

# Attention to commercial and public health executions: Examining advertising effectiveness using psychophysiology

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# Abstract

Advertising expenditure worldwide is estimated at more than 2.5 per cent of global gross domestic product (WARC Data 2018; World Bank 2016). Advertising is an essential component of the marketing mix, and advertising effectiveness is critical for commercial and social marketers (Wood 2009). A key element for effective brand and social advertising is to capture at least some attention from viewers (Bellman et al. 2017). Such attention increases the probability of building and refreshing the associations in consumers' memories that help lead to reinforcing or changing their behaviour (Ehrenberg et al. 2002; Percy & Rossiter 1992).

Attention to, and building memories from, advertising has traditionally been measured using a consumer's self-reported recall (Haley & Baldinger 2000). Recall as an attention metric has numerous limitations that neuromeasures (also referred to as neuromarketing) can overcome. Psychophysiological neuromeasures, such as eye-tracking and biometrics (heart rate and skin conductance), provide information from the body to gauge what is happening in the mind. Consequently, there have been numerous calls for further research into the reliability and validity of psychophysiological measures for advertising effectiveness research (Bellman et al. 2017; Kennedy & Northover 2016; Stipp & Woodard 2011; Varan et al. 2015; Venkatraman et al. 2015).

This thesis aims to advance knowledge on how psychophysiological measures can be used to understand how consumers process advertising. In three distinct studies, this thesis provides greater understanding of four influences on consumer attention. Specifically, I examine one consumer-related influence (prior brand usage) and three execution-related influences, which are branding moments, advertising type (commercial or public health executions, also known as public service announcements [PSAs]), and the creative technique of humour. A mix of eye tracking, heart rate, and skin conductance are used to measure attention to the dynamic content of video advertising.

Study 1 uses eye-tracking to examine whether a consumer-related influence, prior brand usage, moderates the relationship of visual attention to video advertising and recall. Research has demonstrated brand users are more likely to recall advertising, possibly

suggesting a brand's commercials draw more attention from current users than potential new customers (e.g., Romaniuk & Wight 2009; Vaughan et al. 2016). Unobtrusive infrared technology collected fixation data for 64 video advertising executions for 11 consumer goods brands, from a sample of nearly 700 participants. First, a Bayesian statistical approach indicated that brand users do not give more visual attention than non-users to a brand's advertising. Second, a moderation effect of prior brand usage on the relationship of visual attention and recall was identified; light and non-users paying more attention have better recall. However, this effect does not exist for heavier users. These findings highlight the importance of developing advertising to gain visual attention from potential customers. On the other hand, field research has often assumed that higher recall after exposure results from greater attention from current users during exposure, without testing this directly. Therefore, the use of psychophysiological measures in this thesis enabled the difference between consumers' visual attention and recall to be differentiated and tested independently from each other.

Study 2 examines a different attention measure (consumers' heart rates) given it responds to both visual and auditory stimuli, which both play a role in video advertising. This study shows how consumers process and memorize branding from such video advertising. In an experiment using real-life video advertisements ( $N=31$ ), the authors examined attention to, and memory recall from, visual and audiovisual branding using a biometric measure, phasic (short-term) heart rate. The findings show differences in attention type depending on mode of branding. Visual branding elicits automatic attention through an orienting response (indexed by heart-rate deceleration). However, audiovisual branding elicits active attention through additional internal, cognitive processing of the brand (indexed by heart-rate acceleration), and better storage of the brand in memory. In addition to audiovisual branding being more likely to be remembered because its messages exist in the brain's audio and visual channels, this research provides a second process that explains the superiority of audiovisual branding; the internal, cognitive processing of the brand. The marketing implication is that including a verbal mention of the brand's name as well as visual branding on-screen encourages consumers to internally process the brand. This understanding of the cognitive mechanisms through which different types of branding affect consumers' attention was possible due to the millisecond-by-millisecond resolution of biometrics.

Study 3 builds further by incorporating measures of emotional arousal and valence, given emotion directs attention (Damasio 1994; Larsen et al. 2008; LeDoux 1998). Measuring three biometrics enabled a test of the assumption that brand advertising and social advertising (also called PSAs) elicit similar emotional responses and attention from consumers – a core assumption underpinning the social marketing practice of drawing on commercial knowledge to advance a social cause (Kotler & Zaltman 1971). To the best of my knowledge, Study 3 represents the first time that there has been a direct comparison between attention and emotional responses to commercials and PSAs. Firstly, Study 3 demonstrates that the creative device of using humour has a positive effect on consumers viewing video PSAs and commercials. This result extends prior research on the effects of humour in print PSAs (Blanc & Brigaud 2014) and in television commercials for consumer-packaged goods (Bellman et al. 2017). Secondly, Study 3 finds higher attention to PSAs, yet greater positive emotional arousal and valence when viewing brand advertising. It suggests that commercial advertising techniques can act differently when applied to social issues. This research highlights that while there may be benefits gained for social advertising (PSAs) by adapting commercial advertising techniques, caution should be exercised. The capacity of biometrics to provide feedback on viewers' emotional response to commercials and PSAs allowed testing of a core assumption underpinning social marketing practice. This paves the way for further exploration in both PSA and brand advertising effectiveness research which is vital for improved evidence-based theory development.

Together, the three studies demonstrate how psychophysiological measures can help researchers to further understand consumers' attention and emotional responses to video advertising (brand and PSAs). Given the substantially lower cost of these psychophysiological measures compared with brain imaging measures (such as functional magnetic resonance imaging [fMRI]), it would be worthwhile for researchers to consider incorporating eye-tracking and biometrics in their studies to examine consumer attention. For commercial and social marketers, the findings provide guidance for developing advertising executions that use branding and creative devices effectively, as well as recommendations for evaluating commercials and PSAs.