



# Do mind and body agree? Unconscious versus conscious arousal in product attitude formation



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## ABSTRACT

Marketing research addressing the role of arousal in attitude formation and change mostly looks at arousal as a merely conscious emotion. However, a substantial body of research, in cognitive psychology and neuroscience, now offers insights on the implicit, subliminal reactions of individuals to external stimuli, sustaining that unconscious emotions may drive to different attitudinal responses. Following a conceptualization of conscious and unconscious arousal and its influence on product attitude formation, this study provides empirical evidence of the hypothesised relationships through a laboratory experiment on 160 subjects. By employing electrodermal activity, a physiological measure, to assess unconscious arousal and self-reported scales to assess conscious arousal, the study reveals that conscious and unconscious arousal are two independent emotional responses and they influence attitude toward the product differently. The study extends theory on emotions and provides an initial step toward using physiological measures to evaluate consumer emotional response to new products.

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## 1. Introduction

Arousal constitutes a strong, predictable and impactful driver of decision making with regularities in the mechanisms through which it influences product evaluation across different types of decisions (Lerner, Li, Valdesolo, & Kassam, 2015). The understanding of the processes through which arousal influences attitude toward products and consequently, purchase intention, is significant for companies. Managers, indeed, need to understand how to design their products and communication to deliver a remarkable consumer experience that generates purchase intention. Knowing the mental process leading to attitude formation may enable managers to get their audience's attention and stimulate interest toward the offer.

Despite a substantial literature has emerged on the role of arousal in attitude formation and change (e.g. Allen, Machleit, Kleine, & Notani, 2005; Bagozzi, Gopinath, & Nyer, 1999), it mostly looked at arousal as a merely subjective felt emotion, i.e. an emotional response consciously experienced and generated by the identification of the eliciting cause (Kihlstrom, 1990). However, research acknowledged that most emotions that determine thought and behaviour occur without awareness (Zaltman, 1997). Studies in cognitive psychology, analysing individuals' psychological consciousness and unconsciousness (Berridge & Winkelman, 2003; Kihlstrom, 1990, 1992; Kihlstrom, Mulvaney, Tobias, & Tobis, 2000), established that, above emotions that are consciously experienced, individuals may experience unconscious

emotions too. More recently, research in cognitive neurosciences (Dehaene, Changeux, & Naccache, 2011; Lane, Nadel, Allen, & Kaszniak, 2000; Smith & Lane, 2016), focusing on the distinction between implicit and explicit processes of cognition, has come to a similar conclusion, acknowledging that the implicit-explicit distinction that applies to cognition generally also applies to emotions. Such unconscious emotions, i.e. emotional responses either consciously experienced but without identification of the eliciting cause or generated but not consciously recognised (Kihlstrom et al., 2000), can drive to different behavioural responses (Gardner, 1985; Hill & Gardner, 1987). These studies are grounded on the seminal concept that if arousal is the perception of bodily activity and perceptions can be unconscious, arousal can be unconscious too and may be expressed without awareness via physiological responses (James, 1884). This means that arousal is essentially a bodily reaction, thus unconscious, and the emotions one feels are only the cognitive recognition of this bodily reaction (Schachter & Singer, 1962). If research has not provided clear evidence of the divergence of unconscious and conscious arousal, researchers have at least accepted that without physiological activity consideration, emotions would be hardly distinguished from non-emotions (Lazarus, 1991). Consequently, the autonomic nervous system together with other unconscious physiological processes should come along with subjectively felt emotions (Oatley, 1992).

Despite the acknowledged role of physiological, unconscious arousal in shaping consumers' evaluations and behaviours, most of the research on this issue has been conducted in psychology and neuroscience and has not been widely acknowledged in marketing yet (Lee, Broderick, & Chamberlain, 2007). Much remains to be done in marketing research before we can make definitive statements about the nature and role of

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arousal in individuals experience and cognitive evaluations. Hence, the aim of this study is to expand the examination of arousal, by analysing both its conscious and unconscious components, and its role in product attitude formation. Our hypothesis is that conscious arousal and unconscious arousal are two distinct emotional responses, the first representing a consciously accessible emotion, the second mirroring an unrecognised bodily activation. We propose that arousal, above influencing attitude through its conscious manifestation, is also involved in purely unconscious processing. Further, we propose that emotional and attitudinal responses may be processed differently according to the functional or hedonic nature of the product experienced and the context in which the experience occurs.

We extend existing research with four main contributions: (i) we broaden prior literature on arousal by providing a conceptual model on the relation between unconscious and conscious arousal and their influence on attitude (ii) we empirically measure arousal through both self-reported scales and physiological instruments, to assess the two components we hypothesize (iii) we provide empirical evidence of the influence of conscious and unconscious arousal on product attitude formation (iv) we advance research on the influence of product nature and trial context on product attitude formation. For the best of our knowledge, this is the first attempt to analyse the relationship between conscious and unconscious arousal and their influence on attitude in a marketing study.

