Considering the Future: The Conceptualization and Measurement of Elaboration on Potential Outcomes

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We examine a new construct dealing with individuals’ tendency to elaborate on potential outcomes, that is, to generate and evaluate potential positive and negative consequences of their behaviors. We develop the elaboration on potential outcomes (EPO) scale and then investigate its relationships with conceptually related traits and its association with consumer behaviors such as exercise of self-control, procrastination, compulsive buying, credit card debt, retirement investing, and healthy lifestyle. Finally, we show that consumers with high EPO levels exhibit more effective self-regulation when faced with a choice and that EPO can be primed, temporarily improving self-regulation for consumers with low EPO levels.

Self-regulation failure creates numerous problems for consumers unable to manage their money and time, control their weight, or limit their drinking. The importance of studying self-regulation is widely recognized since being unable to regulate one’s emotions, impulses, actions, and thoughts creates problems not only for individual consumers but also for society as a whole (Baumeister, Heatherton, and Tice 1994). Researchers have examined various conceptualizations of self-regulation, as well as factors that might increase or impair its effectiveness. Some researchers have proposed that exerting self-control requires one to inhibit automatic reactions and to invoke conscious monitoring of one’s actions (Baumeister and Heatherton 1996). Others have suggested that self-control requires one to make decisions and to act in accordance with long-term rather than short-term outcomes (Thaler 1991).

We examine one important predecision process—elaborating on the potential outcomes of a decision or action—that lies at the heart of self-regulation. We show that consumers differ in their tendencies to engage in predecision outcome elaboration and that those who consider potential outcomes when deciding how to behave exhibit more effective self-regulation endeavors. We argue that elaboration on potential outcomes (EPO) represents a generalized predisposition toward thinking about consequences, encompassing four conceptually distinct dimensions. Specifically, it captures the degree to which individuals (1) generate potential consequences of their behaviors, (2) evaluate the likelihood and importance of these consequences, (3) encode anticipated end states with a positive focus, and (4) encode them with a negative focus.

Research by Mischel and colleagues has demonstrated compelling differences among individuals in their self-regulatory strategies and cognitive competencies for exerting self-regulation. This work has attempted to explain these differences in terms of the mediating processes that underlie them, such as individuals’ encoding strategies, expectancies, values and goals, affective reactions, and self-regulatory strategies (e.g., Mischel, Cantor, and Feldman 1996). They propose that a challenging goal for future research is to more fully understand how these mediating person-specific variables interact and guide the individual’s behavior “in the long and often difficult road from willing to wishing to willpower” (Mischel et al. 1996, 351). The construct examined here—EPO—is an essential component of self-regulation because it provides important feedback about the...
potential of a behavior to move people closer to or further away from their goals (Carver and Scheier 1998).

The remainder of this article unfolds as follows. We first review the theory of self-regulation and establish its relationship to consumers’ EPO. We then briefly discuss related theories and constructs that deal with expectations about the future and present our conceptual model. Next, we present our scale development program, which contains analyses aimed at developing a valid and reliable EPO scale, and then use the scale to establish a link between EPO and consumers’ self-regulation behaviors in our experimental study. We conclude with a general discussion and suggestions for future research. This article is not simply about developing a new scale. The substantive findings of the structure of EPO and its relationship to consumer traits and self-regulation behaviors are equally important.

We believe that understanding and measuring EPO is important for several reasons. First, EPO has important implications for consumer self-control effectiveness. As noted by Baumeister (2002), the factors and processes that undermine self-control are worth studying since in the long run, failing to exercise self-control and resist temptations may lead to higher profits for companies but more unsatisfied and unhappy consumers. A second important reason is the marketing field’s interest in measurement issues and in developing high-quality instruments (e.g., Bearden and Nettemeyer 1999). The Journal of Consumer Research has a rich history of generating and using individual difference scales (e.g., materialism [Richins and Dawson 1992] and consumer self-confidence [Bearden, Hardesty, and Rose 2001]), which has enabled researchers to examine these traits as moderators and identify boundary conditions to important aspects of consumer behavior. Third, we show that our EPO scale is very useful in predicting and explaining consumers’ information processes and choices.

**ELABORATION ON POTENTIAL OUTCOMES AND SELF-REGULATION**

Self-regulation refers to the process by which people initiate, adjust, or terminate actions to promote attainment of personal goals, plans, or standards (Carver and Scheier 1998). The process of self-regulation involves three important components: (1) having clear standards of how things should be, (2) comparing one’s actual state to a desired state (as defined by the standards), and (3) overriding responses to bring about change when the current state falls short of the desired state (Carver and Scheier 1998). Self-regulation is a complex, multifaceted process, and issues related to self-regulation have been examined in multiple domains such as personality (Mischel et al. 1996), motivation (Bandura 1997; Gollwitzer 1990), social and cognitive psychology (Baumeister et al. 1994), and consumer research (Hoch and Loewenstein 1991).

One important issue needing further examination is the process of anticipation of potential desired and undesired outcomes (e.g., Carver and Scheier 1998; Hoch and Loewenstein 1991). Elaboration on the potential outcomes of behavior not only makes people conscious of their standards but also provides them with information as to whether an act has the potential to move them toward a desired end state or away from an undesired one. Thus, considering future outcomes makes people more conscious of the possible effects of their behaviors and of the standards against which to compare those outcomes. Such information leads to better self-regulation and more appropriate behavior modification.

Baumeister and Heatherton (1996) argue that effective self-regulation requires the individual to be able to transcend the immediate situation by considering long-term consequences and implications. When transcendence is weak and attention is bound to the here and now, the threat of self-regulation failure is greater. According to Baumeister and his colleagues, “The factors that contribute to the success or failure of transcendence deserve further study” (Baumeister et al. 1994, 259). They argue that factors directing attention to future goals and implications will tend to improve the capacity for self-regulation (Baumeister and Heatherton 1996). These may include both situational and dispositional factors. We focus here on one such dispositional characteristic: one’s tendency to elaborate on potential outcomes.

The idea that people’s actions are greatly affected by potential outcomes is central not only to self-regulation theory—it has a long history in psychological theories of motivation as well (e.g., Rotter 1954). According to these theories, people motivate themselves and guide their actions by the outcomes they expect to result from given courses of behavior (Bandura 1997). Outcome consideration has been conceptualized and examined as several different types of expectancy judgments: self-efficacy expectations (whether one can perform a certain behavior and is capable of achieving a particular outcome; Bandura 1997), outcome expectations (the likelihood that performing a certain behavior will lead to the desired outcome; Bandura 1997; Carver and Scheier 1998), or general expectations (whether the future in general will be positive or negative; Scheier, Carver, and Bridges 1994). In contrast, our proposed construct adopts a multidimensional perspective and represents a generalized, context-independent predisposition toward thinking about potential outcomes. It goes beyond expectancy judgments, which only deal with assessing one’s capability (i.e., self-efficacy) or likelihood of achieving an outcome (i.e., outcome expectancy), and encompasses all aspects of the process of outcome consideration.

