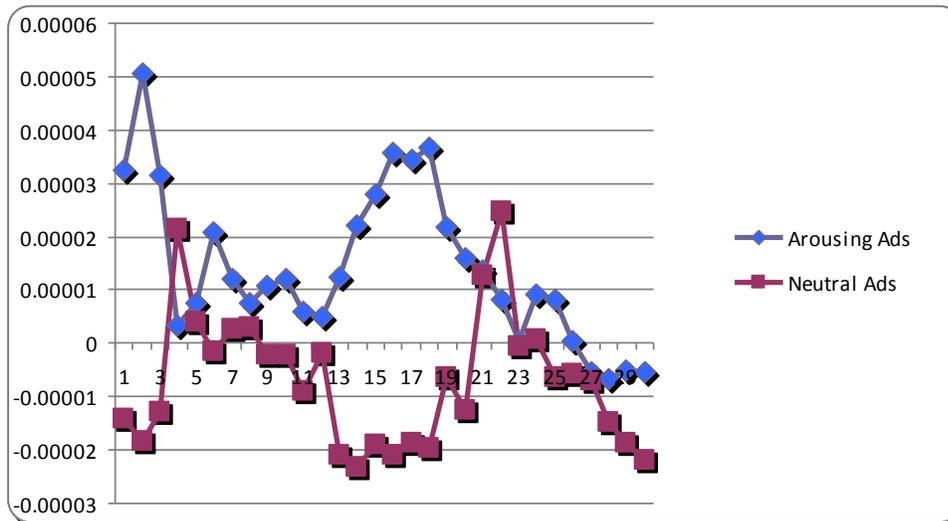


**Figure 7. The Effect of Content Arousal on Corrugator Supercilii Change from Baseline across the last 15 Data Points**

It is intriguing that an emotional ad was more arousing than a neutral ad, but three channels of valence could not tell in which direction such emotion was activated. An apparent pattern appeared Figure 5 and Figure 6 where orbicularis oculi and zygomaticus major change scores likely represented covariation of both channels. Taken together with variance of corrugator supercilii activity, it seems that viewing an emotional ad led to an increase in positive emotion with covariation of orbicularis oculi and zygomaticus major activity, as well as a decrease in negative emotion with decreasing corrugator supercilii activity. However, the value of three channels of valence was extreme small. Future research is necessary to validate the above findings.



**Figure 5. The Effect of Content Arousal on Orbicularis Oculi Activity Change from Baseline across 30 Data Points**



**Figure 6. The Effect of Content Arousal on Zygomaticus Major Activity Change from Baseline across 30 Data Points**

Two reasons might be responsible for the absence of physiological responses in valence. First, lack of statistic power might be a reason. Only 29 participants completed physiological measures and ten of those had high impedance level in facial EMG activities. High impedance level might dilute other good Facial EMG data. Second, lack of contrast between both conditions might cause no significant difference in valence. For

example, neutral ads in this study contained too many affect cues, such as pleasant background music and fast pace. Also, messages in both conditions were not the same so the confounding variable of message might have interfered with the processes.

As shown Figure 5, Figure 6 and Figure 7, the divergent pattern emerged between data point 10 and data point 27. A plausible explanation would be storytelling style. This study employed fact-based ads to manipulate neutral ads that just put information in a very straightforward way. Conversely, a positive emotion-arousing ad was manipulated by conventional emotional appeals, including humor and warmth that generally took time to trigger viewers' emotion by telling an interesting story. Also, the final seconds toward the end of an ad were usually reserved for product information and brand recognition. Accordingly, these factors might lead to such difference by epoch emerged during the middle portion of an ad. Despite the absence of main effects over the entire message episode, these divergent patterns delineate the strength of physiological data to unveil nuanced, subtle emotional variance across time within mental state. These are valuable details beyond effect.

### **Self-Reported Emotion: Cognitive Appraisal**

Although physiological data provided no evidence for embodied emotional change in valence as a function of negative stories, on a conscious level, participants thought they did feel negative about the mentioned brand after reading the stories. Based on the descriptive means of self-reported valence, on a 9-point scale where 1 referred to the most negative, participants felt very negative (mean = 2.7, SD = 0.88) about the mentioned brand. This finding was consistent with the conclusion of previous studies that

people had negative feelings like anger about the brand criticized by negative publicity (Jin, 2009; Jin et al., 2007). Similarly, self-reported valence and arousal supported the hypotheses that a positive emotion-arousing ad would evoke intensive, positive emotion compared to a neutral ad.

