

Appraising the Appraisal-Tendency Framework

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This article considers the consumer research implications of the Appraisal-Tendency Framework (ATF; Han, Lerner, & Keltner, 2007). This article outlines how the ATF approach could be applied to sequential consumer choices (e.g., effects of emotional responses to stockouts on later decisions) and high-stakes decisions (e.g., medical decisions). This article also proposes several areas in which the ATF might be extended: examining complex sequences of choices with emotional consequences, considering how incidental and integral emotions interact, characterizing how both evaluative and regulatory mechanisms may influence the effects of emotion on judgment and choice, and extending the range of positive emotions and appraisal dimensions considered.

As Han, Lerner, and Keltner (2007; hereafter HLK) point out, the majority of previous research on how emotion can carry over to affect future choices and judgments has taken a valence-based approach, with effects largely attributed to whether the individual is experiencing a positive versus negative mood or emotion. In an impressive and pioneering body of research and theorizing, Lerner and Keltner (2000, 2001) and their colleagues (Lerner & Tiedens 2006; see also Keltner, Ellsworth, & Edwards, 1993) generated a more nuanced emotion-specific approach, the Appraisal-Tendency Framework (ATF). According to the ATF, emotions of the same valence (e.g., fear and anger) can have different effects on judgment and choice, whereas emotions with different valence (e.g., anger and happiness) can have similar effects (Lerner & Keltner, 2001).

HLK provide a concise summary of the principles, assumptions, and research underlying the ATF. In sum, they argue that appraisal tendencies associated with specific emotions are goal-directed processes that affect future judgment and choice by providing a perceptual lens for interpreting future situations without an individual's awareness (Lerner & Tiedens, 2006). In particular, they note that appraisal tendencies can affect both the content and depth of processing. HLK also distinguish incidental and integral emotions, by which they mean emotions that are normatively irrelevant to a present choice or judgment or are normatively relevant, respectively. This distinction is related but not identical to the distinction we have made between

ambient and task-related emotions in our work (Luce, Bettman, & Payne, 2001); we discuss the relation between their distinction and ours in more detail later. In addition, HLK focus on the effects of incidental emotion; we address possible extensions to integral emotion later in this article.

How might incidental emotions influence consumer choices in a systematic fashion rather than in an idiosyncratic fashion? That is, the influence of incidental emotion is more important to the extent that it occurs for a broad range of consumers or in a predictable fashion; it is less interesting if it mainly occurs because individual consumers are in different emotional states or moods more or less at random. One possibility for systematic influence is that some major external event, such as September 11th, provides the basis for widely shared consumer emotional states. For instance, following September 11th some consumers may have felt generally fearful and some may have felt generally angry; the different appraisal tendencies for fear versus anger might then color future choices and judgments (Lerner, Gonzalez, Small, & Fischhoff, 2003).

A second possibility for systematic influence is in the realm of sequential consumer choices (i.e., situations where an emotional consequence of one decision may serve as an incidental emotion for a further decision in the same environment). One exemplar of such effects in a sequence of choices is the effect that emotional responses to a stockout may have on later choices. Another example with even more general potential impact is the effect of an emotional outcome in a high-stakes domain, such as medical decisions, on further decisions in that domain.

Finally, a third possibility for systematic influence is that marketers may try to design marketing environments or

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stimuli that influence incidental emotions. Although it is possible that in some cases they would design environments or stimuli to induce negative emotions (e.g., insurance ads may try to induce anxiety or guilt), in many cases marketers try to invoke positive emotional responses via music, enticing displays, and so on. Thus, there is need for a more complete analysis of the effects of different positive emotions.

Lerner et al. (2003) provide a good example of how emotional effects due to a prior external event influence future judgments and choices. Therefore, we focus on the other possible types of systematic influence. In the following sections we address sequential choice, high-stakes decisions, and positive incidental emotions. In each case we consider both implications for consumer behavior research and conceptual and theoretical issues and extensions that arise.

SEQUENTIAL CONSUMER CHOICES

Consumers often make sequences of choices during one shopping trip, including sequences of choices within the same retail outlet (e.g., a supermarket or big-box retailer). We argue that an important application of the ATF to consumer behavior is that the emotional consequence of one choice situation may then serve as an incidental emotion for a following choice or choices. One exemplar of such an effect is the possible effect of emotional responses to a stockout on later purchases in the same environment. If a consumer wishes to purchase a particular item and that item is not available, that stockout can influence long-run demand, future purchases, and consumer satisfaction (Anderson, Fitzsimons, & Simester, 2006; Fitzsimons, 2000).