**DIMENSIONALITY OF ELABORATION ON POTENTIAL OUTCOMES**

We argue that EPO conceptually encompasses four dimensions dealing with different aspects of the outcome consideration process: (1) generation of potential consequences, (2) evaluation of the importance and likelihood of the generated consequences, (3) encoding consequences with a pos-
itive focus, and (4) encoding consequences with a negative focus.

Generation Dimension

Mischel et al. (1996) point out that self-regulation and goal pursuit are hard to execute, and individuals who can only see a situation one way or imagine one worthy outcome tend to do poorly. Thorough consideration of the effects of an intended behavior helps people to regulate their behavior in pursuit of a desired goal or to avoid an undesired one, which is essential for self-regulation. Thus, the degree to which people generate potential consequences before making decisions is an important element of the process of EPO.

Evaluation Dimension

The second proposed dimension, evaluation, is related to outcome expectancies and concerns the extent to which people evaluate both the likelihood and significance of potential consequences once they have generated them. Self-regulation theory suggests that outcome expectancies—people’s subjective probability determinations that outcomes will or will not occur—influence their decision to pursue a goal versus to disengage (Carver and Scheier 1998). Thus, an important component of the process of EPO is people’s combined evaluations of the likelihood and importance of the consequences they have generated.

Relative Positive/Negative Outcome Focus Dimensions

Researchers have emphasized that it is insufficient to know whether and when people regulate their behaviors; it is also necessary to understand how people deal with their world to make this happen (Higgins 1999). Prominent theories of self-regulation such as Carver and Scheier’s control theory (1981) and Higgins’s self-systems theory (1999) emphasize the importance of examining people’s different approaches to self-regulation and of studying the effects of adopting a positive (vs. negative) outcome focus in one’s goal pursuit. Carver and Scheier (1981) make a distinction between two types of self-regulatory systems, one having a positive and one having a negative reference value. A self-regulatory system with a positive reference value involves attempts to move closer to a desired end state, while a self-regulatory system with a negative reference value involves attempts to move away from an undesired end state. Similarly, the principle of regulatory reference focuses on the point of reference a person uses in self-regulation and argues that, holding outcome expectations constant, self-regulation can operate in reference to either a desired or an undesired end state (Higgins 1999).

In our conceptualization of the process of outcome elaboration, we distinguish between people’s tendency to encode anticipated end states with a positive versus negative outcome focus. Thus, we propose two further dimensions of EPO: positive outcome focus and negative outcome focus.

Aspects of Self-Regulation

Since the four proposed EPO dimensions converge on a single underlying quality (latent variable) and each dimension reflects this latent variable imperfectly, EPO can be considered a multifaceted construct (Carver 1989). EPO’s subdimensions represent different aspects of the process of outcome elaboration and consumers’ self-regulation processes. While the generation and evaluation dimensions relate to the depth of consumers’ self-regulation, the positive and negative outcome focus dimensions relate to the overall valence of consumers’ self-regulation.

According to the principle of regulatory anticipation, motivation arises from people’s anticipations of the outcomes of their actions (Pham and Higgins 2005). Therefore, people who tend to anticipate potential consequences will be more motivated and thus more likely to succeed in their self-regulation efforts. According to the principle of regulatory reference discussed earlier, people use different points of reference in the process of self-regulation, and they can regulate their behaviors by referring to either a positive or a negative end state (Pham and Higgins 2005). For example, two people might represent the same goal in terms of approaching a desired end state (e.g., being slim) versus avoiding an undesired end state (e.g., being fat), differing neither in their motivation to achieve the goal nor in their expectations but only in their approach for achieving that goal. Thus, we expect that relative outcome focus will trigger different self-regulatory valence rather than affecting the depth of self-regulation.

Even though outcome focus tendencies are not two ends of a single continuum, and someone who focuses on positive potential outcomes does not necessarily ignore negative ones and vice versa, many people tend to exhibit a relative preference for encoding potential outcomes with either a positive or a negative focus. Therefore, while we propose (and subsequently measure) distinct positive and negative outcome focus dimensions, throughout the empirical part of our article we combine the two dimensions to create a relative valence construct that can then be used to predict people’s inclinations to use different self-regulation strategies.

We now turn to the task of developing and validating our proposed EPO scale, following recommended scale development procedures (e.g., Netemeyer, Bearden, and Sharma 2003). We first test the scale’s reliability and dimensionality and refine it using confirmatory factor analysis. We then assess the discriminant and nomological validity of the scale by relating it to a number of established psychological constructs, checking for potential social desirability bias, and examining its effect on information processing in a specific decision situation. Next, we assess test-retest reliability and establish a link between the generation and evaluation dimensions of EPO and depth of self-regulation by relating them to several self-regulatory behaviors.

PART 1: SCALE DEVELOPMENT

The purpose of our scale development program is to develop the EPO scale and to assess its reliability, dimen-
ELABORATION ON POTENTIAL OUTCOMES

Scale Reliability and Factor Structure (Sample 1)

We collected data from 367 University of Pittsburgh undergraduate students (51% female), who received extra course credit for participating in the study. Participants were given survey packages containing measures representing the proposed EPO scale, eight established scales described below, and a measure of socially desirable responding (Paulhus 1991). For all of the scales administered, participants were asked to indicate their agreement using seven-point Likert scales ranging from one (strongly disagree) to seven (strongly agree).

In order to assess the EPO scale’s dimensionality, the 22 items were subjected to confirmatory factor analysis. Since the four dimensions of the scale are assumed to be conceptually and empirically related to each other, a four-factor correlated model was estimated. Nine items that did not have sufficiently high loadings on their underlying factors were dropped, and the four-factor model was then reestimated.

upon further investigation, we found that there was insufficient discrimination (see Fornell and Larcker 1981) between the generation and evaluation dimensions, with the squared phi correlation between these two factors (0.84) greater than the average variance extracted for generation (0.57) and evaluation (0.60). Thus, we estimated a new three-factor correlated model, with the generation and evaluation items combined into a single dimension. The resulting item loadings are reported in table 1.

The three-factor and four-factor correlated models provide similar fits to the data, so in the interest of parsimony, we employ a three-factor correlated model and combine the generation and evaluation items for all subsequent analysis and discussion. (For all of our analyses, we estimated both separate scores for generation and evaluation and a combined score and consistently found very similar results.) All goodness-of-fit statistics for the three-factor correlated model meet or exceed recommended levels (e.g., Bollen 1989; root mean square error of approximation [RMSEA] = .07; goodness-of-fit index [GFI] = .94; adjusted goodness of fit index [AGFI] = .90; comparative fit index [CFI] = .96; incremental fit index [IFI] = .96; relative fit index [RFI] = .92).

Means, standard deviations, and coefficient alphas for the three subscales provide evidence for good internal consistency (Nunnally 1978).

Confirmatory Factor Analysis (Sample 2)

After reducing the scale to 13 items (table 1), the EPO instrument was administered to a different, newly collected sample of 383 respondents, both students (n = 145, 47% female) and adults (n = 238, 43% female). Participants in the student sample were undergraduate marketing students.
at the University of Pittsburgh, while participants in the adult sample were adults enrolled in an executive education evening MBA program (n = 138) and university staff members (n = 100). The adult and student samples were analyzed separately, but results were virtually identical across the two groups, so the two samples are combined for all subsequent analyses. Analysis of the new sample confirms that a three-factor correlated model provides a good fit to the data (RMSEA = .06; GFI = .94; AGFI = .91; CFI = .96; IFI = .96; RFI = .93). Also, all scale items have factor loadings above .74, providing strong evidence for scale reliability.

