Investigating Neural Correlates of Consumer Judgments

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Relative vs. absolute rewards: Evidence from experimental tasks and neuroimaging

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Prior work raised hypotheses that the nucleus accumbens, sublenticular extended amygdala, amygdala, and hypothalamus may produce responses related to reward (Aharon et al., 2001). In the current work, we examine the activity in these brain structures in order to better understand the way reward is encoded in the brain. In particular, a set of offline and fMRI experiments were designed to test the extent to which absolute vs. relative values are represented in the brain and the mechanisms that facilitate each of these aspects of reward. Overall the results show a high sensitivity to relative but not absolute rewards. Why are celebrities effective? A fMRI study into episodic memory effects of presenter context

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Recent behavioral research on celebrity presenters suggested that their effectiveness critically depends on celebrities having a readily perceivable 'expertise hook' with respect to the product they are endorsing (Rossiter & Smidts, 2004). The 'expertise hook' effect on brain activity is examined in an event-related fMRI study. Differences in neural responses to products in the medial temporal lobe and prefrontal cortex regions are tested in contrasts of celebrities paired with a 'congruent' product (i.e., hook) versus a 'noncongruent' product (i.e., non-hook). The effects of familiarity and attractiveness of presenters on neural responses as well as purchase intentions are also considered. A fMRI study of neural dissociations between brand and person judgments

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Functional magnetic resonance imaging (fMRI) was used to investigate whether semantic judgments about products and persons are processed similarly. Our results suggest they are not: comparisons of neural correlates of product versus human descriptor judgments indicated greater activation in the medial prefrontal cortex regions for persons; for products, activation was greater in the left inferior prefrontal cortex, an area known to be involved in object processing. These findings serve to challenge the view that processing of products and brands is akin to that of humans.

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SESSION OVERVIEW

The past decade has seen a virtual explosion of research in the cognitive and social neurosciences that is transforming our understanding of mental functioning and human behavior. Imaging technology allows us to directly observe and report the brain activity of individuals engaged in a variety of experimental tasks, and to study psychological constructs and processes at the neural level. This offers the potential to move us closer to a coherent understanding of everyday thoughts, emotions, decisions, and behavior.

In particular, functional magnetic resonance imaging (fMRI) has become increasingly accessible to investigators, and offers a powerful platform for answering research questions across a wide range of academic disciplines, to complement more traditional methods of inquiry (see, for example, Smidts 2002 and Zaltman 2003) in marketing; Camerer, Loewenstein & Prelec (2005) in economics. Despite the potential benefits associated with fMRI, few consumer research studies have as yet adopted it. The main goals of this session are to bring together three fMRI papers that demonstrate the usefulness of neuroimaging to study consumer behavior and decision making, and to encourage the use of fMRI to inform and complement findings from behavioral studies.

The papers in this session focused on different task domains and, consequently, separate (albeit interrelated) neural regions. The first paper, “Relative vs. Absolute Rewards: Evidence from Experimental Tasks and Neuroimaging,” by Dan Ariely, Gregory Berns, Rosa Chávez-Eakle, and Nina Mazar, dealt with an important issue in behavioral decision theory. Prior work raised the hypotheses that the nucleus accumbens, sublenticular extended amygdala, amygdala, and hypothalamus may produce responses related to reward (Aharon et al., 2001). In the current paper, the authors examined the activity in these neural regions in order to better understand the way reward is encoded in the brain. In particular, they tested how relative versus absolute reward values produce differential behavioral responses and activate the limbic areas of the brain. They manipulated the mixture of positive and negative stimuli using a “keypressing” paradigm in a set of behavioral and fMRI studies, and found converging evidence that individuals have high sensitivity to relative, but not absolute, rewards.

