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Spotlight on Affect: Affect and Affective Forecasting in Impulse Control

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The authors propose an alternative conceptualization to the Strack, Werth, and Deutsch (2006) model. This alternative conceptualization considers how the forecasting of emotional outcomes linked to controlling or failing to control impulses affects self-regulatory behavior. A set of future research questions is identified based on this conceptualization. The proposed model differs from that of Strack et al. (2006) by its focus on (a) affect, (b) impulse control (versus buying), and (c) deliberative processing linked to impulse control (or lack thereof).

Mark moved to a new apartment a few months ago. One afternoon after shopping at the mall, he got into his car and drove home. He reached the apartment and was about to get out of his car when he realized to his dismay that he had driven to his old apartment. Andrea was in the middle of her favorite sitcom when she got up to get a glass of diet soda. When she opened the refrigerator she saw an irresistible slice of chocolate cake. She picked it up and ate it right away. After she had eaten every crumb, she guiltily realized that she had consumed her Weight Watchers points for the entire week! Phillip was on vacation in Las Vegas. While walking by the blackjack table, he had an irresistible urge to get into the game but remembered that he had already spent his allocated “fun money” on gambling. The more he thought about how great it would be to get a big win, however, the more irresistible the thought of gambling became. Eventually his resistance broke down, and he sat down at the table to play.

Both Mark and Andrea performed automatic or “thoughtless” behaviors. Philip’s behavior was more reflective. However, Philip and Andrea’s behavior, but not Mark’s, can be categorized as driven by poor impulse control. In this article, we argue (a) that impulsivity is not a processing style and can be independent of the degree of reflective processing and (b) that the role of affect and affective forecasting in impulsivity and impulse control requires additional research. To do so, we first review the model proposed by Strack, Werth, and

Deutsch (2006) and discuss an alternative conceptualization. Next, we discuss the role of affect in impulse control under conditions of high levels of reflective processing. In doing so, we review the extant research that links affect and affective predictions with impulsivity and impulse control. Finally, we provide directions for future research in this area of investigation.

A BRIEF OVERVIEW OF THE REFLECTIVE-IMPULSIVE MODEL

As shown in Figure 1, Strack et al. (2006) proposed that choice is predicated on the independent, or sometimes reciprocal, influences of two processing systems—reflective and impulsive. The reflective system is characterized as involving awareness of stimuli, abstract relations between concepts, conscious processing, and elaboration. The impulsive system is characterized by the opposite, namely, lack of awareness, concrete relations, and schema-based and affective processing of stimuli. The relevant behavior of interest in their model is buying. As Figure 1 shows, each system is activated by different factors. The reflective system is driven by reasoning and intending processes. The impulsive system is driven by habits, perceptual inputs, need imbalance (e.g., homeostatic dysregulation), and motivational orientation. In addition, the model suggests that each system can affect the other and that each influences buying behavior to varying degrees.