Scale Validity (Sample 1)

Nomological and Discriminant Validity. In order to assess the discriminant and nomological validity of the EPO scale, we examined whether it is distinct from other related constructs. As discussed earlier, the generation and evaluation dimensions are related to consumers’ depth of processing and affect their depth of self-regulation, so we explore their relationship to other constructs that have previously been used to examine depth of processing and depth of self-regulation: impulsive buying (Rook and Fisher 1995), compulsive buying (Faber and O’Guinn 1992), need for cognition (Cacioppo and Petty 1982), consideration of future consequences (Strathman et al. 1994), and risk aversion (Donthu and Gilliland 1996). Since the positive and negative outcome focus dimensions are related to people’s approaches to self-regulation and relate to their use of different reference values in self-regulation (i.e., overall valence), we relate them to a different set of constructs that have been used to examine regulatory orientations: optimism (Scheier et al. 1994), chronic regulatory focus (Higgins et al. 2001), and defensive pessimism (Norem and Cantor 1986). Because of time constraints and the significant length of the questionnaire, not all participants received all scales included in the study. Everyone completed the EPO, impulsiveness, risk aversion, need for cognition, consideration of future consequences, and compulsive buying scales, while only a subset of participants received the optimism (n = 163), defensive pessimism (n = 163), and regulatory focus (n = 135) scales. Although we are able to empirically distinguish among three dimensions of EPO, our subsequent analyses combine the positive and negative focus measures to form a relative outcome focus subscale score. Specifically, this score is formed by dividing the difference between the positive and negative outcome focus scores by their sum. We do this to simplify the exposition, and we thank a reviewer for this suggestion. Table 3 describes each construct measured in sample 1 and its predicted (and actual) relationship with the

Table 2
DESCRIPTIVE STATISTICS AND RELIABILITY RESULTS

<table>
<thead>
<tr>
<th>EPO dimension</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Cronbach's alpha</th>
<th>Generation/evaluation</th>
<th>Positive outcome focus</th>
<th>Negative outcome focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample 1 (n = 367):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Generation/evaluation</td>
<td>4.9</td>
<td>.94</td>
<td>.88</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive outcome focus</td>
<td>4.8</td>
<td>1.20</td>
<td>.87</td>
<td>-.02</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Negative outcome focus</td>
<td>4.0</td>
<td>1.20</td>
<td>.87</td>
<td>.32*</td>
<td>-.51*</td>
<td>1.00</td>
</tr>
<tr>
<td>Sample 2 (n = 383):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generation/evaluation</td>
<td>5.0</td>
<td>1.10</td>
<td>.91</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive outcome focus</td>
<td>4.7</td>
<td>1.30</td>
<td>.84</td>
<td>-.04</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Negative outcome focus</td>
<td>4.1</td>
<td>1.30</td>
<td>.88</td>
<td>.34*</td>
<td>-.50*</td>
<td>1.00</td>
</tr>
<tr>
<td>Sample 3 (n = 97; administration 1/administration 2):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generation/evaluation</td>
<td>4.5/4.7</td>
<td>1.00/1.00</td>
<td>.90/.90</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive outcome focus</td>
<td>5.0/5.0</td>
<td>1.30/1.10</td>
<td>.90/.88</td>
<td>-.03/-.01</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Negative outcome focus</td>
<td>3.7/3.7</td>
<td>1.20/1.20</td>
<td>.89/.85</td>
<td>.36*/.34*</td>
<td>-.50*/.59*</td>
<td>1.00</td>
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<tr>
<td>Sample 4 (n = 160):</td>
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<tr>
<td>Generation/evaluation</td>
<td>4.8</td>
<td>.96</td>
<td>.89</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive outcome focus</td>
<td>4.9</td>
<td>1.10</td>
<td>.82</td>
<td>-.05</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Negative outcome focus</td>
<td>4.1</td>
<td>1.20</td>
<td>.87</td>
<td>.33*</td>
<td>-.45*</td>
<td>1.00</td>
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<tr>
<td>Sample 5 (n = 302):</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Generation/evaluation</td>
<td>4.8</td>
<td>1.10</td>
<td>.90</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive outcome focus</td>
<td>4.7</td>
<td>1.10</td>
<td>.83</td>
<td>.22*</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Negative outcome focus</td>
<td>4.1</td>
<td>1.10</td>
<td>.80</td>
<td>.29*</td>
<td>-.40*</td>
<td>1.00</td>
</tr>
<tr>
<td>Experimental study (n = 95):</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Generation/evaluation</td>
<td>4.0</td>
<td>.81</td>
<td>.94</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive outcome focus</td>
<td>3.6</td>
<td>1.00</td>
<td>.88</td>
<td>-.07</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Negative outcome focus</td>
<td>2.7</td>
<td>.90</td>
<td>.88</td>
<td>.16*</td>
<td>-.64*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note.—Questions were measured on a seven-point scale, except in the experimental study sample, where they were measured on a five-point scale. *p < .05.
appropriate EPO subscale with which it is expected to correlate—the generation/evaluation or the relative outcome focus subscale.

Table 3 also reports each construct’s correlations with the EPO subscale it is not expected to correlate with. We conducted dependent correlation tests using the Hotelling-William test (Steiger 1980) to examine differences in the correlations of the measured constructs with the generation/evaluation and the relative outcome focus subscales. Results reveal that there are significant differences in the relative strength of each construct’s correlation with the two EPO subscales. That is, each construct’s correlation with the EPO subscale it was expected to correlate with was significantly stronger than its correlation with the other EPO subscale. These results support our contention that generation/evaluation and relative outcome focus correlate with different sets of constructs. Furthermore, all of the predicted correlations are significant and in the expected direction. Since we find that all correlations are significantly different from unity, we conclude that the EPO scale is nomologically linked to related constructs yet possesses strong discriminant validity.

As discussed earlier, we explore five constructs that assess individuals’ depth of processing and depth of self-regulation (impulsive buying, risk aversion, need for cognition, consideration of future consequences, and compulsive buying). We predict that they will be significantly related to the generation/evaluation subscale of EPO. The exception is risk aversion, to which the relative outcome focus subscale should also be significantly related. The generation/evaluation subscale is related to each construct in the expected fashion: impulsive buying ($r = -0.33$, $p < .01$), risk aversion ($r = 0.30$, $p < .01$), need for cognition ($r = 0.13$, $p < .01$), consideration of future consequences ($r = 0.43$, $p < .01$), and compulsive buying ($r = -0.25$, $p < .01$). Risk aversion is negatively correlated with the relative outcome focus subscale ($r = -0.23$, $p < .01$).

We expect the four constructs that assess individuals’ regulatory orientations and self-regulation valence (optimism, promotion regulatory focus, prevention regulatory focus, and defensive pessimism) to be significantly related to the relative outcome focus subscale of EPO but unrelated to the generation/evaluation subscale. As shown in table 3, the nature of the relationship between the relative positive focus subscale is consistent with our expectations: optimism ($r = 0.61$, $p < .01$), promotion regulatory focus ($r = 0.25$, $p < .01$), prevention regulatory focus ($r = -0.20$, $p < .01$), and defensive pessimism ($r = -0.51$, $p < .01$).

