**Physiological versus Self-report Measures in Emotional Advertising, Considering the Moderating Role of Social Desirability: A Research Agenda** [[1]](#footnote-1)

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**Abstract**

Contemporary literature extensively deals with the role of emotional appeals in advertising and their impact on consumers' responses, such as emotions and attitudes. Nevertheless, the measurement of such responses is only narrowly tested by both physiological and self-report measures, considering the potential moderating effect of social desirability. This paper focuses on a body of studies that deals with a) emotional appeals, b) social desirability, and c) physiological measures, constructing propositions that highlight the importance of using physiological measures in order to unveil consumers' true reactions towards emotional advertising, dependent on whether they watch the advertisement in private or in public. Building on the "game of impressions'' and the need of consumers to be socially desirable, this research expects that the latter will not disclose their actual responses towards an emotional advertisement in self-assessment questionnaires, whereas their facial expressions will accurately report their emotional reactions. The propositions of the present paper seek to provide fruitful implications for both academics and practitioners.

**Introduction**

According to Kotler and Armstrong (1994, p. 468), ''Emotional appeals attempt to stir up either negative or positive emotions that can motivate purchase. These include fear, guilt and shame appeals that get people to do things they should or stop doing things they shouldn’t ... communicators also use positive emotional appeals such as love, humor, pride, and joy''. Practitioners believe that advertising must provoke emotions in order to be effective. Yet, even though there is agreement about the necessity for an emotional response to advertising, there is little agreement among advertising researchers about how emotional response in advertising can be measured or evaluated (Mehta and Purvis, 2006).

Social desirability bias refers to the tendency of people to answer surveys in a way that is considered to be socially desirable instead of expressing their true emotions (Grimm, 2010). Social desirability is considered a personality trait that affects what a respondent wants to transpire in a survey, especially when the aforementioned respondent focuses on sensitive issues (Johnson and Van de Vijver, 2003). As such, even though self-report measures can be exceptionally helpful in examining consumers' attitude and behavior towards advertising, consumers' need to be socially desirable might distort part of the information provided through these measures. Therefore, the inability of self-report methods to provide fully accurate feedback suggests the necessity for applying physiological measures (Cacioppo et al., 2010), such as the measuring of facial expressions or eye movements.

According to Walsh et al. (2017), the two most-used methods for facial expression analysis are automatic facial expression analysis (AFEA, e.g. FaceReader software) and Electroencephalography (EEG; which measures the brain activity). They also claim that combining explicit measures of emotions (self-reported) and implicit measurements (physiological) to study emotional responses it is a difficult but helpful approach to achieve a better understanding of consumers’ reactions. Furthermore, with respect to eye-tracking, time spent on watching advertisements (total fixation duration and time to first fixation) does not only indicates attention, but may also suggest consumer preferences (Lohse, 1997).

The present study sheds light on the growing body of studies on emotions, social desirability and physiological versus self-report measures in order to contribute to the understanding of consumers' reactions to emotional advertising appeals by examining facial expressions and eye movements and fixations. Considering that choices and reactions made in group contexts yield a different pattern than those made individually (Dan and Levav, 2014), it is expected that when consumers are exposed to emotional, advertising appeals in the presence of others, will react differently than when they watch the ad alone. More specifically, the purpose of this study is to formulate specific propositions for the following research questions:

1. Does social desirability moderate the effect of emotional advertising appeals on attitude towards the ad?

2. Does social desirability moderate the effect of emotional advertising appeals on attitude towards the brand?

3. Does social desirability moderate the effect of emotional advertising appeals on consumers' emotions?

4. Do consumers express themselves in a similar way towards emotional appeals when they are examined by self-report and physiological measures?

