

Affect and Decision Making: A “Hot” Topic

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ABSTRACT

The seven papers in this special issue represent the breadth and complexity of approaches to the study of affect in judgment and decision processes. Four papers examine the role of arousal or specific emotions in decision making. The three other papers investigate the impacts of uncertainty, time course, and thinking about mood. We briefly describe four functions of affect in decision making (affect as information, as a spotlight, as a motivator, and as common currency) and relate them to the seven special-issue papers. The role of affect in decisions and decision processes is quite nuanced and deserves careful empirical study in basic and applied research. Copyright © 2006 John Wiley & Sons, Ltd.

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INTRODUCTION

The field of judgment and decision making (JDM) long neglected the influence of “hot processes” on decision behavior in favor of a focus on “cold,” deliberative, and reason-based decision making (Shafir, Simonson, & Tversky, 1993). Historically, this was due at least in part to hot processes being viewed primarily as biased, leading to irrational choice behavior. However, over the last ten years the JDM field has turned its attention more and more to how affective feelings influence judgments and decisions. Today, emotion and affect are on the research agenda for many JDM researchers. The major conferences in the field often host multiple sessions focusing on emotion or affect, and we now speak of “affective rationality” (Slovic, Finucane, Peters, & MacGregor, 2002). Hot processes have become a hot topic in JDM. For this special issue alone, we received a large number of

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high-quality manuscripts in response to our call for papers. Of these, we selected seven articles for the special issue.

The study of the relationship between affect and decision making is multifaceted, with research ranging from the impact of mood-inducing events such as weather on behavior in real economic markets to the neural underpinnings of affect-based decision making (Loewenstein, Weber, Hsee, & Welch, 2001; Schwarz & Clore, 2003; Trepel, Fox, & Poldrack, 2005). The articles included in this special issue represent this complexity, but also highlight important future research directions. The contributions include:

- the impact of physiological and psychological arousal on decision behavior (Ariely & Loewenstein, 2006; Ditto, Pizarro, Epstein, Jacobson, & MacDonald, 2006)
- how specific emotions such as anger (Lerner & Tiedens, 2006) and regret (Connolly & Butler, 2006) influence perception and behavior
- how thinking about mood influences everyday choices (Caruso & Shafir, 2006)
- the impact of uncertainty on affective reactions (van Dijk & Zeelenberg, 2006)
- the time course of pleasure responses to decision outcomes (Ritov, 2006)

While these topics are wide ranging, each one can be related to four functions of affect in judgment and decision processes.

THE FUNCTIONS OF AFFECT IN JUDGMENT AND DECISION PROCESSES

Integral affect (experienced feelings about a stimulus) and incidental affect (feelings such as mood states that are independent of a stimulus but can be misattributed to it or can influence decision processes) have been used to predict and explain a wide variety of judgments and decisions (Kahneman, Schkade, & Sunstein, 1998; Schwarz & Clore, 1983). We have recently argued that integral and incidental affect have four separable roles important to judgment and decision-making processes (see Peters, in press and Peters, Lipkus, & Diefenbach, in press, for more detailed descriptions of the functions).

First, affect can act as information: at the moment of judgment or choice, decision makers consult their feelings about a choice and ask, “How do I feel about this?” (Schwarz & Clore, 2003). These feelings act as information to guide the judgment or decision processes (Slovic et al., 2002). The feelings themselves often are based on prior experiences and thoughts that are relevant to a choice option (e.g., Damasio, 1994) but can be the result of a less relevant and ephemeral state of emotion (e.g., a mood).

Second, affect appears to serve as a common currency in judgments and decisions, allowing us to compare the values of very different decision options or information (e.g., compare apples to oranges, Cabanac, 1992). Montague and Berns (2002) link this notion to “neural responses in the orbitofrontal-striatal circuit which may support the conversion of disparate types of future rewards into a kind of internal currency, that is, a common scale used to compare the valuation of future behavioral acts or stimuli” (p. 265). By translating more complex thoughts into simpler affective evaluations, decision makers can compare and integrate good and bad feelings rather than attempt to make sense out of a multitude of conflicting logical reasons. This function is thus an extension of the affect-as-information function into more complex decisions that require integration of information. It implies that affective information can be more easily and effectively integrated into judgments than less affective information.