## 2. Literature background and hypotheses development

In developing our conceptual framework (Fig. 1), we rooted on a broad set of domains including psychology, neuro and biosciences, in order to conceptualise conscious and unconscious arousal and its influence on product attitude formation. Our framework proposes that, when a consumer experiences a product, both dimensions of arousal influence attitude formation and they are conceptually and practically independent. Further, we proffer that such relationships may be impacted by the nature of the product experienced and by the characteristics of the context in which the experience occurs. In the following, the conceptual framework is detailed in order to ground the research hypotheses tested in the study. Specifically, we begin with a definition and discussion of conscious and unconscious arousal, then turn on the

influence of arousal on attitude. Finally, we consider the role of product nature and trial context.

### 2.1. Arousal: conscious and unconscious responses

From a physiological perspective, arousal is a fundamental component of behaviour (Groeppe-Klein, 2005). Arousal conveys excitement, stimulation and bodily activation. It indicates an active body reaction, thus is closely related to attention to relevant outside stimuli and their processing. It affects decision-making processes and behaviours, such as the time spent browsing a product web page or the time spent in store (Groeppe-Klein, 2005). Arousal can have a positive or a negative valence: for instance, a subject can be positively excited by a new product or show negative arousal toward a product complex to use (Baker, Levy, & Grewal, 1992; Ward & Barnes, 2001).

Despite the overwhelming majority of research conducted in marketing refers to arousal as a conscious feeling, there is a growing stream of research in psychology, neuro and biosciences focusing on the unconscious side of arousal, arising thanks to the advancement in the measurement of physiological reactions. Studies in cognitive psychology, focusing on the understanding of individual consciousness (Berridge & Winkelman, 2003; Kihlstrom, 1990, 1992; Kihlstrom et al., 2000), established that, above emotions that are consciously experienced, individuals may experience implicit emotions as well. While the topic has generated interest in psychiatry and clinical psychology (Brenner, 1973; Modell, 2010), analysing the potential explanatory role of unconscious emotions in psychopathology, it has recently gathered attention within cognitive neuroscience as well. Here research (Dehaene et al., 2011; Lane et al., 2000; Smith & Lane, 2016) analysing conscious versus unconscious processes occurring in perception, decision-making and cognitive control, comes to the conclusion that the implicit-explicit distinction that applies to cognition generally applies to emotions as well. Further, recent cognitive neuroscience studies outline neuro-cognitive mechanisms that explain why certain aspects of individual's emotional reactions might remain unconscious under specific circumstances (Smith & Lane, 2016). This body of research supports the seminal theory of James (1884), confirmed by Schachter and Singer (1962), assuming that if arousal is the perception of bodily activity and perceptions can be unconscious, arousal can be unconscious as well and may be expressed without awareness via physiological responses (James, 1884). According to these theories, different

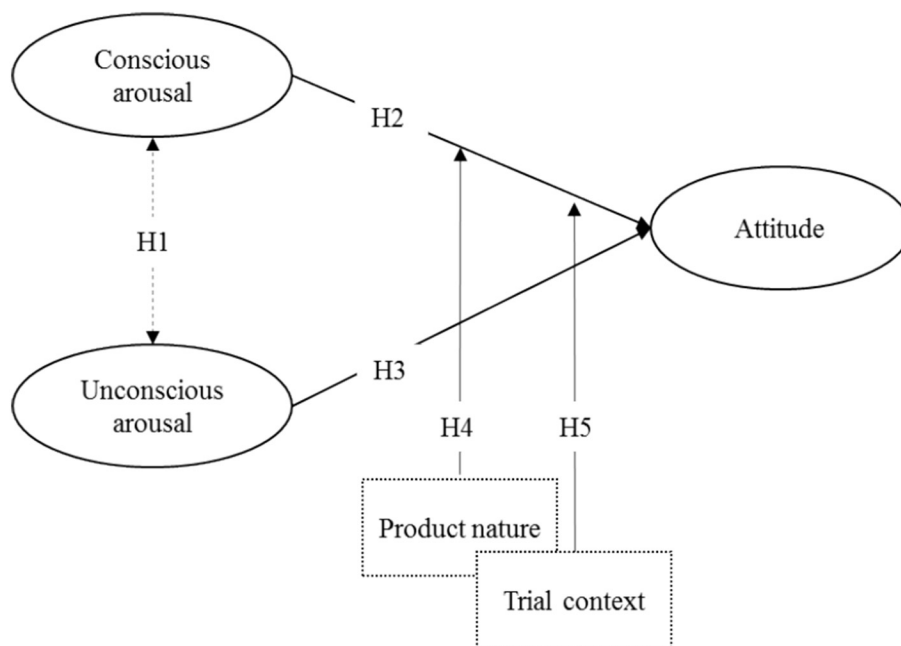


Fig. 1. Conceptual model.

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