Further evidence of discriminant validity is provided by following three steps recommended by Netemeyer et al. (2003). First, we examined whether the variance-extracted estimates for each pair of constructs exceeded the squared phi estimate between the constructs (Fornell and Larcker 1981). This was the case for all 24 comparisons, indicating discrimination between the EPO dimensions and each respective scale. Second, we conducted a series of chi-square difference tests, comparing each of the measured constructs to each dimension of the EPO scale (Anderson and Gerbing 1988). For each pair of constructs, we tested whether a two-factor model with unconstrained intercorrelation between the constructs fits significantly better than a one-factor model (correlation constrained to one). The two-factor model fit significantly better than the one-factor model in all cases (all $p’s < .001$). Finally, we confirmed that the correlation between each pair of variables, plus or minus two standard errors, did not include the value of one.

Tests for Social Desirability Biases. The next important step in our scale development program was to assess the extent to which responses to the EPO scale might be confounded by social desirability response bias (Mick 1996). Such an examination seemed warranted as there has been some emphasis in the popular press on the importance of outcome consideration for consumers’ self-control efforts (e.g., Chatzky 2006). Since considering the consequences of one’s behavior might be viewed as a socially desirable trait, we assessed the extent to which the EPO subscales are correlated with a measure of desirable responding proposed by Paulhus (1991)—impression management (IM). EPO’s subscales have relatively weak correlations with IM ($r_{gen} = 0.16$, $p < .05$; $r_{rel} = -0.02$, NS), which suggests that responses on these subscales are not strongly influenced by IM motives.

Paulhus (1991) also developed the self-deceptive evaluation (SDE) scale. SDE is a positively biased view of oneself that is unconscious and honestly held and manifests itself in tendencies to avoid negative thoughts, have high expectations of success, and high perceived decision control. Both EPO subscales correlate positively with SDE ($r_{gen} = 0.21$, $p < .05$; $r_{rel} = 0.36$, $p < .01$), but Zerbe and Paulhus (1987) recommend against controlling for SDE. Since self-deception is characteristic of well-adjusted people, controlling for it may partial out important content variance related to the personality factor of interest (Mick 1996).

We also follow the procedure recommended by Mick (1996) and compute partial correlations between EPO and the constructs discussed previously, holding IM constant. The comparative results between simple and partial correlations revealed very small absolute differences, indicating no spurious correlations due to social desirability bias. Since the correlation between the generation/evaluation subscale and IM was significant, we went one step further and examined whether IM moderates the relationship between this EPO subscale and one of its consequences—compulsive buying. For this purpose we estimated a hierarchical regression model using IM, the two EPO subscales, and the interactions between IM and the EPO subscales as independent variables to predict compulsive buying. Only the generation/evaluation subscale emerged as a significant predictor of compulsive buying ($b = -.18$, $t = -1.99$, $p < .05$).

Test-Retest Reliability (Sample 3)

To assess the final scale’s test-retest reliability and the construct’s temporal stability, EPO was administered to a
TABLE 3
RELATED CONSTRUCTS AND THEIR RELATIONSHIP WITH EPO

<table>
<thead>
<tr>
<th>Construct</th>
<th>Description</th>
<th>Predicted relationship with EPO</th>
<th>Scale source</th>
<th>Scale characteristics</th>
<th>Results*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Related to depth of processing and</td>
<td>Rook and Fisher (1995) suggest that an impulse’s urge toward immediate action discourages consideration of the behavior’s potential outcomes and encourages people to act with little or no regard for long-term consequences. Wishnie (1977) suggests that individuals with impulsive pathologies seem to be living in a state of constant but stable chaos with little perspective about the future consequences of their current behavior.</td>
<td>Negative correlation with generation/evaluation</td>
<td>Rook and Fisher (1995)</td>
<td>$M = 3.75$; SD = 1.39; $\alpha = .94$</td>
<td>$r_{gav} = -.33_{av}$, $p &lt; .01$; $r_{ad} = .13_{av}$, $p &lt; .05$</td>
</tr>
<tr>
<td>depth of self-regulation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impulsive buying ($n = 367$)</td>
<td>People who are more averse to taking risks should be more likely to carefully assess the potential consequences of their behavior before undertaking something. Furthermore, research has found a positive relationship between people’s risk aversion and their tendency to attend to and weigh potentially negative outcomes more heavily (Schneider and Lopes 1986).</td>
<td>Positive correlation with generation/evaluation; negative correlation with relative positive outcome focus</td>
<td>Donthu and Gilliland (1996)</td>
<td>$M = 4.31$; SD = 1.15; $\alpha = .72$</td>
<td>$r_{gav} = .30_{av}$, $p &lt; .01$; $r_{ad} = -.23_{av}$, $p &lt; .01$</td>
</tr>
<tr>
<td>Risk aversion ($n = 367$)</td>
<td>Need for cognition is conceptualized as the relative proclivity to process information (Cacioppo and Petty 1982). Need for cognition and EPO represent different types of information processing. Need for cognition measures consumers’ tendency to engage in and enjoy thinking in general, while EPO measures their tendency to engage in a specific type of thinking. Persons scoring high on the need for cognition scale and who intrinsically enjoy thinking should be more likely to generate and evaluate potential outcomes, while individuals who are low in need for cognition and tend to avoid effortful cognitive work should be less likely to elaborate on potential outcomes.</td>
<td>Positive correlation with generation/evaluation</td>
<td>Wood and Swait (2002)</td>
<td>$M = 5.10$; SD = 1.10; $\alpha = .86$</td>
<td>$r_{gav} = .13_{av}$, $p &lt; .01$; $r_{ad} = .08_{av}$, NS</td>
</tr>
<tr>
<td>Need for cognition ($n = 367$)</td>
<td>This construct captures the degree to which people consider potential distant outcomes rather than immediate ones when they choose their present behavior. Consideration of future consequences (CFC) measures consumers’ temporal focus on the short- versus long-term implications of behavior, while EPO measures their tendency to anticipate these implications in the first place. We expect that there will be a positive relationship between these tendencies, as Strathman et al. (1994) argue that high-CFC individuals should be more likely to generate and consider possible future outcomes even when future consequences are ambiguous.</td>
<td>Positive correlation with generation/evaluation</td>
<td>Strathman et al. (1994)</td>
<td>$M = 4.12$; SD = .79; $\alpha = .84$</td>
<td>$r_{gav} = .43_{av}$, $p &lt; .01$; $r_{ad} = -.17_{av}$, $p &lt; .01$</td>
</tr>
<tr>
<td>Consideration of future consequences ($n = 367$)</td>
<td>While initially providing some perceived benefits, compulsive buying is a chronic behavior that typically becomes very difficult to stop and ultimately results in harmful consequences (Faber and O’Guinn 1992). Compulsive buying represents a major failure of self-regulation efforts; compulsive buyers who amass unmanageable amounts of debt can create economic and emotional problems for themselves and their families, so we expect that they are less likely to elaborate on potential outcomes.</td>
<td>Negative correlation with generation/evaluation</td>
<td>Faber and O’Guinn (1992)</td>
<td>$M = 2.59$; SD = 1.06; $\alpha = .82$</td>
<td>$r_{gav} = -.25_{av}$, $p &lt; .01$; $r_{ad} = -.01_{av}$, NS</td>
</tr>
<tr>
<td>Construct</td>
<td>Description</td>
<td>Positive correlation</td>
<td>Negative correlation</td>
<td>Source(s)</td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td><strong>Optimism (n = 163)</strong></td>
<td>Optimism describes people’s generalized positive outcome expectancies about the future, while pessimism depicts their generalized negative expectancies. Research has shown that both specific and general expectancies have distinctive effects on people’s motivation and behavior and represent different constructs that explain unique variance when examined together (Scheier, Carver, and Bridges 1994). Optimism/positive focus and pessimism/negative focus are distinct yet correlated. Optimism/pessimism describes generalized outcome expectancies about the future, while the relative outcome focus EPO subscale focuses on the valence people use when encoding specific expectancies of potential outcomes that might occur as a result of one’s actions.</td>
<td>Positive correlation with relative positive outcome focus</td>
<td>Negative correlation with relative negative outcome focus</td>
<td>Scheier et al. (1994)</td>
<td></td>
</tr>
<tr>
<td><strong>Regulatory focus (n = 135)</strong></td>
<td>Regulatory focus theory (Higgins et al. 2001) differentiates between promotion pride, which originates from achieving positive outcomes and involves self-regulation toward the achievement of ideals, and prevention pride, which arises from avoiding negative outcomes and involves self-regulation toward security. The attainment of positive outcomes is emphasized by people who are promotion focused and try to bring themselves into alignment with their ideal selves. The avoidance of negative outcomes is emphasized by people who are prevention focused and try to bring themselves into alignment with their ought selves. Similar to the way people tend to approach self-regulation with different reference values in mind (i.e., positive vs. negative), they also tend to approach EPO with a different focus—positive versus negative, and these two tendencies in people are related to each other.</td>
<td>Positive correlation of promotion focus and relative positive outcome focus; negative correlation of prevention focus and relative positive outcome focus</td>
<td>Negative correlation of promotion focus and relative negative outcome focus</td>
<td>Higgins et al. (2001)</td>
<td></td>
</tr>
<tr>
<td><strong>Defensive pessimism (n = 163)</strong></td>
<td>The strategy of defensive pessimism involves setting unrealistically low expectations in a risky situation in an attempt to harness anxiety so that performance is unimpaired (Norem and Cantor 1986). This strategy functions defensively in that it prepares individuals for the possibility of failure. Defensive pessimists tend to set significantly lower expectations for their performance than optimists. People using this strategy think about worst-case scenarios as they anticipate upcoming situations and enter those situations expecting the worst (Norem and Cantor 1986). Therefore, we expect that defensive pessimism will be positively related to a tendency to encode potential outcomes with a negative reference value.</td>
<td>Negative correlation with relative positive outcome focus</td>
<td></td>
<td>Norem and Cantor (1986)</td>
<td></td>
</tr>
</tbody>
</table>