Affect also appears to play a role as a spotlight in a two-step process. First, the extent or type of affective feelings (e.g., weak vs. strong affect or anger versus fear) focuses the decision maker on new information. Second, the new information (rather than the initial feelings themselves) is used to guide the judgment or decision. Nabi (2003), for example, experimentally manipulated affect (anger vs. fear) towards drunk driving. Consistent with the proposed two-step approach, this affect manipulation first made some stored

knowledge more accessible (e.g., reasons to be angry about drunk driving were spotlighted) and, second, the more accessible information had a greater impact in subsequent preferences.

Finally, affect appears to function as a motivator of information processing and behavior. Chen and Bargh (1999) linked affect to behavioral tendencies of approach and avoidance. Incidental mood states also have been shown to motivate behavior as people tend to act to maintain or attain positive mood states (Isen, 2000). Finally, affect has been linked to the extent of systematic processing in decision making (i.e., Cameron, 2003; Forgas, 2000).

THE SPECIAL ISSUE PAPERS

Arousal, visceral factors and behavior

Two articles (Ariely & Loewenstein, 2006; Ditto et al., 2006) examine the influence of incidental arousal or drive states on risk perception and behavior. These arousal states may act directly on behavioral tendencies to take risks (affect as a motivator), whether those risks are minor (for chocolate chip cookies) or major (unsafe sex). In addition, studies in both papers found that sexual arousal (induced by self-stimulation and/or watching sexually arousing stimuli) amplifies the attractiveness of various sexual activities. This is similar to previous research on the informational value of incidental moods (Schwarz & Clore, 1983) and the transfer of incidental arousal from one situation to another (Zillman, 1978). In a surprising finding, Ariely and Loewenstein demonstrate that objects perceived as relatively unattractive in a non-aroused state (e.g., women's shoes) became attractive in an aroused state. Further, activities perceived as attractive even when not aroused, become even more attractive when aroused. This study thus shows that arousal may shift the psychological category of "things that are attractive" from a relatively narrow one to a relatively broad one. This "spreading effect" induced by the informational value of affect may turn out to be important in other decision domains as well (e.g., consumer behavior). Ditto et al. (2006) also showed that another visceral factor, desire for food, was used as information in risk perceptions. In their first study, participants who could see and smell a chocolate chip cookie prize reported being more likely to draw a winning card than did participants for whom the cookies were merely described. In other words, participants appeared to use their arousal as information in estimates of likelihood.

Further, affect and arousal may act as a spotlight highlighting some information. Ariely and Loewenstein's results suggest that sexual arousal highlights and raises the importance of sexual considerations but decreases the importance of ethical and health considerations. An interesting implication of both papers is that when not aroused, people may underappreciate the influence of affective arousal on behavior (Ubel, Loewenstein, Schwarz, & Smith, 2005; van Boven, Dunning, & Loewenstein, 2000). Such hot-cold empathy gaps are likely to have an influential impact on many of our everyday decisions (eating, shopping, sleeping, health etc.).

Specific emotions and their effects on choice

Lerner and Tiedens (2006) review research on the informational and motivational impacts of a specific emotion—anger—on judgment and decision making. They suggest that affect's influence comes not only from the valence/arousal component of the feelings, but also from the appraisal tendencies associated with the experience of a specific emotion. In particular, their Appraisal-Tendency Framework (ATF) suggests that a specific emotion, such as anger, is associated with cognitive appraisals (e.g., someone else being responsible for the event causing the emotion, a sense of certainty about what happened, and a sense of ability to control the situation). These appraisals, in turn, have consequences for informational (affect as information), motivational (affect as motivator), and processing functions (affect as a spotlight). Lerner and Tiedens review evidence that anger has specific impacts on outcome effects (e.g., anger leads to increased risk taking

and optimism) and process effects (e.g., anger-selective processing of information). They suggest the interesting idea that anger may in fact be a positive emotion, especially in the sense of motivating future behavior. While the event causing anger may be negative, the effects on subsequent experience (feelings of increased energy and control) and thus behavior may lead to the conclusion that anger (sometimes) can be a positive emotion. This notion echoes other research demonstrating the functional utility of emotions: Whether the experience of an emotion is liked or disliked does not depend entirely on whether it is positive or negative but also on an appraisal of the situation in which it is experienced, for instance partying, studying for an exam, or attending a funeral (Parrott, 2002; Västfjäll & Gärling, in press).