An inconsistency between physiological responses and self-reported experience was obvious. As Potter and Bolls (2011) cautioned, media psychology researchers should consider the relationship between physiological data and self-reported data as being independent of each other, rather than as simply being correlated with each other. Both measures of emotion may or may not be consistent. The purpose of employing both channels of emotion is to better understand from both perspectives of dynamic, real-time physiological responses and of the phenomenon experience of the entire message episode.

Hence, although orbicularis oculi activity and zygomaticus major activity were not strong enough to support the predicted change of positive emotion, the mean scores of these two channels indeed reflected the predicted difference. After data point 15, the mean scores of these two channels across time appeared to be similar with the results of self-reported data. As aforementioned, strength of manipulation, lack of statistical power and involvement might have led to the absence of physiological responses to messages. Self-reported data still offered convincing evidence of participants' cognitive appraisal of emotion during the presentation of messages.

### **Brand Attitude Decreased After Negative Publicity**

Negative publicity indeed lowered participants' attitude toward the brand. Participants might not exhibit embodied emotional responses to the mentioned brands,

but they did give very negative rating of how they felt about the mentioned brands. Considering the fact that brand attitude decreased after reading negative stories and the absence of embodied negative emotion, managers might be aware that consumers' brand attitude might turn unfavorable even without actually experiencing severe negative emotion. Instead, negative publicity would be enough to make consumers cognitively felt bad about the brand and thus result in a decrease of their brand attitude. Direct stakeholders should not be the only focus to managers. Managers should be aware that a corporate mishap might be pervasively impact the general public's attitude toward the brand, if general consumers felt bad about the brand even without much embodied negative emotion evoked.

### **Attitude toward the Ad and toward the Brand**

Following negative publicity, results suggested that viewing a positive emotion-arousing ad resulted in favorable attitude toward the ad compared to a neutral ad. A regression analysis further suggested that self-reported arousal and self-reported valence were both significant predictors of attitude toward the ad after viewing a positive emotional ad, but that was not the case after viewing a neutral ad. Accordingly, under the circumstance of a corporate crisis, it is likely that the more positive an ad is, the better the attitude toward the ad would be.

This finding supports the dimensional emotion theory and the LC4MP that as intensive positivity was triggered by a message, the appetitive system will motivate an individual to approach the source of emotion. This conclusion also challenges conventional skepticism that running an ad campaign after a corporate crisis might irritate

consumers. Instead, results revealed the merits of advertising to elicit positive emotion that mediates favorable attitude toward the ad, particularly if that ad is positively emotion-arousing.

However, participants' attitude toward the ad did not ultimately mediate their attitude toward the brand. Surprisingly, post hoc regression analyses even revealed an opposite result to H6. Attitude toward the ad after viewing a neutral ad is a slightly stronger predictor of brand attitude than a positive emotion-arousing ad following negative news stories about a corporate crisis.

Inferred from the results of the news section, brand attitude decreased within a short time when physical emotional arousal was absent. So, an assumption that brand attitude is resistant to change within a short time can be excluded here. An interesting conflict emerges here. Non-arousing, negative news stories decreased participants' attitude toward the brand, but positive emotion-arousing ads did not have an impact on brand attitude within such a short time. The impact of a negative message on brand attitude is stronger than a positive corporate message.

When it comes to brand evaluation, viewing a neutral ad is a slightly stronger predictor of brand attitude compared to viewing a positive emotion-arousing ad. An explanation would be the strength of manipulation. Manipulations were not strong enough to stir strong negative emotion as well as a sharp contrast of level of content arousal, as inferred from the absence of significant change of physiological emotional responses.

In addition, results might indicate emotion, particularly positive emotion, might not be the dominant variable determining brand evaluation in the case of a corporate

crisis. This implies a cognition-based need for information of the public in evaluating a brand facing negative publicity, regardless of whether people like the ad or not. That is, for crisis communications, positive, arousing content does not necessarily result in an increase of attitude toward the brand.

At least, participants' attitude toward the brand rebounded after viewing brand ads. Given that brand attitude increased in both positive emotion-arousing and neutral conditions, advertising seems to have the merit to repair the public's attitude toward the brand following negative publicity. However, two points should be noted. First, participants' attitude toward the ad did not fully recover to the original level before reading negative news stories. Second, this conclusion was drawn from a post hoc analysis without a control group, which could exclude a possibility that the rebound was due to fading negative impression on the brand.