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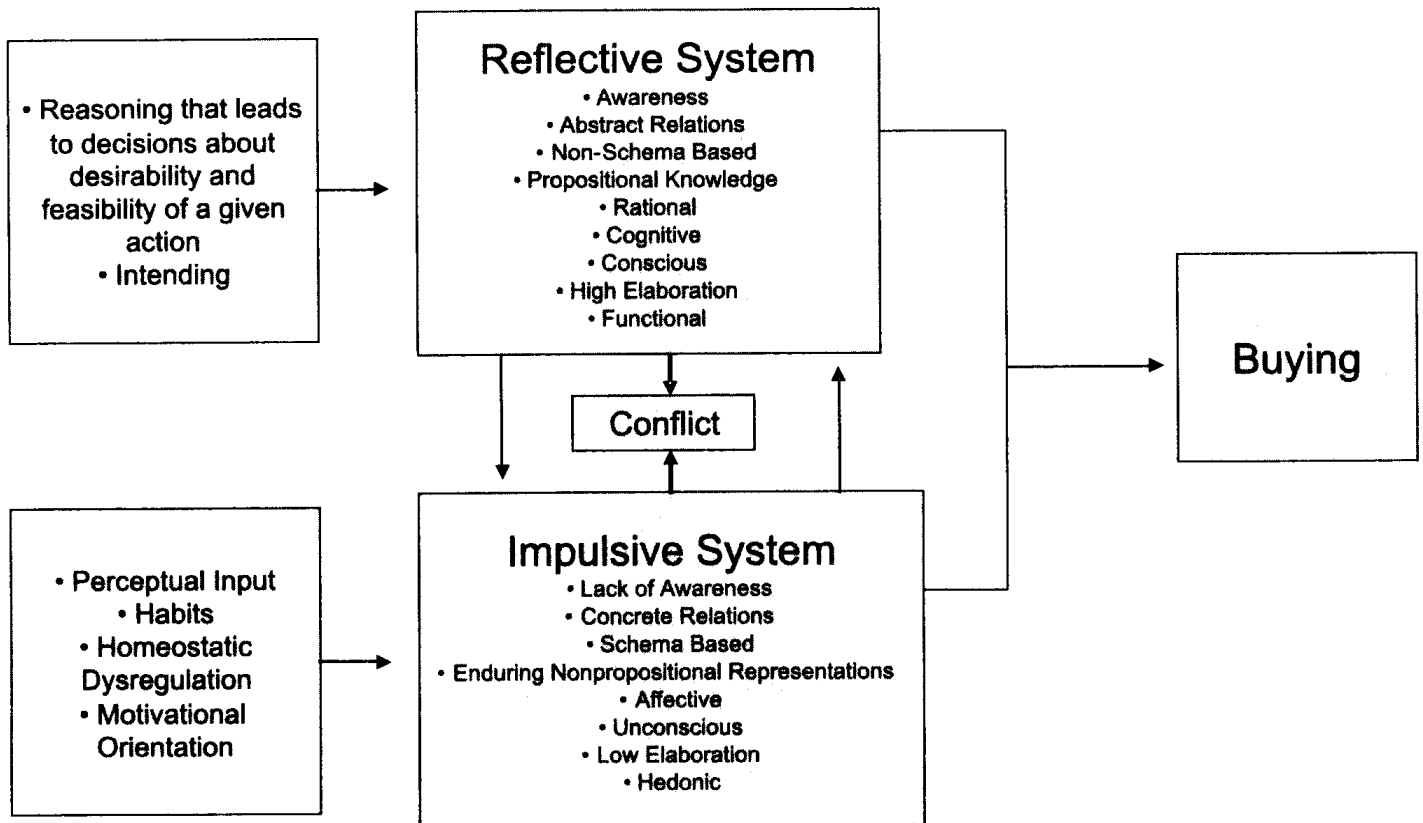


FIGURE 1 The reflective-impulsive model proposed by Strack, Werth, and Deutsch (2006).

PROPOSED MODEL

We propose a somewhat different model. This model is not meant to replace that by Strack et al. (2006), but rather to suggest a somewhat different view of the impulsivity construct. Our model includes impulsive behaviors related not only to buying impulses but also to impulses relevant to acquisition (buying, stealing), consumption (e.g., overeating, budget failures, gambling, drinking, smoking, etc.), and nonconsumption (e.g., failure to use a condom during sex). Although Strack and colleagues focus on buying, their reflective-impulsive model described elsewhere (Strack & Deutsch, 2004) focuses on a broader set of behaviors as well. Our model considers buying only as it relates to self-regulation and impulse control. Buying outside of the domain of impulse control is outside the scope of our model.

The model we propose is shown in Figure 2. Building on Rook (1987), we define an impulse as a sudden, forceful urge to approach (given primitive linkages to pleasure) or avoid (given primitive linkages to pain) a stimulus. This impulse can be driven by internal context (homeostatic dysregulation) or external stimuli.