Connolly and Butler (2006) also examine specific decision-related emotions (regret, disappointment, rejoicing, elation). More specifically, they contrast self-reported emotional reactions upon which many psychological theories of choice rely with economic theories of choice (that typically infer choice from behavior). In their study, participants rated expected emotions for each possible outcome of a gamble. The expected emotions predicted choice behavior, suggesting that affect may have acted as a common currency allowing decision makers to evaluate and then compare gambles with multiple possible outcomes. Connolly and Butler further found that the specific emotions measured in their study did not discriminate over and above the more general (happiness, sadness) affect measures. Thus, it appears that the informational value of affect is highly specific in certain situations with specific corresponding appraisals (e.g., decision contexts that may elicit anger; Lerner & Tiedens, 2006), while affect's information value in other situations, like gambles, may be broader positive or negative information. In both situations, affect is the common currency that can be used to evaluate alternative courses of action. Furthermore, this suggests that there is a need to develop measures that capture both specific and general affect components for decision making.

Satisfaction, uncertainty, and beliefs

Caruso and Shafir's (2006) paper suggests that merely thinking about incidental mood states may motivate decision behavior. In four studies they show that thoughts about mood, regardless of its valence, increases choices of alternatives that promote a good mood, even if those options would have been rejected otherwise (when not thinking about mood). Caruso and Shafir suggest that an explicit focus on mood leads to an increased motivation to maintain or attain a positive mood state. Thus, people who think about their good mood will want to protect it by avoiding potentially threatening experiences (mood maintenance), whereas those who focus on a bad mood will appreciate the opportunity to repair it (mood repair). In both situations, people may choose alternatives that they believe will induce a positive mood. While this intriguing possibility is not directly tested, Caruso and Shafir provide evidence that imagining, thinking, or pursuing mood-relevant information leads to a preference for mood-lifting alternatives (watching more cheerful movies over more serious dramas).

The final two papers examine how affective reactions are constructed in the choice process (van Dijk & Zeelenberg, 2006) and how feelings change over time (Ritov, 2006). Van Dijk and Zeelenberg demonstrate that the intensity of feeling associated with an outcome depends on whether the outcome is certain or uncertain. In two experiments participants were asked to rate their feelings associated with certain and uncertain prizes (e.g., winning a CD versus winning either a CD or a dinner). In both experiments, uncertainty reduced the intensity of positive and negative feelings, associated with winning and losing a prize, respectively. Thus, van Dijk and Zeelenberg's research suggests that affect's role will be less prominent in uncertain versus certain decisions because the affect itself is attenuated.

Finally, Ritov (2006) examined the impact of time on feelings about outcomes. In three experimental studies participants were given a gift that was either randomly assigned or selected by the participant from a selection of gifts. Experienced pleasure with the gift was rated immediately and after a delay (1–2 months). The results showed that pleasure with a chosen outcome, but not a randomly assigned one, decreases over time. Similar results were obtained in a survey of retrospective evaluations of the choice of undergraduate

major. Ritov's findings suggest that affect towards chosen and foregone options may become relatively more negative and positive, respectively, over time. Furthermore, similar to van Dijk and Zeelenberg (2006), Ritov argues that the intensity of experienced affect is sensitive to how the choice is presented or construed. One possible explanation for the decrease of positive affect for the chosen outcome (compared to the randomly assigned one) is that it highlights the counterfactuals associated with the rejected alternatives (Would I have been better off if I chose another gift?). For the randomly assigned gifts, this additional decision information was absent.

DECISIONS OF THE HEART

The seven papers selected for this special issue highlight affect's nuanced role in judgment and decision processes. Affect, whether integral or incidental, appears to influence judgments and decisions in some specific and interesting ways. Affect can have frightening effects on decision making as reflected in the influence of arousal on unsafe sexual behaviors. On the other hand, affective rationality assists decision makers to integrate disparate information and to make sense out of a complex world. Without affect, our minds would be overwhelmed by what the world offers us; our hearts may be able to guide us through this complexity.

Research on affect and decision making has become more and more sophisticated over the past several years. It now encompasses the effects of discrete emotions and arousal as well as valence on decisions. Future research will start to unpack when and how the various representations of affect will impact judgments and decisions, but also how representations of information and even the act of choosing will impact our feelings. At the same time, we will learn more and more about the neuropsychology of decision making, and it hopefully will start to inform our theories. Finally, these theories will increasingly become applied to different areas such as economics, policy, law, and health. Efforts have already begun in each of these arenas as well as many others.

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