**Note.**—EPO = elaboration on potential outcomes. Intercorrelations between related constructs can be obtained from the first author. *Different subscripts indicate that the correlations are significantly different from each other (p < .05).
new sample of 114 University of Pittsburgh undergraduate students who received extra credit for their participation. One month later, 97 of these students completed a second administration. We used a 1-month gap between the two assessments to allow enough time for memory effects to fade. The between-administration correlations for both subscales were high ($r_{\text{test}} = 0.77, p < .001; r_{\text{test}} = 0.81, p < .001$), demonstrating strong test-retest reliability.

**Predictive Validity (Sample 4)**

To provide evidence of the predictive validity of the EPO scale, we examine whether the two EPO subscales predict the extent to which participants think about potential consequences in a decision-making situation. In particular, we expect that participants’ scores on the generation/evaluation subscale will predict the number of consequences they generate when making a decision and that their scores on the relative positive outcome focus subscale will predict the number of positive and negative consequences generated.

**Method.** One hundred and sixty undergraduate students (60% female) participated in return for extra course credit. Participants were presented with two scenarios, each describing a situation in which they had to make a decision. One scenario described a decision of whether to have laser-assisted in situ keratomileusis (LASIK) surgery (LASIK surgery scenario), while the other described a decision of whether to charge an expensive electronics good on an already heavily charged credit card (credit card scenario). The scenario presentation order was counterbalanced across participants.

After reading each scenario, participants were asked to record the thoughts that went through their minds as they considered what to do. After completing these tasks for both scenarios, participants were asked to code the valences of the thoughts they had previously listed by putting a plus sign next to positively valenced thoughts and a minus sign next to negatively valenced thoughts. After a distraction task, which required participants to complete a 10-minute survey containing questions unrelated to this study, they were administered the EPO scale.

Two judges unaware of the study hypotheses coded each thought as either a consequence (e.g., “I might go blind”) or a nonconsequence (e.g., “What is the price of the surgery?”). We were only interested in the number of consequences generated by participants, so we classified all other thoughts as nonconsequences. Interrater agreement was 90% for the LASIK surgery scenario and 93% for the credit card scenario, with disagreements resolved through discussion. The kappa coefficient verifies that agreement between the two raters exceeds that expected by chance (0.83, $p < .001$, for the LASIK scenario, and 0.87, $p < .001$, for the credit card scenario).

**Results and Discussion.** We calculated scores for the three EPO dimensions and counted the number of positive ($M_{\text{LASIK}} = 0.85, SD = 0.93; M_{\text{cc}} = 0.48, SD = 0.70$), negative ($M_{\text{LASIK}} = 1.73, SD = 1.02; M_{\text{cc}} = 1.24, SD = 0.89$), and total ($M_{\text{LASIK}} = 2.58, SD = 1.39; M_{\text{cc}} = 1.71, SD = 1.08$) consequences that people generated in response to the two scenarios. Participants generated a significantly greater number of consequences in response to the LASIK surgery scenario than in the credit card scenario (all $p$’s < .01), perhaps because laser eye surgery has more dramatic long-term or permanent consequences than a single credit charge. Furthermore, the LASIK surgery decision involves a variety of potential risks and benefits in different domains (e.g., health, appearance, personal finances), whereas the credit card situation involves mainly financial risks.

Since the numbers of positive, negative, and total consequences generated are count variables, we employed Poisson regression to analyze how the EPO dimensions affect them. The three dimensions of the EPO scale were used as independent variables in a set of six Poisson regressions on the number of positive, negative, and total consequences generated in response to the two scenarios. (In all of our studies, we find that there are no significant gender effects, and that multicollinearity—as judged by variance inflation factor values—is not a concern.)