It is important to note that this model does not regard impulsivity as a processing system. Rather, it is viewed as the outcome of a generalized system of self-regulation designed, in part, to control impulses. Consequently, the lack of impulse control is not failure to think about or reflect on the

consequences of action, but rather the inability to gain the upper hand over one's urges despite the consequences. As described in the introductory vignette, lapses in impulse control can be evidenced even when one engages in a great deal of deliberate processing.

Preventing oneself from acting on impulses involves willpower and self-control. Self-control is defined as deliberate and effortful acts by the self to alter its own behavior. Although self-control is the conscious aspect of self-regulation (Muraven & Baumeister, 2000), self-regulatory activities need not always be conscious. Willpower (or what others have termed *self-regulatory resources*; see Vohs, 2006) is defined as the ability to exert and sustain control through effort (Mischel & Ayduk, 2004).

Self-control and willpower operate within the broader domain of self-regulation, defined as the process of controlling thoughts, behavior, attentions, and emotions to achieve a self-corrective action that helps one attain a normatively appropriate or personally desirable goal. Thus, self-regulation can encompass the regulation of impulses related to thoughts, attention, behaviors, and affect. However, the domain of self-regulation extends beyond impulse control and includes the self-regulation of affect and other behaviors (e.g., the self-regulation of strength through exercise). Thus, impulse control is part of a larger domain of self-regulation.

Although Strack et al. propose two independent systems of processing, we identify only one system. That system is

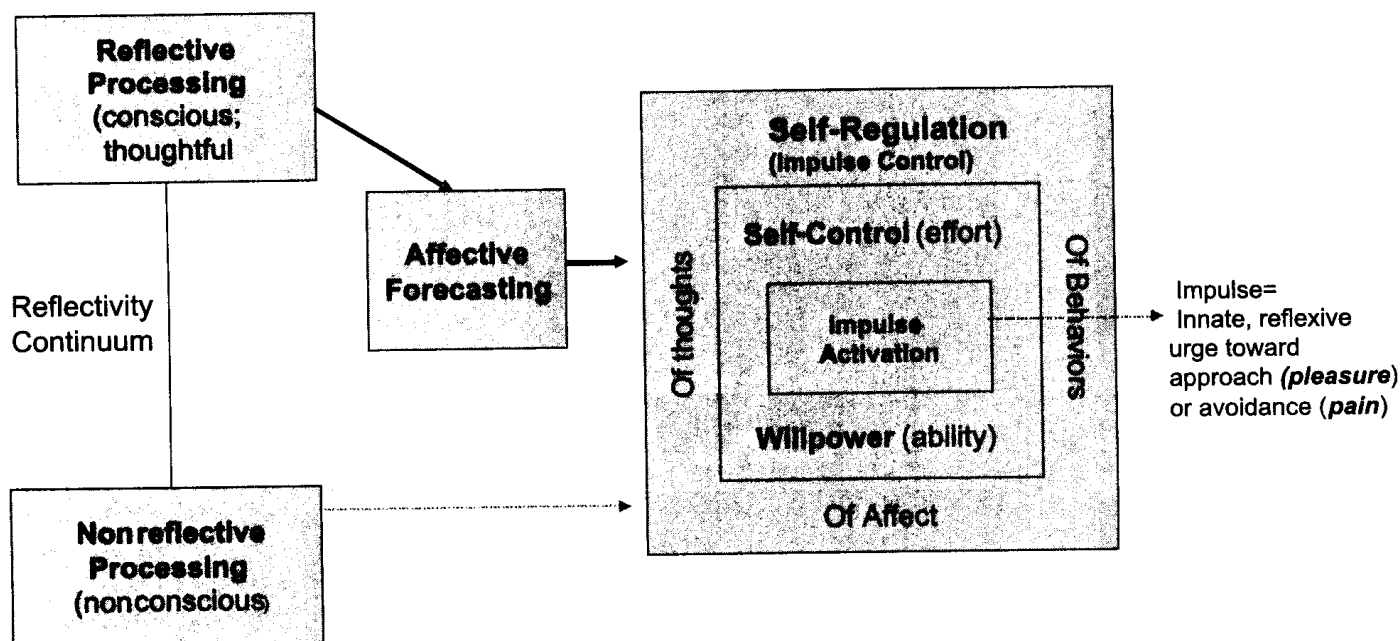


FIGURE 2 The impulse-control model.