### **Limitations**

The major limitation of this study is manipulation strength. This study used print news to present corporate product recalls because it was much easier to manipulate mock scenarios in print than in broadcast news. Otherwise, broadcast stories should be more arousing than print. Using broadcast news will help to exclude media difference between news and brand ads.

Because TV commercials are more arousing than print ads, this study used commercials selected from YouTube. These ads were regular commercials of the mentioned brands rather than brand ads directly addressing the mentioned recalls. The good side of using regular TV commercials was to avoid confounding effects of memory

and execution quality. Unfortunately, there were not many ads of the selected brands that were extremely arousing or boring. Therefore, despite a pretest that was done to test the degree of negative emotion evoked by the ads, there was only a paucity of substitutions. Particularly, neutral ads contained too many affect cues such as fast pace, editing effects, background music, etc. so that these ads were not as calm as expected. Therefore, if possible, future research may produce electronic ads that contain the same message but only vary with affect cues.

In this study, only 29 participants completed physiological measures. Based on the extreme small value of the physiological data, it does not seem possible that this study would get closer to a significant effect merely by running 20 more participants, unless the manipulations are modified. Once the manipulation issues get improved, a total of 50 participants would be ideal for future research to have enough statistical power.

### **Suggestions for Future Research**

As A. Lang and Ewoldsen (2010) argued for the need to look at the subtle changes over time beyond effect, this study added a better understanding about how positive and negative emotion about a brand interact with each other and impact attitudes toward the brand. Future research on emotion and attitude are in need with respect to crisis communications. If the limitations in the manipulation can be improved, we should better understand the effectiveness of positivity evoked by arousing ads on brand attitude following negative publicity on the brand. In order to stir emotional responses, electronic media should be a better option than prints to present messages. If possible,

manipulations can directly address the issue to understand the public's responses to corporate crisis campaign.

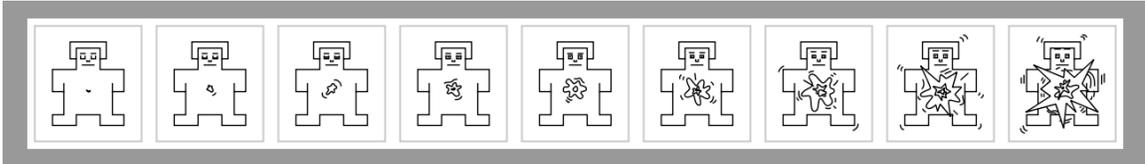
From the present study, data also showed several interesting topics worth further research efforts. Because news stories were presented in print, time that each participant spent on a story varied. Variance of time might relate to the degree of concern and cognition efforts devoted to the story; it might co-vary with pre-existing brand attitude as well.

This study only examined emotional experience and excluded cognition variables. Even so, results implied a need for information in the case of crisis communications. Future research can also incorporate cognitive variables, for example, perceived risk, expectation and responsibility attribution, into the investigation to see the whether emotion would have an impact on cognitive judgments. Additionally, involvement with a corporate crisis is a likely factor that determines individuals' emotional responses to the case and to the brand. It is also worth including involvement in future investigation of the relationship involvement, emotional responses, and evaluation of the brand following a brand crisis.

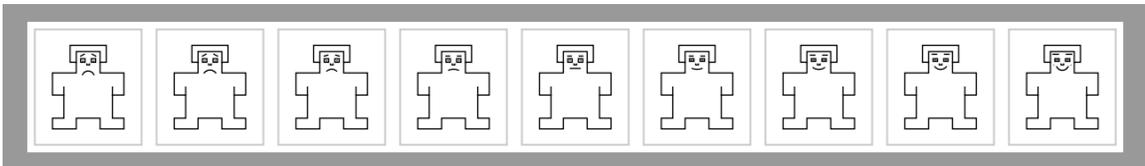
# APPENDICES

## A. The SAM Scale

### Arousal



### Valence



**B. News stories**  
**#1 — APPLE**

**Explosion incidents force Apple to recall iPod and iPod Touch**

Apple is recalling 1.8m iPod Touch music players worldwide after shattering screen, overheating, and hissing noise complaints.

The latest recall was prompted after Apple received a total of 324 complaints from users reporting "overheating" of the batteries.

The announcement was made by the Consumer Product Safety Commission, which said 67 of the 324 users reported minor burns from the devices.