Although these general effects have been shown, research has not analyzed the future effects of emotional responses to a stockout in a detailed fashion. For example, emotional responses to a stockout could range from anger to disappointment or even sadness if the item were rare or unique. These emotional responses could then act as incidental emotions and affect the choice strategies used for future purchases in the sequence. For example, an angry response could lead to greater use of heuristic strategies in making future choices, whereas a sad response could result in greater use of more systematic processing strategies (Tiedens & Linton, 2001).

This notion of the effect of emotion from one choice affecting later choices in the sequence extends the fairly static paradigms used in much of the ATF research to date (i.e., emotion is manipulated and then performance on a task is assessed) to a more dynamic view. This view could be extended even further by considering complex sequences of choices with emotional consequences. For example, one could consider a sequence containing a stockout, an unexpected sale, a major price increase, and so on. How would the incidental emotions in such a sequence interact? How might the order of the emotional responses matter? Would a

series of emotional consequences from a sequence of choices lead to a systematic effect, or would any such effects be subject to interference? That is, one concern with characterizing the nonconscious effects of incidental emotions is the variety of emotions from previous events that could affect a decision. Simonson (2005) made a similar point regarding the effects of multiple nonconscious primes. The size of the emotional reaction and domain carryover, as discussed later in terms of high-stakes medical decisions, may provide some answers to these questions. However, much more research is needed.

HIGH-STAKES DECISIONS

Some decision domains are reliably emotion laden, at least for the majority of decision makers. Going back at least to Simon (1967), decision researchers have recognized that emotion can function as a signal regarding the importance of potential decision consequences. It follows that high-stakes decisions should reliably elicit emotion. Emotions that signal important consequences of a decision outcome are likely to be integral and hence not under the primary purview of the ATF. However, effects of incidental and integral emotion may coexist, and interact, in high-stakes domains. Medical decision making is one important exemplar of high-stakes decision domains where, as HKL note, the ATF may have important implications.

Clearly, consequential medical outcomes such as a positive or even a false-positive screening test result (e.g., for cancer) will elicit emotion. As discussed in the context of sequential consumer choice earlier, these emotions can potentially carry over to decisions that follow. So, for instance, anxiety in response to an initial incorrect diagnosis may create pessimism regarding treatment efficacy, whereas anger might actually foster optimism. These effects may carry across related contexts; for instance, emotions generated during a diagnostic process may be carried by the patient into following treatment decisions. In the following, we consider two relatively unique features of high-stakes domains that may influence the degree and nature of carryover.

First, emotions generated in high-stakes domains seem likely to be particularly memorable and hence subject to reinstatement after even lengthy delay. For instance, fear experienced during a painful medical procedure may be remembered and generate emotion and avoidance tendencies when a consumer receives medical communication even months later. Such reinstated emotion could be one mechanism underlying the finding that pain during mammography operates as a barrier to repeated utilization of screening mammograms (e.g., Marshall, 1994). That is, the receipt of a mammogram-reminder postcard may cause a woman to remember a past painful mammogram, potentially generating fear and perhaps even action tendencies of

avoidance. This mechanism may be similar to the process by which the ATF-inspired paradigm of asking participants to write about past emotional events generates emotion in a laboratory setting. Reinstated affect may have effects across a continuum of more closely related decisions (e.g., mammography pain could influence later mammography adherence) to less closely related decisions (e.g., mammography pain may influence adherence with cardiac treatments or engagement with the health care system more generally).

A second important feature of high-stakes decisions is that high-stakes decisions are likely to mix integral and incidental emotion sources. Thus, to truly understand the influence of emotion on high-stakes decision making, one may have to study how these sources of emotion interact. The first task in this regard may be to more fully characterize sources of emotion. As noted earlier, HLK define integral emotion as normatively relevant to the decision being made and incidental emotion as normatively irrelevant, whereas in our own work (e.g., Luce, Bettman, & Payne, 2001) we focus on the distinction between task-related emotion that is generated by the decision task and processing itself and ambient emotion that is generated by factors outside of the decision. Work inspired by the ATF has focused on emotion that is both ambient and incidental. In our previous work, we have focused on sources of emotion that are task-related but whose status as incidental versus integral is less clear cut. The trade-off generated emotion we have studied is assumed to be normatively *relevant* to motivational attempts to minimize negative emotion during decision processing. However, we have focused on effects that are normatively *irrelevant* to identifying utility-maximizing decision outcomes. For instance, we have studied how a motivation to cope with negative emotion arising from decision trade-offs increases bias toward an alternative carrying a *status quo* label. Note that such a label is normatively irrelevant to decision consequences. Table 1 provides examples of emotions varying according to these two dichotomies.