The results support our predictions (see table 4). The generation/evaluation EPO subscale is a significant predictor of the number of consequences generated in response to the two decision situations ($b_{\text{LASIK}} = .19, \chi^2 = 11.80, p < .01; b_{\text{cc}} = .16, \chi^2 = 5.20, p < .05$), and the relative positive outcome focus subscale is positively and significantly related to the number of positive consequences generated ($b_{\text{LASIK}} = 1.23, \chi^2 = 10.06, p < .01; b_{\text{cc}} = 1.52, \chi^2 = 8.23, p < .01$) and negatively and significantly related to the number of negative consequences generated ($b_{\text{LASIK}} = -.68, \chi^2 = 6.43, p < .01; b_{\text{cc}} = -.98, \chi^2 = 9.65, p < .01$). Furthermore, participants’ scores on the generation/evaluation subscale are

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>No. of consequences</th>
<th>No. of consequences (scenario 2)</th>
<th>No. of positive consequences (scenario 1)</th>
<th>No. of positive consequences (scenario 2)</th>
<th>No. of negative consequences (scenario 1)</th>
<th>No. of negative consequences (scenario 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation/evaluation score</td>
<td>.19***</td>
<td>.16**</td>
<td>.22**</td>
<td>.16*</td>
<td>.17**</td>
<td>.17**</td>
</tr>
<tr>
<td>Relative positive outcome focus score</td>
<td>-.04</td>
<td>-.26</td>
<td>1.23***</td>
<td>1.52***</td>
<td>-.68***</td>
<td>-.98***</td>
</tr>
</tbody>
</table>

**Note.**—All coefficients are estimated using Poisson regressions. Scenario 1 = LASIK surgery scenario; scenario 2 = credit card scenario.

*p < .10.

**p < .05.

***p < .01.
also significantly related to the combined number of positive and negative consequences they generated. These results provide further evidence of the validity of the subscales since they confirm that people with a greater general tendency to generate consequences come up with more positive and more negative consequences in a specific decision situation. It is worthwhile to note that both of the scenarios we used include potential outcomes that are very negative, and it is quite possible that more negative than positive consequences came to mind for many consumers as they made their decisions. While it will ultimately be useful to examine EPO across a wider range of scenarios that vary in terms of the extremity of both negative and positive outcomes, the fact that EPO is able here to predict the number of both negative and positive outcomes considered—where the scenarios may be biased in favor of negative outcomes—provides strong empirical support for our proposed scale.

Next, we delve into the consequences of EPO. As discussed earlier, the generation/evaluation of potential outcomes is related to the depth of people’s self-regulation, while outcome focus is related to their self-regulation valence. Therefore, in the following two studies we examine these subscales separately and relate them to different sets of consequences.

Consequences of Generation/Evaluation of Potential Outcomes (Sample 5)

Earlier, we argued that EPO is an important determinant of self-regulation. However, an important question arises: does EPO incrementally explain self-regulatory behavior above and beyond what is accounted for by other constructs? We examine whether consumers’ tendency to think about the implications of their behaviors can predict the extent to which they engage in these behaviors. Consumers who generate and evaluate a variety of potential consequences when deciding how to behave should be more likely to persist in goal pursuit and exercise effective self-regulation (e.g., Baumeister and Heatherton 1996). Thus, we expect that the generation/evaluation EPO subscale will be a positive predictor of a number of behaviors resulting from self-regulation effectiveness. However, the relative outcome focus subscale, which is related to the overall self-regulation valence, is not expected to predict consumers’ engagement in behaviors resulting from self-regulation effectiveness.

Procedure. To enhance the generalizability of our findings, we recruited 302 adults (57% female) ranging in age from 20 to 70 years old. Questionnaires were distributed to a quota-convenience sample of adult consumers by 63 University of Pittsburgh marketing students, who received extra course credit for recruiting up to 10 adults who were not full-time college students (e.g., Mick 1996). Participants first received a survey that included measures of procrastination, credit card abuse, alcohol abuse, healthy eating, and regular exercising. After completing a distractor task, participants were given a second, seemingly unrelated, questionnaire that contained the EPO scale as well as measures of four conceptually related traits used to predict self-regulation behaviors in past research: buying impulsiveness, consideration of future consequences, risk aversion, and cognitive self-control. The first three of these constructs were discussed earlier. Since self-regulation researchers have argued that some people chronically have more problems with self-control than others (e.g., Baumeister 2002), we also assessed individual differences in self-control skills using the cognitive self-control scale (Rohde et al. 1990). As before, independent variables were measured on a seven-point Likert scale.

The average score for the consideration of future consequences scale (Strathman et al. 1994) in our sample is 4.40 (SD = .70; α = .77). Our sample’s average risk aversion score (Donthu and Gilliland 1996) is 4.52 (SD = 1.06; α = 0.60), while the average impulsiveness score (Rook and Fisher 1995) is 3.40 (SD = 1.25; α = 0.90). The average self-control score is 4.57 (SD = .75; α = 0.87). Correlations between the independent variables ranged from 0.66 between impulsiveness and compulsiveness to 0.02 between risk aversion and need for cognition.

We measured procrastination using the 15-item adult inventory of procrastination (Ferrari, Johnson, and McCown 1995; M = 3.24, SD = .95; α = 0.86). Alcohol abuse was measured in terms of frequency of drinking by a validated single-item measure (Newcombe, Measham, and Parker 1995; M = 4.0). Healthy diet was measured in terms of the frequency of consumption of fruits and vegetables—two of the major components of the healthy eating index developed by the Center of Nutrition Policy and Promotion at the U.S. Department of Agriculture (see Basiotis et al. 2004; M = 7.0). Exercise habits were assessed via frequency of physical activity (Laaksonen et al. 2002; M = 7.0). Credit card abuse was measured by asking those participants who had credit cards (n = 258) to report how often they pay their credit card balance in full. Their responses ranged from one (never, I always carry a balance) to four (I pay my entire balance every month; M = 2.0). All frequency-based dependent variables were measured on a 10-point scale ranging from one (never) to 10 (every day).

Results and Discussion. To assess whether EPO predicts self-regulation failure beyond the effects of other related traits, we employed a multivariate analysis of variance with the two EPO subscales, self-control, impulsiveness, consideration of future consequences, and risk aversion as independent variables and measures of drinking, healthy eating, exercising, money management, and procrastination as dependent variables. We employed a MANOVA in order to take into account the relationships between the dependent measures (correlations between the dependent measures ranged from r = 0.06, NS, between alcohol abuse and regular exercise, and r = 0.35, p < .01, between healthy eating and regular exercise). We found that all results are in the predicted direction and, as can be seen in table 5, the tendency to generate and evaluate potential outcomes is a significant and substantial predictor for every dependent var-
variable. As predicted, relative positive outcome focus has no effect on the dependent variables (with the exception of procrastination to which it is negatively related).

Following the omnibus analysis, we conducted additional analyses employing a series of stepwise regression models. In each model, self-control, impulsiveness, consideration of future consequences, and risk aversion were first entered as independent variables that might explain a specific behavior. EPO was then entered into the model in the second step. As expected, the tendency to generate and evaluate potential outcomes was a significant and substantial incremental predictor in all of these models, as evidenced by a statistically significant improvement in $R^2$ (see Table 5) between step 1 and step 2 ($p < .05$ for all but one model (healthy eating)).