proposed to vary in the degree of reflective processing (see the left-hand side of Figure 2). The lowest level involves unconscious, automatic, and effortless processing. The highest level involves conscious, extensive, and effortful processing. We focus in the following on the impact of high levels of reflective processing on impulse control, particularly as related to affect.

AFFECT, SELF-REGULATION, AND IMPULSE CONTROL

Strack and colleagues (2006) consider affect to be a characteristic feature of the impulsive system.¹ They argue that affect is linked with impulsive responses in the context of desire or is considered as an antecedent to the activation of the impulsive system. Moreover, affective connections linked to the activation of an impulse are evoked automatically. The affective reactions that accompany impulse activation likely include excitement, potential distress, fear of being out of control, and helplessness (Rook, 1987).

We propose a broader role for affect in impulse control. We do so by discerning the different affective states (emotions) that may be evoked in an impulse-control context and articulating the potential role of anticipated affect in impulse control under conditions of high reflective processing.

AFFECTIVE FORECASTING OF EMOTIONS AND HIGH REFLECTIVE PROCESSING

Emotion may affect impulse control under conditions of high levels of reflective processing in several ways. However, our focus concerns the potential influence of "affective forecasting." Affective forecasting involves prediction of the emotional consequences of decision outcomes (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; MacInnis, Patrick, & Park, 2005), in this case, the consequences of giving in or not giving in to an impulse. Others refer to these as *anticipated emotions* linked to effortful decision making (e.g., Bagozzi, Baumgartner, & Pieters, 1998). The focus on affective forecasting is consistent with Mischel and Ayduk's (2004) notion that affective expectations have an impact on the role of motivation on self-regulation. We focus here on potential emotional responses anticipated to result from consumption or nonconsumption of an impulse-inducing stimulus, as opposed to emotional reactions that characterize the state of impulsivity per se.

Appraisal theory suggests that emotions are based on an assessment of the self-environment relationship (Lazarus, 1991). When impulses are activated, a primary emotional response is the anticipated pleasure, happiness, or joy from satisfying basic urges. As Figure 3 shows, however, other positive as well as negative emotions can be linked with impulse control or lack thereof. Pride, for example, is an emotion that can be anticipated in response to controlling an impulse (Mascolo & Fischer, 1995). Guilt or shame may arise as a negative emotion anticipated when one succumbs to impulses (Tangney & Dearing, 2002). Not succumbing to impulses may evoke anticipated deprivation or regret, for exam-

¹ We acknowledge this possibility and would refer the reader to recent literature linking the emotions in Figure 3 to impulse control (see, for example, Zemack-Rugar, Bettman, & Fitzsimons, 2005).

ple the regret that arises from foregone opportunities (Simonson, 1992).

Forecasted emotions are especially relevant in situations in which consumers have goal intentions—as would be the case when they have intentions to engage in actions that facilitate or undermine impulse control. Moreover, prior research substantiates that individuals can engage in affective forecasts of each of the emotions described in Figure 3 in a self-regulation context. Specifically, prior research has studied the anticipation of pleasure (Idson, Liberman, & Higgins, 2004), guilt (Klass, 1990), regret (Richard, de Vries, & Van der Pligt, 1998), and pride (Mellers, 2000) in self-regulatory activities.

Research also indicates that the specific emotions anticipated to arise from consumer decisions affect the choices that consumers make. For example, Mellers and McGraw (2001) showed that anticipated pleasure predicts choice and improves the prediction of choice beyond that explained by utilities alone. Shiv and Huber (2000) found that anticipated satisfaction had an impact on consumers' choice. Zeelenberg, Beattie, Van der Pligt, and De Vries (1996) found that what consistently affects choice is not perceptions of risk per se but consumers' desire to avoid regret (see also Simonson, 1992).