The CPSC actually launched a formal inquiry last month after a teen in Seattle said his girlfriend's iPod Touch screen blew up without warning and sent a shard of glass into his eye.

While Apple refuses to comment on the case, the device's battery is thought to have caused the alleged explosion. The consumer electronic and software giant had in 2009 paid an undisclosed amount to a man after he suffered burns when his iPod Touch caught fire.

The incident wasn't alone. It was preceded by a handful of other reports of exploding Apple devices in Europe and Japan. In one instance, a man claimed Apple tried to keep him from talking by offering a full refund in exchange for his signature on a gag order.

In the US, 1.1m iPod and iPod Touch are affected with a further 752,300 Apple music players sold overseas also involved in the recall.

The announcement affects portable music players - the iPod and iPod Touch - sold between October 2008 and February 2010.

The recall is believed to be the second-biggest in US history involving electronics or computers.

## #2 — DELL

### **Dell to recall four million laptop batteries**

Dell Inc. said yesterday that it would recall 4.1 million lithium-ion batteries for laptop computers after several dangerous incidents in which the batteries burst into flames and damaged other property.

The recall affects certain Inspiron, Latitude and Precision mobile workstations and XPS units shipped between April 2004 and July 18, 2006. Sony manufactured the batteries that are being recalled, the representative said.

If they have one of the affected units, consumers are advised to eject the battery from the notebook after powering down and continue using the notebook with its AC power adapter, the CPSC said. Dell has so far received sixty reports of overheating units that caused property damage, as well as five reports of injuries.

Dell has faced several issues this year related to exploding or flaming notebooks, and wants to ensure the safety of its customers, the representative said. The 4.1 million units is a subset of the 22 million units shipped during that time frame, he said. Dell said it doesn't expect the cost of the recall to materially affect its earnings. The company reports earnings for the previous quarter this Thursday.

In a separate incident, a Dell laptop ignited during a conference a month ago in New York. Digital photos from the event posted at online news sites show flames shooting from the laptop, as if an explosion had occurred, leaving burn marks on the green tablecloth under the computer. The U.S. Consumer Product Safety Commission, which said Dell brought the situation to the agency's attention under federal guidelines, said the company has documented half a dozen such accidents.

At the moment, this looks like the largest battery recall in the history of the electronics industry, said Roger Kay, an analyst with Endpoint Technologies Associates. "The scale of it is phenomenal."

### #3 — PEDIGREE

#### **Salmonella Prompts Pedigree Pet, Dog Food Recall**

Mars Petcare US, the parent company of the brand Pedigree, announced a voluntary recall Friday of all dry pet food products produced at its plant in Everson, Pa. between Feb. 18 and July 29, citing potential contamination with salmonella.

Reports of illnesses and deaths linked to Mars' tainted dog and cat food continue to rise nationwide -- far more than the 260 confirmed cases reported by the Federal Drug.

Mars Pet Food recall from Pedigree is a Class I recall, which means that this is the most serious. The salmonella contamination incident may cause ill effects in pets or also sicken people who handle the food. Children, the elderly and those with weakened immune systems are particularly vulnerable.

Pet owners in Illinois, Missouri, Iowa, Ohio and Indiana, particularly the Chicago and St. Louis metro areas, are warned of a voluntary limited pet food recall involving Pedigree Complete Nutrition Small Crunchy Bites dog food.

Officials from the Illinois Department of Public Health say the dog food may have been contaminated with Salmonella, which has been at the center of many other nationwide food recalls and warnings in recent weeks.

The Veterinarians Information Network, a Web site of 30,000 veterinarians and veterinary students, says salmonella can cause serious infections in dogs and cats and, if there is cross contamination caused by handling of the pet food, in humans also.

"The 260 (cases) the FDA confirms is barely the tip of the iceberg," the network's co-founder, veterinarian Paul Pion, told The Los Angeles Times. "There will be much more than this."

Mars, in a news release, did not say how much pet food is involved, but said the recall reaches 31 states and various brands.

Mars said it stopped production at the plant July 29 when it was alerted of a possible link between dry pet food produced in Everson and two isolated cases of people infected with salmonella.

## **#4 — TACO BELL**

### **Taco Bell linked to 42-state salmonella outbreak**

A salmonella outbreak that sickened at least 155 people in 42 states has been linked to Taco Bell restaurants. Health officials have not yet identified a particular item or ingredient related to the outbreak at Taco Bell.