Our findings show that consumers’ tendency to generate and evaluate potential outcomes is a significant predictor of the self-reported frequency of engaging in behaviors resulting from insufficient self-regulation such as drinking, exercising, money management, and procrastination, thus further establishing the predictive validity of the EPO construct. These analyses provide evidence that the EPO construct and its measurement have the potential to increase our understanding of the determinants of effective consumer self-regulation.

### PART 2: EXPERIMENTAL VALIDITY OF EPO

Thus far, we have shown that the EPO scale is a reliable and valid instrument and that the EPO construct is an important determinant of self-regulation. In this study, we provide evidence that consumers’ EPO scores affect their depth of self-regulation and their preferences when faced with a specific choice. Furthermore, we show experimentally that EPO can be primed and that this priming can temporarily improve self-regulation for consumers with lower levels of EPO. Recent studies of consumers’ investments show that consumers generally underinvest in savings (e.g., Morgen-

### TABLE 5

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Dependent variable</th>
<th>Overall effect</th>
<th>Procrastination</th>
<th>Alcohol abuse</th>
<th>Healthy diet</th>
<th>Regular exercise</th>
<th>Credit card abuse</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wilks’s lambda</td>
<td>$F$-value</td>
<td>Mean square</td>
<td>$F$-value</td>
<td>Mean square</td>
<td>$F$-value</td>
<td>Mean square</td>
</tr>
<tr>
<td>Generation/evaluation</td>
<td>.94</td>
<td>4.11***</td>
<td>30.10</td>
<td>57.75***</td>
<td>253.50</td>
<td>56.39***</td>
<td>18.10</td>
</tr>
<tr>
<td>Incremental $R^2$</td>
<td>.97</td>
<td>2.04</td>
<td>9.15</td>
<td>13.19***</td>
<td>.82</td>
<td>.18</td>
<td>1.24</td>
</tr>
<tr>
<td>Relative positive outcome focus</td>
<td>.95</td>
<td>3.91***</td>
<td>5.11</td>
<td>7.36***</td>
<td>39.30</td>
<td>8.73***</td>
<td>4.11***</td>
</tr>
<tr>
<td>Self-control</td>
<td>.98</td>
<td>1.39</td>
<td>8.65</td>
<td>12.46***</td>
<td>6.40</td>
<td>1.42</td>
<td>1.71</td>
</tr>
<tr>
<td>Impulsiveness</td>
<td>.97</td>
<td>1.90</td>
<td>3.99</td>
<td>5.75**</td>
<td>9.06</td>
<td>2.02</td>
<td>1.10</td>
</tr>
<tr>
<td>Consideration of future consequences</td>
<td>.99</td>
<td>.67</td>
<td>.06</td>
<td>.08</td>
<td>10.83</td>
<td>3.41</td>
<td>.77</td>
</tr>
<tr>
<td>Risk aversion</td>
<td>.98</td>
<td>1.39</td>
<td>8.65</td>
<td>12.46***</td>
<td>6.40</td>
<td>1.42</td>
<td>1.71</td>
</tr>
</tbody>
</table>

*p < .10.
**p < .05.
***p < .01.
usually characterized by less openness to risk (Pham and Higgins 2005). Furthermore, according to the regulatory compatibility phenomenon discussed by Pham and Higgins (2005), information compatible with one’s regulatory focus receives more attention and is given more weight in judgment. Similarly, we expect that a tendency to encode outcomes with a positive versus negative focus will raise attention to information that is compatible with this view and increase the weight that this information receives during judgment. Options that are attractive on compatible dimensions will be evaluated more favorably. Therefore, when offered different types of mutual funds, people with a relative positive outcome focus will invest more money in the stock fund, which has an aggressive risk level and has the greatest potential for gain. However, people with a relative negative outcome focus will invest more money in the money market fund, which has a conservative risk level and has the smallest potential for loss. We do not expect significant differences in money allocations to the bond fund, which has a conservative to moderate risk level and has moderate potential for positive and negative outcomes.

Results and Discussion

We first confirmed that investing for retirement is an important and desirable goal for consumers. Participants reported high perceived goal importance (M = 6.5; SD = .84), relevance (M = 6.4; SD = 1.30), significance (M = 6.5; SD = 1.09), and concern with investing for retirement (M = 6.5; SD = 1.07). None of these measures had significant correlations with the two EPO subscales.

To test our prediction regarding the effects of the generation/evaluation EPO subscale, we ran a regression on the amount of money participants invested in the proposed 401(k) plan. We included the generation/evaluation EPO subscale, the EPO priming manipulation (1 = priming; −1 = no priming), and their interaction, as independent variables, and the relative outcome focus EPO subscale, issue involvement, gender, age, income, and employment status, as controls. The analysis reveals that both EPO_gen (b = 1.927, t = 4.23, p < .01) and the EPO priming manipulation (b = 5.206, t = 2.74, p < .01) are significant predictors of the amount of money invested. We also found a significant two-way interaction between EPO_gen and the EPO priming condition (b = −1.072, t = −2.39, p < .01). Subsequent examination of group means reveals that in the no-priming condition, investors with stronger outcome elaboration tendencies allocated nearly twice as much money to the 401(k) plan as investors with weaker such tendencies (M_no/pr = $11,008; M_pr = $6,500, t(94) = 4.26, p < .01). However, priming equalized the amounts invested by the two groups of investors by almost doubling low EPO investors’ participation in the 401(k), while not affecting high EPO investors’ participation (M_no/pr = $10,938; M_pr = $10,368, t(94) = .81, NS; see fig. 1). As expected, participants’ relative outcome focus scores were not significantly related to the amount of money they invested in the proposed 401(k) (b = 467.62, t = 0.35, NS). None of the control variables had a significant effect.

To test our prediction regarding the effects of relative outcome focus, we ran three regressions on the amount of money participants allocated to each of the three mutual funds they could choose from in the proposed 401(k) plan. We included the relative outcome focus subscale, the EPO priming manipulation, and their interaction, as independent variables, and the generation/evaluation subscale, issue involvement, gender, age, income, and employment status, as controls.

The analysis revealed that relative positive outcome focus is a significant positive predictor of the amount invested in the stock fund (b = 3.608, t = 2.91, p < .01), a significant negative predictor of the amount invested in the money
market fund \( (b = -1.841, t = -2.42, p < .01) \), and a negative but not significant predictor of the amount invested in the bond fund \( (b = -1.911, t = -1.65, \text{NS}) \). The EPO priming manipulation was a significant positive predictor of money allocated to the bond fund \( (b = 813.31, t = 2.26, p < .05) \), while its interaction with relative positive outcome focus did not have a significant effect on any of the dependent variables. The only control variable that had a significant effect was gender, which was significantly related to the amount allocated to the stock fund \( (b = -1.527, t = -2.06, p < .05) \), with males allocating significantly more than females \( (M_m = $5,154; M_f = $3,663; t(91) = 2.08, p < .05) \), and generation/evaluation, which was a significant positive predictor of the amount of money allocated to the stock fund \( (b = 1.337, t = 3.14, p < .01) \). Based on a tertiary split we divided investors in two groups—with relative positive and relative negative outcome focus. Subsequent examination of group means revealed that investors with stronger relative positive outcome focus allocated nearly twice as much money to the stock mutual fund as investors with a relative negative outcome focus \( (M_{pos} = $5,126; M_{neg} = $3,027; t(46) = 2.85, p < .01) \), while investors with a relative negative outcome focus allocated more than twice as much money to the money market mutual fund \( (M_{neg} = $3,388; M_{pos} = $2,281; t(46) = 2.46, p < .05) \). As expected, there was no difference in allocations to the bond mutual fund \( (M_{neg} = $3,388; M_{pos} = $3,796; t(46) = 0.27, \text{NS}; \) see fig. 2).