More directly relevant to self-regulation and impulse control, Bagozzi et al. (1998) found that anticipating positive emotions (including pride and joy and feeling satisfied) and negative emotions (including guilt, shame, and sadness) linked to self-regulatory success and self-regulatory failure in dieting predicted dieting intentions, plans, and dieting-related actions. Bagozzi, Dholakia, and Basuroy (2003) asked consumers to anticipate the emotions they would experience if they succeeded or did not succeed in achieving a goal. Some goals were related to controlling impulse actions like overeating and smoking. They observed that anticipation of negative emotions (but not positive emotions) affected consumers' desire to achieve the goal (and hence not give in to impulses). Perugini and Bagozzi (2001) studied women in the context of weight regulation. Respondents were asked to consider the positive emotions (e.g., delighted, happy, proud) and negative emotions (guilty, ashamed, sad) they anticipated experiencing from achieving and not achieving their weight-loss goal. Here, positive anticipated emotions but not negative anticipated emotions affected desires to engage in actions that were vehicles for goal achievement (e.g., exercise).

CONFLICT FROM FORECASTED EMOTIONS AND IMPULSE CONTROL

Figure 3 suggests that activation of different pairs of these emotions creates distinct types of conflict or ambivalence. For instance, focusing on the pleasure from giving in to an

impulse versus pride associated with controlling it leads to an approach–approach conflict. Hoch and Loewenstein (1991) label these conflicts “time inconsistent preferences.” Delay of gratification is a special case of time-inconsistent preferences in which the conflict involves the ability to forgo a smaller short-term reward for a larger future reward (Metcalf & Mischel, 1999; Mischel & Ayduk, 2004).

Other conflicts are also identified in Figure 3. The conflicting emotions that arise from guilt or shame due to impulse-control failure versus regret or deprivation from controlling impulses creates an avoidance–avoidance conflict. The conflict induced by pleasure evoked from satisfying urges versus the guilt or shame from such satisfaction creates an approach–avoidance conflict. Some authors call these “mixed emotion” contexts (e.g., Mukhopadhyay & Johar, 2005; Ramanathan & Williams, 2005). A different type of mixed-emotions context occurs with pride from controlling impulses along with the deprivation or the regret of not satisfying them.

The intensity of these conflicts may depend on various individual difference variables. For example, Strathman, Gleicher, Boninger, & Edwards (1994) propose an individual difference construct called “consideration of future consequences.” Individuals who are high in consideration of future consequences think about the impact of their current behavior on their future and tend to use long-term goals as a guide for their behavior. Individuals who are more likely to consider future consequences may be more attuned to the emotional impact associated with both giving in and not giving in to impulses compared to consumers who are less likely to consider future consequences of their actions. Their approach–avoidance conflicts may therefore be more intense than would be the case for consumers for whom consideration of future consequences is low.

From an affective forecasting standpoint, the degree of impulse control can be conceptualized as function of which emotions win out in the various conflicts noted in Figure 3. We next address several research directions that may shed light on this issue.

DIRECTIONS FOR FUTURE RESEARCH

Affective Forecasting and Impulse Control in Naturally Occurring Contexts

An interesting set of questions concerns which emotions tend to be the most salient in a naturally occurring impulse-activation context. One might anticipate that because of its direct and potentially automatic link to the impulse-inducing stimulus, the dominant emotion in an impulse-activation context is anticipated joy or pleasure.