It seems possible that the sources of emotion illustrated in Table 1 will interact during medical or other high-stakes decisions. For instance, the generally optimistic evaluative lens evoked by ambient anger could cause increased beliefs in one's own ability to process emotion-laden decision

trade-offs, potentially dampening avoidance of these trade-offs. Conversely, however, Garg, Inman, and Mittal (2005) demonstrated that anger exacerbates avoidance of emotional trade-offs, an effect they explain through anger's tendency to increase heuristic processing.

Andrade and Cohen's (in press) recent framework may help to synthesize such conflicting lines of reasoning. Andrade and Cohen noted that theoretical accounts of emotion typically emphasize one of two processes. First, more static evaluation processes purport that affective states function as information themselves or bias the decision maker toward certain information sources (akin to the first argument made earlier). Second, more dynamic regulation processes purport that affective states elicit efforts in service of affective maintenance (of positive states) or change (of negative states), akin to the Garg et al. (2005) argument. The appraisal dimension mechanism of the ATF seems to address evaluation. Both the coping mechanism postulated in our work and the action tendency component of core appraisal themes postulated in the ATF seem to address regulation. Andrade and Cohen argued that evaluation predominates unless the affect-changing properties of potential activities that cue the potential for regulation are made salient. For instance, the evaluative impact of fear may create pessimism, but perhaps decision makers could override this effect if they could be motivated to regulate their emotion through careful consideration of risk-relevant information. High-stakes decisions are a particularly potent source of changes in affect, so one mechanism for overriding evaluative reactions to incidental emotion is providing interventions that make salient these potential mood-changing properties of high-stakes decisions. For example, the effect of fear on pessimism may be overridden through communications that make salient how taking charge of medical decisions could lead to positive feelings of empowerment. If this contingency is successfully communicated (and believed), then regulation processes encouraging effortful processes may override evaluative processes encouraging avoidance.

A final important implication of the ATF is that task-generated negative emotion may have differential effects depending on the exact nature of the emotion elicited. The

TABLE 1
Exemplars of Emotions Varying on Both Task-Generated/Ambient and Integral/Incidental Dichotomies

	Emotion Types	
	Task-Generated (Arising From Decision Processing)	Ambient (Arising from a Predecisional Event)
Integral (normatively relevant to present decision)	Anxiety in response to a trade-off between treatment side effects and efficacy may act as a signal of the importance of the treatment decision itself	Anxiety in response to a diagnosis may act as a signal of the importance of a later decision regarding treatment
Incidental (normatively irrelevant to present decision)	Anxiety in response to a trade-off between treatment side effects and efficacy may cause the decision maker to shift toward less emotionally difficult heuristics	Anxiety in response to a diagnosis may cause unwarranted pessimism during a later decision regarding treatment

sorts of emotion-laden trade-offs we have studied in previous work may vary relatively widely in terms of the specific emotions generated. For instance, when framed to elicit fear, trade-offs between safety and money may generate increased pessimism and hence a higher weight on safety (see Luce, Payne, & Bettman, 1999). However, the same trade-off could increase optimism and a corresponding underweighting of safety if presented in a way that generates anger (e.g., when a safety feature is viewed as something that should be standard but is only offered as an extra). Consistent with Andrade and Cohen (in press), these evaluation effects may be dampened when the decision environment highlights the link between decision processing and affect regulation. For instance, when the decision maker is aware of the potential for affect regulation through use of a decision strategy avoiding trade-offs altogether, effects on risk estimates may be overridden by effects on decision-processing strategies.

The nature of trade-offs may vary across decision contexts as well. For instance, manipulating emotional trade-offs in the context of choosing children to support through a charity (Luce, Bettman, & Payne, 1997) may tend to elicit sadness or even guilt, whereas the price-safety contexts in Luce et al. (1999) may tend to generate fear or anxiety.

Overall, we believe that the ATF has important implications for understanding high-stakes decision making. Conceptual and theoretical extensions to the ATF may be useful for full exploration of these implications. First, the high-stakes domain draws attention to the need for dynamic, sequential approaches to emotion in decision making. Second, the high-stakes domain opens up a series of rich conceptual issues regarding how emotions across the continua of integral-incident and task-ambient are generated and interact with one another. To understand such interactions, we can distinguish between evaluative and regulatory mechanisms for emotion and can also start to delineate if and how specific appraisal dimensions operate within task-generated and integral emotion. These applications and extensions offer interesting opportunities for future research.