We also examined whether consumers’ tendency to generate and evaluate potential outcomes affects their real-life choices by testing whether investors’ EPO tendencies predict the likelihood that they have traditional pension plans and 401(k) type of plans. We do not expect EPO to be a significant predictor of whether participants have traditional pension plans because these plans are not typically optional and do not require employees to make investment decisions. However, we expect that EPO will be a significant positive predictor of the likelihood that participants have a 401(k) type of plan, where participation is decided by employees and requires them to contribute part of their income. After deleting participants who were unemployed or employed part time, we used the remaining 71 participants’ responses to estimate two logistic regression models assessing whether they have (1) a traditional pension plan and (2) a 401(k) type of plan. As predicted, participants with a higher tendency to generate and evaluate potential outcomes, when compared to other participants, are no more likely to have traditional pension plans \( (b = .12, \text{odds ratio} = 1.14, \text{NS}) \) but are significantly more likely to have a 401(k) type of plan \( (b = .76, \text{odds ratio} = 2.14, p < .05) \).

Results from this study provide strong support for the validity of the EPO scale. Apart from showing that individual differences in outcome elaboration tendencies are important determinants of consumers’ self-regulation effectiveness and strategic orientations, this study goes one step further and shows that consumers can be aided (at least temporarily) in exercising better self-regulation by priming them to consider potential outcomes before making a decision. We also provide evidence that consumers’ outcome elaboration tendencies are related to their real-life investments by showing that investors with strong EPO tendencies are significantly more likely to have an optional type of retirement investment instrument such as a 401(k) plan.
ELABORATION ON POTENTIAL OUTCOMES

GENERAL DISCUSSION

Effective self-regulation involves seeing the immediate situation in terms of future concerns, values, and goals (Carver and Scheier 1981). In this research, we have provided conceptual and empirical evidence that the proclivity toward predecision outcome elaboration is an important determinant of self-regulation. Our research extends the literature on self-regulation by examining the effects of predecision processes on subsequent self-regulation. In spite of the existence of individual differences in EPO and their importance for the self-regulation of behavior, this construct has not been examined sufficiently in past research, nor to date has there been a good instrument to measure it. In this article we conceptualize the construct and develop a psychometrically sound instrument that captures individual differences in EPO.

This research also extends the literature on expectations about the future in several important respects. By incorporating different aspects of EPO—generation and evaluation of consequences and focus on the positive versus negative consequences—our conceptualization integrates diverse constructs that have previously attempted to depict the process of outcome consideration. Past research on consideration of potential outcomes has employed simple conceptualizations of the construct or has focused on a single dimension of the process, without the complicating influence of other dimensions. Examining these factors together provides a more complete representation of the process people go through when considering potential outcomes and allows researchers to examine all aspects of this process.

Our proposed EPO scale reflects these different dimensions and provides a general and context-independent measure of EPO. The empirical results from several samples confirm that the generation/evaluation and relative outcome focus subscales of EPO capture distinct aspects of the outcome elaboration process and therefore relate to different consumer traits and behaviors. In our studies, we consistently find that the people’s scores on the EPO scale generation/evaluation subscale are related to the depth of self-regulation, while their scores on the relative outcome focus subscale are related to their self-regulation valence. We provide consistent evidence that consumers’ stronger tendencies to generate and evaluate various potential consequences lead to more effective self-regulation, while their relative positive versus negative outcome focus gives rise to different strategic orientations.

From a theoretical standpoint, EPO could feasibly serve as either an independent or a dependent variable in studies of self-control and self-regulation. In our studies we focused on the important domains of healthy lifestyle and money management. Future research should continue to build on these findings. One consumer domain where self-regulation failure is particularly problematic is impulsive buying. Americans tend to spend much more than they can afford, resulting in significant amounts of consumer debt. Baumeister et al. (1994) point out that transcendence failure is a central cause for excessive impulsive buying. Our results also show that considering the outcomes of behavior is negatively correlated with impulsiveness and compulsive buying. Since disregard for the consequences (e.g., potential poverty) seems to be an important component of impulsive buying, encouraging predecision outcome elaboration in a shopping context might be able to help consumers resist their impulses for excessive buying.

Our analyses also suggest that EPO may act as a moderator. Researchers should examine how EPO moderates consumers’ responses to marketing stimuli. It is possible, for example, that consumers high on EPO, who engage in a thorough, balanced predecision outcome elaboration, will be less likely to fall prey to deceptive advertising claims or to be affected by decision biases like context or framing effects.

On the one hand, we have argued conceptually and shown empirically that EPO is a relatively stable individual trait. On the other hand, we have shown that encouraging people to think about potential consequences can improve self-regulation for individuals who do not normally engage in this type of elaboration. This suggests that EPO tendencies can temporarily be altered, perhaps through direct intervention or via situational determinants. For example, EPO could be affected by the context of a decision, and it might have greater effects for high-involvement rather than low-involvement decisions, where decision makers tend to optimize time and effort (Einhorn and Hogarth 1981).

In addition to its important contributions and implications, this research has surfaced some issues that merit further research. For example, while our theoretical conceptualization proposed that consumers’ tendencies to generate a variety of outcomes and to evaluate their likelihood and importance should be measured separately, we were unable to discriminate between these two dimensions empirically. It seems that the tendencies to generate and evaluate outcomes are very closely related and equally predictive of consumer information processing and decision making. Future research might examine the conditions under which generation and evaluation of potential outcomes are not as inextricably intertwined.

Our results (e.g., table 2) also suggest that the consideration of negative consequences has a bigger impact than the consideration of positive consequences on evaluation and generation. It may be natural for consumers to examine the potential positive outcomes of a decision regardless of context, while the tendency to also consider the potential negative outcomes depends to some extent on the depth of outcome elaboration. Thus, the key to effective self-regulation is to consider not only the possible upsides but also the possible downsides. However, more work is needed to better understand when both types of outcomes will be actively considered.

To establish EPO’s validity, we conducted a series of studies to show its relationship to other existing constructs and its ability to predict decisions and behaviors related to self-regulation. However, validity testing of a newly established construct is an ongoing process. While we have shown
here that EPO is related to yet distinct from a variety of other psychological constructs such as impulsiveness, risk aversion, need for cognition, and consideration of future consequences, it might also be related to other consumer-related constructs and phenomena. These potential relationships offer additional possibilities for future research. For example, future research should continue to examine EPO in relation to other self-regulation determinants such as self-efficacy (Bandura 1997), long-term planning (Morris and Ward 2005), and ego depletion (e.g., Baumeister and Heatherton 1996). Effective self-regulation is central to consumer welfare, and we need to better understand the underlying forces in order to develop beneficial interventions. Predecision elaboration is a key ingredient in that solution.

REFERENCES