One might also expect that anticipated pleasure will be particularly strong when one augments anticipated pleasure

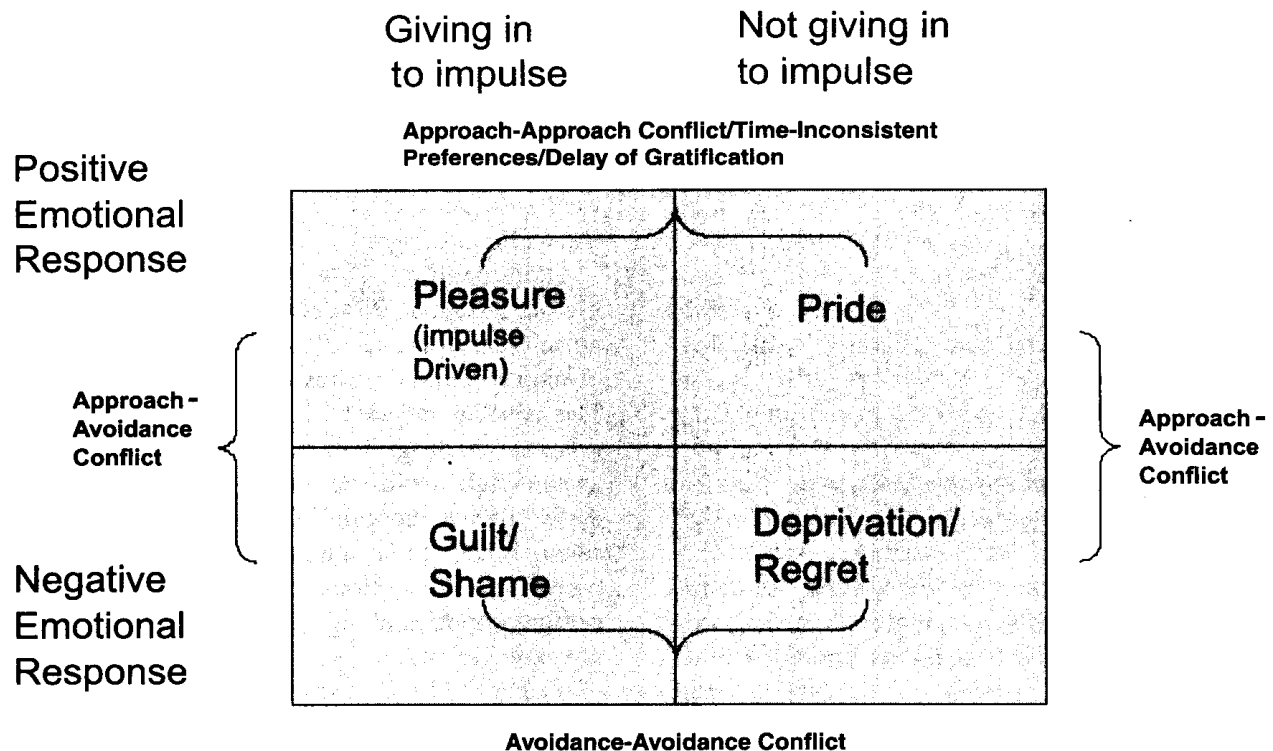


FIGURE 3 Potential emotions linked to impulse control and control failure.

with elaborated imagery processing that incorporates one's self experiencing that pleasure. Such processing may reduce impulse control by further making the impulse "hotter," in Metcalfe and Mischel's (1999) terminology. Shiv and Huber (2000) identify at least one reason why such imagery processing may reduce impulse control. They found that the more vividly that consumers' anticipated satisfaction from a consumption experience, the more weight they placed on vivid attributes in forming preferences. Attributes that are vivid in an impulse-control context may be those that serve to activate the impulse in the first place. Thus, imagining one's satisfaction from eating chocolate cake may undermine impulse control by making the taste and smell of the cake more vivid in one's imagination. Activation of these vivid attributes may become so salient that they outweigh other factors that might otherwise affect choice (e.g., a consideration of health-related attributes such as calories or fat content).