**Literature Review**

As products become more and more homogeneous, the communication of emotional attributes by a brand become highly significant for their differentiation. As a result, advertising relies heavily on emotions in order to grasp consumers' interest (Huang, 1998). Emotion is a process that happens over time, varies in intensity (Simon 1982) and valence (Russell 1980), and exhibits a variety of indices, such as conscious appraisals of internal states and physiological changes in heart rate, blood pressure, and adrenalin levels. An "emotional message" refers to a vehicle that creates a flow of feelings that people conceive as emotional experience (Friestad and Thorson, 1986). Benefits that people seek from emotional advertisements relate to their needs for stimulation, personal expression, social approval and self-esteem (Cutler and Javalgi, 1993). Along this vein, there are studies on emotions, in both fields of psychology and sociology, that indicate the existence of basic emotions, such as happiness, anger, and fear that are based on global instinctual biological reactions (Ekman, 1984; Kemper, 1987; Shaver et al., 1992). Social emotions, on the other hand, such as humor, warmth, and nostalgia, derive from the above-mentioned basic emotions and from the socialization process, as a social reaction of human development (Harris and Saarni, 1989; Kemper, 1987; Malatesta and Wilson, 1988; Scheff, 1990). Consequently, the emotional responses of humans are tightly connected to and driven by the demands of their social environment. For instance, the need of a person to be socially desirable might lead to him expressing his emotions in a way that is consistent with the norms of society.

As for advertising, when the consumer is exposed to an emotional advertisement in the presence of others, the incongruence between the appeal and his need to be socially desirable would generate lower levels of positive and higher levels of negative emotions, as well as to more negative attitudes toward the advertisement, and subsequently, the brand. On the contrary, when an individual watches the ad in private, he or she will not feel the need to comply with the social norms and be socially desirable, which would, in turn, lead to unhindered expressions of true emotions in self-report measures. Therefore, the following propositions are formulated:

**P1.** Social desirability moderates the effect of emotional advertising on consumers' emotional reactions, such that:

Consumers who watch an emotional advertisement in public will express different emotions from those who watch the advertisement in private.

**P2.** Social desirability moderates the effect of emotional advertising on consumers' attitude towards the ad and the brand, such that:

Consumers who watch an emotional advertisement in public will form different attitude towards the ad and the brand from those who watch the advertisement in private.

As far as the methodology is concerned, in most studies associated with emotions in advertising self-report measurements were used. However, the selection of appropriate measures for emotional reactions is vital (Li et al., 2018). Especially for emotions, it is very difficult for participants to declare their actual emotions, since it requires a great level of cognitive processing (Li et al., 2016). In contrast, facial expression measurements and in general phycho-physiological measurements are able to uncover unconscious reactions (Hwang and Matsumoto, 2016), with facial expression analysis be the most used measurement. Another weakness of self-reported emotions is that questionnaires ask participants to summarize their feelings during all the experimental stimuli, while facial expression analysis permits the frame by frame analysis of emotions (Li et al., 2016).

Furthermore, many researchers have drawn attention to the biases of self-report measurements, since “self-reported information can be influenced by demand characteristics, subjective bias, and social desirability, rather than reflecting the actual experience and feeling at that moment” (Hwang and Matsumoto, 2016; p. 135). Maxian et al. (2013), also, agree that participants are not able to control their facial expressions and their responses are automatic and independent of social desirability. Thus, the following propositions are formed:

**P3**. The self-reported emotions will differ from the emotions captured through the facial expressions’ analysis, when participants watch an emotional advertisement either in public or private.

**Conclusions**

Conclusively, a total of three propositions with respect to consumers' reactions to emotional advertising, considering the role of social desirability were constructed. It is expected that future empirical evidence on these propositions will provoke fruitful implications for both managers and academics.

The literature review highlights that emotional, advertising appeals is one of the most creative strategies, the effectiveness of which depends on how consumers respond to emotions (Micu and Plummer, 2010). In addition to that, previous studies demonstrate that emotions are in large influenced by social contexts and that people either keep their emotions private or share them with others (Frijda and Mesquita, 1994). Social desirability represents one of the reasons why consumers decide to respond in a different way when the watch an advertisement in private and in public. As such, the synergy of self-reported measures and physiological methods could offer a more honest report of a subject's emotions and attitudes towards an emotional advertising appeal. All in all, the present paper suggests that people's need to be socially desirable might affect their true, emotional reactions and attitudes towards emotional advertising stimuli. Additionally, it highlights the significance of using both physiological and self-report measures as a way to reveal unconscious emotions or emotions that the respondents deliberately want to hide.

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