In the second paper, “Why Celebrity are Effective: Brain Mechanisms of Effective Advertising,” Vasily Khucharev, Guillem Fernandez, and Ale Smidts tackled the issue of whether neural regions are differentially activated during judgments of products that are featured with celebrities either with or without expertise relevant to the product. Recent behavioral research on celebrity presenters has suggested that their effectiveness critically depends on celebrities having a readily perceivable ‘expertise hook’ with respect to the product they are endorsing. In line with behavioral results, they found better memory and higher purchase intentions for products paired with the expert celebrity than non-expert celebrity. This ‘expertise hook’ effect on brain activity was examined in an event-related fMRI study. Whereas activity in a distributed network of prefrontal and cingulate cortex was associated with buying intention for everyday products, differential activation in dorsal posterior cingulate cortex reflected negative subjective evaluation of the product. They further found that the effect of ‘expertise hook’ on buying intention was mediated by an evolutionarily old emotional neuronal network (i.e., orbitofrontal cortex).

The third paper, “A fMRI Study of Neural Dissociations between Brand and Person Judgments,” by Carolyn Yoon, Angela Gutchess, Fred Feinberg, and Thad Polk, investigated whether a common presumption in the field—that descriptors for human and for brand ‘personality’ are essentially interchangeable—is supported at the neural level. Individuals are readily able, when asked, to indicate the degree to which various trait adjectives are descriptive of a target object or brand. The authors suggested that because assessments of products’ qualities and attributes have thus far been universally carried out using this sort of protocol, it is of fundamental importance to determine whether qualities ascribed to brands (and more generally, everyday objects) are processed as they are in their typical, human-related usages. In an event-related fMRI study, they compared personality judgments of self relevant and non-self relevant brands and persons and obtained neural dissociations. Specifically, greater activation in the medial prefrontal cortex region obtained for person judgments; for brand judgments, activation was greater in the left inferior prefrontal cortex, an area known to be involved in object processing. Based on these findings, they cautioned against the tendency to view the processing of products and brands as being akin to that of humans.

Finally, Richard Gonzalez led a discussion on how each of the three papers provided insights about processes underlying consumer judgment that would be difficult or impossible to obtain using standard behavioral research methods (e.g., experiments, participant observations, surveys). He discussed how neuroimaging is expected to play an increasingly larger role in understanding psychological and social processes. The next decade will undoubtedly see rapid growth in the adoption of neuroimaging methods by consumer researchers.

REFERENCES

“Ethically Concerned, yet Unethically Behaved”: Towards an Updated Understanding of Consumer’s (Un)ethical Decision Making
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ABSTRACT
The paper complements existing research on ethical consumer behavior by examining how people cope with the psychological tensions that arise when they behave in ways that are in apparent contradiction to their expressed ethical concerns. It advances the concept of neutralization—justifications that soften or eliminate the impact that norm-violating behavior might have upon self-concept and social relationships—and presents hypotheses on the role of neutralization in ethical consumer decision making processes.

INTRODUCTION
Research into ethical consumer behavior has grown substantially since the 1990s (Vitell 2003) and has provided valuable insights, yet it remains a relatively small body of literature and we still lack a unified understanding of the role of ethics in consumer behavior. One of the key challenges identified by researchers in this field relates to the fact that people’s ethical concerns are often not manifest in their behavior (e.g. Carrigan and Atalla 2001; Strong 1996). Here we address the attitude-behavior discrepancy in ethical consumer behavior, advancing the concept of neutralization—a process through which people justify or rationalize their behavior as a means of coping with decision conflict and insulating themselves from blame and guilt. We start with a review of extant literature on ethical consumer behavior; then introduce the concept of neutralization and consider its application to consumption contexts. Subsequently the paper examines the theoretical tenets of neutralization with a view to integrating the concept with existing models of ethical consumer behavior.

ETHICS AND CONSUMER BEHAVIOR
Ethical consumer behavior can be broadly defined as the “decision making, purchases and other consumption experiences that are affected by the consumer’s ethical concerns” (Cooper-Martin and Holbrook 1993, 113). Earlier research on ethical consumer behavior was prompted by the consumerism movement of the 1970s, and investigated specific topics in the context of “environmentally concerned/conscious consumption” (e.g. Anderson and Cunningham 1972; Webster 1975; Brooker 1976; Antil 1984; Haldeman, Peters, and Tripple 1987; Alwitt and Berger 1993; Jackson et al. 1993). Similarly, studies emerged for issues such as self-restraint (Horrowitz 1985), voluntary simplicity (e.g. Leonard-Barton 1981; Shaw and Newholm 2002), ethical investing (e.g. Irvine 1987; Lewis 1999), consumer boycotts (e.g. Smith 1990; Burke, Milberg, and Smith 1993) and shoplifting (e.g. Kallis, Freeman, and Zelditch 1986; Moschis and Powell 1986; Cox, Cox, and Moschis 1990).