Anticipated deprivation or regret from not satisfying an impulse may also be salient in an impulse-activation context. Trope and Liberman (2000) indicate that when thinking about the distant future, negative outcomes seem more negative than when thinking about the immediate future. Anticipated deprivation from failure to satisfy the impulse may loom larger in the distant future and further diminish impulse control. Thus, both the anticipated near-term joy from giving in to the impulse and the anticipated far-term deprivation from not doing so may be highly salient. Both factors undermine impulse control.

Relatively near-term negative emotions from impulse satisfaction, such as guilt, may fail to be activated because optimistic biases predispose consumers to anticipate that only good things will happen to them (Weinstein, 1980). Also, guilt may not be salient because our coping responses, collectively referred to as the psychological immune system (Gilbert et al., 1998; Wilson, Gilbert, & Centerbar, 2002), affect the extent to which we learn from prior experiences of guilt. Thus, although guilt may have been experienced in a prior context in which impulses are indulged, it may not be naturally salient in the context of the subsequent impulse-control episode.

Finally, individuals faced with a desirable stimulus may overweigh the impact of joy from satisfying impulses compared to the pride associated with impulse control. Systematic investigation of the factors driving the relative salience of each emotion in an impulse-control context is warranted.

Facilitating Impulse Control Through Affective Forecasting

If anticipated pleasure and anticipated deprivation are more salient in a naturally occurring impulse-control context than are impulse-controlling emotions such as pride and guilt or shame, what factors might foster greater impulse control through anticipated pride or guilt processes? One factor may relate to instructions to imagine these anticipated emotions. Koehler (1991) observed that more vivid imagery in imagining a future outcome induced greater acceptance of the antic-

ipated future as possible and greater confidence that the outcome they imagined would come true. Perhaps frequent instructions to imagine anticipated pride or guilt or shame would enhance consumers' acceptance that these emotions will actually occur if the impulse is not controlled. The more detailed their imagination, the more confident they would become that these emotions will indeed occur. The activation of anticipated emotions such as pride and guilt or shame and the enhancement of consumers' perceptions of likelihood of these emotions may well dampen the impact of anticipated pleasure and deprivation. Individual factors predisposing the vividness of imagery or the frequent activation of these images may further enhance the impulse-controlling impact of instructions to imagine anticipated pride and guilt.

Factors Affecting Approach–Avoidance Conflicts

Figure 3 reveals two approach–avoidance conflicts in an impulse-control context: (a) choosing to give in to the impulse creates a conflict between the pleasure anticipated from impulse satisfaction (approach) and the anticipated guilt or shame involved in failing to control the impulse (avoidance) and (b) choosing not to give in to the impulse creates a conflict between anticipated pride from being virtuous (approach) and the anticipated deprivation of not satisfying one's impulse (avoidance). What factors affect which emotion will tend to be dominant in each approach–avoidance conflict?

One factor may be culture. Specifically, individuals from a more collectivist culture may naturally focus on more socially related emotions such as guilt and shame or pride as opposed to the more hedonic and individualistic emotions associated with pleasure or deprivation. The opposite may be true for consumers in an individualistic culture. If this is true, one would anticipate that individuals from a collectivist culture would be more likely to engage in impulse control than would individuals from an individualistic culture. Specifically, the anticipated guilt from satisfying impulses may be more salient than the anticipated pleasure from satisfying them. Similarly, the anticipated pride from not satisfying impulses may be more salient than the anticipated deprivation from not satisfying them.

Another factor may be defensive pessimism. Norem (2001) identifies two approaches individuals use in thinking about the future. Defensive pessimism is a strategy in which one anticipates that outcomes will be negative. To reduce anxiety about a possible negative outcome, defensive pessimists ruminate about ways in which they can manage their situation so that bad outcomes do not happen. This rumination helps individuals anticipate obstacles and therefore take steps to avoid them. Perhaps defensive pessimists anticipate greater guilt from satisfying an impulse and less pleasure in succumbing to it than do consumers who are low on defensive pessimism. Interestingly, this strategy may also facilitate long-term impulse control and indeed result in outcomes that eventually elicit pride.