POSITIVE INCIDENTAL EMOTIONS

As noted earlier, much of the research employing appraisal theory has focused on differentiating between discrete negative emotions, such as anger and fear or anger and sadness. Marketers, however, often go to great lengths to engineer positive emotional environments and experiences for consumers. Advertising agencies create commercials, department stores play music, and salespeople strike up conversations with consumers to elicit positive feelings toward products and brands. In fact, many of our consumption decisions revolve around cultivating desired positive emotional experiences for ourselves or others. Yet,

researchers know relatively little about the consequences of discrete positive emotions.

Historically, the literature has suggested that positive emotions are less differentiated than negative emotions, both in their appraisal (Ellsworth & Smith, 1988a, 1988b; Smith & Ellsworth, 1985) and physiology (Ekman, 1993). People experiencing positive emotions also report greater emotional blending or co-occurrence than with negative emotions, as reflected by relatively less differentiation among emotions and greater intercorrelations among appraisals (Ellsworth & Smith, 1988a).

Recent work, however, has found some evidence for differences among discrete positive emotions. Bartlett and DeSteno (2006) found that incidental gratitude but not amusement increases effort in costly prosocial behaviors; Agrawal, Menon, and Aaker (2007) found that happiness but not peacefulness increases processing of self-referent health appeals; and Eyal and Fishbach (2006) found that pride generates more self-control than happiness. These researchers used a variety of theoretical frameworks to arrive at their predictions, but extensions of the ATF may be able to provide a unifying treatment for such effects of different discrete positive emotions.

Effects of discrete positive emotions on content and depth of processing, as opposed to effects of positive valence, have remained relatively unexplored. Although Smith and Ellsworth's (1985) original study included a variety of positive emotions, scholars have found increasing evidence for more nuanced types of specific positive emotions such as pride (Tracy & Robins, 2004; Tracy, Robins, & Lagattuta, 2005); others have encouraged research on new, positive emotions such as elevation (Haidt, 2000). Thus, one route to gaining a richer understanding of the effects of discrete positive emotions could be gained by using the principles of the ATF to examine a larger range of discrete positive emotions.

In addition, Lerner and colleagues (Lerner & Keltner, 2001; Lerner et al., 2003; Lerner & Tiedens, 2006) have shown how such focal appraisal dimensions as certainty and control can be used to distinguish between emotions and predict differential responses to important outcomes. However, such dimensions as certainty and control may not be the most central for understanding differences among some discrete positive emotions. Smith and Ellsworth (Ellsworth & Smith, 1988a, 1988b; Smith & Ellsworth, 1985) argued that appraisals along some dimensions are especially important or central for some emotions but not others. Although some studies have looked at appraisal dimensions associated with one particular positive emotion, happiness (Lerner & Keltner, 2001; Tiedens & Linton, 2001), happiness is perhaps the least differentiated of all the positive emotions investigated by Ellsworth and Smith (1988b). Considering a broad range of specific positive emotions as suggested earlier and considering the unique functions that these positive emotions serve, such as providing coping resources and

broadening action repertoires (Fredrickson, 1998, 2001), may lead to supplementing the current six appraisal dimensions used to better differentiate discrete positive emotions. Thus, a second potential route to gaining a richer understanding of discrete positive emotions is examining a broader array of appraisal dimensions.

In sum, researchers have the opportunity to characterize discrete positive emotions more completely both by examining a broader range of positive emotions and by developing a more extensive set of appraisal dimensions. Such advances would make an important contribution both to understanding the effects of emotion on processing and to extending the ATF.

SUMMARY AND CONCLUSIONS

Lerner, Keltner, and colleagues (Lerner & Keltner, 2000, 2001; Lerner et al., 2003; Lerner & Tiedens, 2006) have made a major contribution to understanding the carryover effects of incidental emotions on future choices and judgments by going beyond the effects of valence alone. As summarized by HLK, the principles of the ATF provide a nuanced approach for examining the effects of specific emotions on judgment and choice. We consider specific possible applications to consumer research, namely in understanding sequential choices and high-stakes decisions (especially medical decisions). We also suggest possible directions in which the ATF could be extended such as considering how multiple emotions generated by a sequence of choices or judgments might interact, examining how emotions interact across the continua of incidental-integral and ambient-task, characterizing the roles of evaluative and regulatory mechanisms in understanding the effects of emotion on choice and judgment, and extending the range of positive emotions and appraisal dimensions considered by the theory.

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