More general treatments of ethical consumer behavior can be grouped under two headings: “ethical consumerism” and “consumer ethics”. “Ethical consumerism” (e.g. Shaw and Clarke 1999; Creyer and Ross 1997; Carrigan and Atalla 2001; Roberts 1996; Straughan and Roberts 1999) can be seen as an evolution of green consumerism. In contrast, “consumer ethics” (e.g. Vitell and Muncy 1992; Vitell et al. 1991; Fullerton et al. 1996; Albers-Miller 1999; Singhapakdi et al. 1999) refers to misconduct, mainly in retail settings (e.g. failing to declare undercharging).

Central amongst this research have been attempts to develop theoretical models of consumers’ ethical decision making either in particular contexts (e.g. Fullerton and Punj 1993; Jackson et al. 1993; Tan 2002; Thong and Yap 1998; Whalen et al. 1991; Nebenzahl et al. 2001) or the broader domains of ethical consumerism (Shaw and Clarke 1999; Shaw et al. 2000; Shaw and Shiu 2002a, 2002b, 2003) and consumer ethics (Marks and Mayo 1991; Vitell et al. 2001; Fukukawa 2002). In this endeavour, the two most prominent theoretical approaches have been Hunt and Vitell’s (1986) general theory of marketing ethics and Ajzen’s attitude models (Ajzen 1985, 1991). Hunt and Vitell’s model (1986, 1992) was applied to ethical consumer contexts by Marks and Mayo (1991) and Vitell et al. (2001) (see also Thong and Yap 1998). They propose that the ethical decision process begins with the consumer perceiving an ethical problem (exogenous variables include the consumer’s cultural environment, reference groups and past personal experiences; Marks and Mayo 1991). Subsequently, s/he combines a deontological and a teleological evaluation to arrive at a judgment, i.e. attitude about the ethical problem which, in turn, influences the consumer’s behavioral intentions. It is suggested that teleological evaluations affect intentions indirectly through ethical judgments but also directly. That is, an individual may not choose the most ethical alternative due to desirable consequences of a less ethical one. Furthermore, intention may differ from actual behavior due to situational conditions enabling consumers to engage in unethical behavior (e.g. the opportunity to adopt an alternative). Finally, the consequences of the consumer’s behavior become part of the consumer’s learning experiences. In the case of choosing an unethical alternative, the consumer might have guilt feelings that will affect future behavior.

The theory of planned behavior (TPB; Ajzen, 1985, 1991) applied in ethical consumer contexts by Fukukawa (2002) and Shaw and colleagues (Shaw and Clarke 1999; Shaw et al. 2000; Shaw and Shiu 2002a, 2002b, 2003), suggests that behavior in a specified situation, is a direct function of behavioral intention, which in turn is a function of attitude and subjective norm. Perceived behavioral control refers to the individual’s control beliefs and is suggested to impact both behavioral intentions and behavior. Both of the above models are established on the fundamental premise that an individual’s intentions are consistent with ethical judgments in most cases (Fukukawa 2002). However, as in other consumption contexts, there is clear evidence of attitude-behavior discrepancies: consumers’ ethical concerns and attitudes are not always manifest in actual behavior (e.g. Carrigan and Atalla 2001). For example, consumers have been found to buy environmentally hazardous products regardless of their expression of concern for greener alternatives (Strong 1996) and to shoplift regardless of their adherence to societal and economic norms of behavior that guide

1Teleological ethical theories hold that the moral worth of actions is determined solely by their consequences. Deontological theories hold that one or more fundamental principles of ethics differ from the principle of utility; they are based on principles of duty such as “never treat another merely as a means to your own goals” (Beauchamp and Bowie 1988, 37)