Specifically, by anticipating guilt such individuals may also undertake steps to minimize guilt and ultimately achieve a goal (e.g., weight loss) that induces pride.

One factor affecting the intensity of emotions in an approach–avoidance conflict may be individual differences in promotion versus prevention regulatory focus (Idson, Liberman, & Higgins, 2004). For promotion-focused individuals, positive emotions such as pleasure and pride may weigh more heavily in the resolution of approach–avoidance conflicts. For prevention focused individuals, negative emotions such as guilt and deprivation may weigh more heavily.

Finally, within the delay-of-gratification literature, Metcalf and Mischel (1999) suggest that delay of gratification may be enhanced by reconstruing the meaning of the near-term hot (impulse activating) stimulus to make it affectively negative as opposed to positive. One way of reconstruing the meaning of the stimulus (e.g., chocolate cake is good because it tastes great) is to link it to the negative emotion anticipated to arise from its consumption (chocolate cake is bad because it will make me feel guilty).

Factors Affecting Approach–Approach Conflicts

One might also ask what factors affect the emotion that will be salient in the approach–approach conflict involving the anticipated pleasure from satisfying impulses versus the anticipated pride from controlling them (see Figure 3). Besides culture, as described earlier, another factor may be the process involved in making an affective forecast. Although anticipated pleasure from choosing to give in to an impulse may be far more dominant than anticipated pride from controlling it, the impact of anticipating pride on impulse control may be enhanced when consumers engage in process-focused imagery (e.g., imagining the steps involved in creating the outcome—here, pride) instead of or in addition to outcome-focused imagery (pride alone). Several studies find that performance on a self-regulatory task is improved when one focuses not only on the goal to be achieved but also on the process involved in getting there (e.g., Taylor, Pham, Rivkin, & Armor, 1998). Although anticipated pride may seem more abstract and longer term than anticipated pleasure, asking the consumer to imagine explicitly the process required to evoke pride may make the anticipated pride from impulse control seem more concrete and more likely. This effect may be particularly strong when consumers imagine themselves as opposed to another person engaging in the process of impulse control. Anderson (1983) found that imagery had a particularly strong impact on expectations and actual behaviors when the images involved the self as opposed to a friend or hypothetical other.

Factors Affecting Avoidance–Avoidance Conflicts

Finally, one might ask what factors will affect which emotions are anticipated in an avoidance–avoidance conflict

(e.g., anticipated guilt from satisfying impulses versus anticipated deprivation from not doing so). One factor may be time. Kivetz and Simonson (2005) found that time affects which emotions tend to be salient after consumers choose whether to control an impulse. That is, the guilt from satisfying an impulse seems to be more salient than the deprivation from not satisfying it in the short term. However, as time passes, individuals seem to regret the decision to control impulses as deprivation from impulse control becomes more and more salient.

Relative Efficacy

Questions can also be raised about the efficacy of different combinations of emotions on impulse control. For example, will calling attention to the approach–approach conflict involving anticipated pleasure versus anticipated pride be more effective at controlling impulses than the approach–avoidance conflict associated with anticipated pleasure versus anticipated guilt from succumbing to impulses? Does anticipating deprivation from lack of impulse satisfaction act additively or interactively with anticipation of pleasure in undermining impulse control?

Other Emotions

Other emotions may also be relevant to the self-control process. These may include anticipated (a) relief at having an impulse satisfied, (b) fear of the consequences of impulsive behavior (e.g., cancer from smoking), (c) anger with self for giving in to an impulse, or (d) depression resulting from consistent losses of self-control.

CONCLUSION

This article extends Strack et al.'s (2006) reflective-impulsive model and proposes that impulsivity is not a processing style, but rather the outcome of a generalized system of self-control designed to control consumer impulses. We spotlight the role of affect and affective forecasting in impulse control. Specifically, we address the role of affect in impulse control under conditions of high and low levels of reflective processing. The analysis suggests several directions for future investigation in this rich, yet relatively untapped area of investigation.

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