Taco Bell has been linked to two Salmonella outbreaks involving two different strains of the bacteria that has sickened more than 155 people, 55 of whom were hospitalized, the U.S. Centers for Disease Control and Prevention said.

Georgetown, Kentucky, resident Jo Anne Smith filed a Salmonella lawsuit against Yum Brands, the parent company of Taco Bell, Friday.

According to the lawsuit filed by Smith's attorneys, she purchased two tacos garnished with lettuce, cheese, and sour cream from a Frankfort Taco Bell location on May 24. Smith became ill with symptoms of Salmonella infection on May 26, and her symptoms continued to worsen over the course of the next several days.

A stool sample Smith submitted while at the ER later returned positive for Salmonella Hartford--one of the strains of Salmonella determined last week to be the source of the outbreak associated with Taco Bell.

Smith is represented Marler Clark, the Seattle-based law firm that has represented thousands of victims of Salmonella outbreaks.

This is the third time that Taco Bell's has been tied to a major national food scare. The most damaging to its reputation came in 2006, when Taco Bell was linked to an E.coli outbreak that was a nightmare for the company. Green onions were identified as the source of the contamination connected to at least 271 people getting sick.

## #5 — TOYOTA

### **Toyota owners fume over massive recall: Accelerator-pedal recall too slow**

Toyota dealers in the GTA are being inundated with phone calls and some car owners were crying foul Wednesday after Toyota Canada recalled 270,000 vehicles due to a potential gas-pedal problem.

Toyota has paid a \$16.4 million fine to settle allegations by U.S. regulators that the company was too slow to recall vehicles with defective accelerator pedals.

In paying the fine as expected, Toyota did not admit wrongdoing regarding the 2010 recall stemming from a National Highway Traffic Safety Administration investigation of pedals that would not spring back as designed.

Safety regulators are also investigating whether Toyota delayed a 2009 recall of all-weather floor mats that could jam the gas pedal.

The "sticky pedal" and floor mat recalls involving millions of vehicles globally are at the heart of Toyota's worst safety crisis over unintended acceleration.

The biggest issues with the cars on the 2010 Toyota recall list is that the company doesn't know exactly how or when one of their vehicles is going to have a problem. Toyota still hasn't got letters out to all of the affected drivers, and with no solution in place to deal with these "broken" cars, it means that millions of drivers are on the roads in cars that could suddenly malfunction at any time. The accepted outcome in the car industry is that things do indeed go wrong with their cars, but the question quickly becomes whether or not Toyota is doing enough to quell the fears of consumers who have now found their vehicle on the latest Toyota recall lists.

## #6 — TYLENOL

### **Tylenol Recall Shocking at 3 Million Bottles: FDA slams company**

A nauseating "moldy" odor has sickened some people using Tylenol Arthritis Pain Caplet 100-count bottles with red EZ-Open caps.

The maker of several over-the-counter drugs, including Tylenol, Motrin and Benadryl, announced a broad-based recall of these and other drugs Friday after receiving complaints of an "unusual moldy, musty or mildew-like" odor.

The recall drew the Food and Drug Administration's wrath on Johnson and Johnson for not reacting quickly to customer complaints and its failure to fix the problem. The FDA said McNeil knew of the problem in early 2009 but made only a limited investigation.

"McNeil should have acted faster," said Deborah Autor, the director of the FDA's Office of Compliance of the Center for Drug Evaluation and Research. "When something smells bad, literally or figuratively, companies must aggressively investigate and take all necessary action to solve the problem."

McNeil-PPC, the Johnson and Johnson division that manufactured the recalled products, said it received a "small" number of complaints of "non-serious" stomach problems, including nausea, stomach pain, vomiting or diarrhea. However, it did not say when the complaints were received or how many.

The recalled products include junior strength Motrin, children's Tylenol grape meltaway tablets, extra strength Tylenol, extra strength Tylenol rapid release gels, extra strength Tylenol PM gels, Motrin caplets, extra strength Roloids fresh mint tablets, St. Joseph Aspirin chewable orange tablets and Benedryl allergy ultratab tablets.

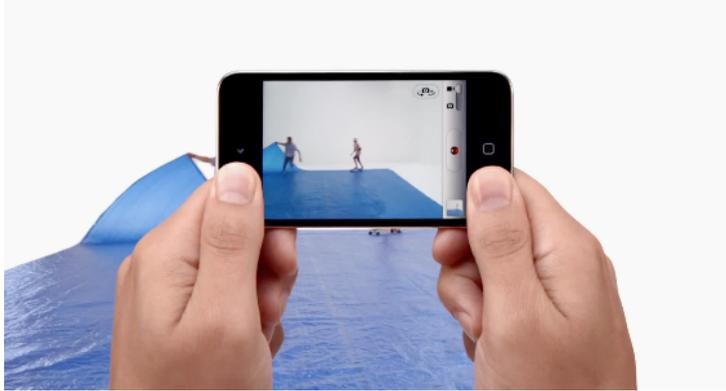
These products are widely sold through a number of retail stores, including large chain drug stores, independent pharmacies and supermarkets.

The agency warned Johnson & Johnson that "failure to correct these violations may result in legal action, including seizure and injunction."

## C. Brand Ads

### Positive Emotion- Arousing ads

- Commercial #1 — APPLE  
<http://www.youtube.com/watch?v=MkLF8rEFDps>



- Commercial #2 — DELL  
<http://www.youtube.com/watch?v=-ijH3cRJ1BY&feature=related>



- Commercial #3 — PEDIGREE  
<http://www.youtube.com/watch?v=Z3aP5Ks7e1s>



- Commercial #4 — TACO BELL  
<http://www.youtube.com/watch?v=ZBJCoPRRDuw>



- Commercial #5 — TOYOTA  
<http://www.youtube.com/watch?v=vwXbGc-t2qg&feature=related>



- Commercial #6 — TYLENOL  
<http://www.youtube.com/watch?v=eDXtq7TL5Vo&feature=related>



## Neutral ads

- Commercial #7 — APPLE  
<http://www.youtube.com/watch?v=kduSNhmM3Aw&feature=related>



- Commercial #8 — DELL  
[http://www.youtube.com/watch?v=RD9dA-MY\\_MY&feature=related](http://www.youtube.com/watch?v=RD9dA-MY_MY&feature=related)



- Commercial #9 — PEDIGREE  
<http://www.youtube.com/watch?v=vgXr7EgqH94&feature=related>



- Commercial #10 — TACO BELL  
<http://www.youtube.com/watch?v=0RDFwplJmgE&feature=related>



- Commercial #11 — TOYOTA  
<http://www.youtube.com/watch?v=LuSpW7VU4Qw&NR=1>



- Commercial #12 — TYLENOL  
[http://www.youtube.com/watch?v=O\\_smM7-ryEs](http://www.youtube.com/watch?v=O_smM7-ryEs)



## **CONSENT: Advertising in Crisis Communications**

You have been invited to participate in a research study conducted by a graduate student Ming-Yi Chao at the Missouri School of Journalism. This study aims to understand the role of advertising in brand communications after a corporate crisis.

You will earn one research credit for your participation, but you can refuse to participate or quit the experiment anytime without penalty. If you do not want to participate, you have an alternative choice to write a paper to fulfill this course. For details of the alternative paper, please consult your instructor.

The entire study will take 50 minutes at most. You will read a number of news stories, watch several brand commercials, as well as evaluate the mentioned brands. This study employs physiological measures. Several electronic sensors will be adhered to your face and non-dominant hand.

This is a good chance for you to explore physiological measurements. There is a very slight risk of electrical shock, which is no greater than physical risks you face in your normal daily lives. All equipment is connected to GFI protected outlet. You can quit the experiment anytime if you feel uncomfortable with sensor placements.

All the data collected from this study will keep confidential during and after the experiment. Your participation will be anonymous; neither the researcher nor anybody is able to link the data to you in any way. Only the researcher of this study and the Institutional Review Board has limited access to the collected data.

If you have any questions during the procedure, raise your hand and the researcher will come to assist you. If you have any questions after the experiment, please contact Ming-Yi Chao at [mcdh9@mail.missouri.edu](mailto:mcdh9@mail.missouri.edu), or 573-529-3875

The adviser of this study is Dr. Paul Bolls, [bollsp@mail.missouri.edu](mailto:bollsp@mail.missouri.edu)

The Campus Institutional Review Board approved this research study. You may contact the Campus Institutional Review Board if you have questions about your rights, concerns, complaints or comments as a research participant. You can contact the Campus Institutional Review Board directly by telephone or email to voice or solicit any concerns, questions, input or complaints about the research study.

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If you agree to participate, please give your consent below:

Print \_\_\_\_\_

Signature

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