

**How Self-Regulation Creates Distinct Values:
The Case of Promotion and Prevention Decision Making**

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Abstract

I propose that different **relations** among basic components of self-regulation produce distinct types of decision value: (1) **Outcome value** when the consequences of a decision are relevant to the regulatory orientation of the decision maker; (2) **Value from fit** when goal pursuit means suit the regulatory orientation of the decision maker; and (3) **Value from proper means** when goal pursuit means are in agreement with established rules and normative principles. I use the regulatory focus distinction between **promotion** focus concerns with aspirations and accomplishments and **prevention** focus concerns with safety and responsibilities (Higgins, 1997, 1998) to illustrate outcome value and value from fit. Justification of a decision is used to illustrate value from proper means. I propose that decision makers are unlikely to distinguish among their experiences of these three types of value, and thus value from fit and value from proper means can be transferred to outcome value. I present evidence of such **value transfer** and consider its implications for "value to the customer". I also reconsider "sunk costs" and the "endowment effect" in light of there being value beyond outcome value.

Decisions are motivated. Decisions matter to people. What is it about decisions that matter to people? This is a basic question for decision science, and it has a basic answer. The answer is **value**. But what exactly is decision value? The goal of this paper is to review evidence for the general proposal that there are distinct types of value that matter to people when they make decisions. I begin by distinguishing outcome value, which is classic utility, from two other types of value that derive from the **manner** of goal pursuit rather than the consequences of goal pursuit. I then present evidence for each type of value. In the final section, I discuss how value from the manner of goal pursuit can be **transferred** to outcome value, even increasing the monetary price assigned to a chosen object. I also reconsider the “endowment effect” and “sunk costs” in light of there being value beyond outcome value.

What do people value when they make decisions? The classic answer has been in terms of outcomes or utility. People are motivated to make decisions that produce positive outcomes. When making choices, they want the alternative whose mix of pleasant or painful outcomes is the most positive. The same outcome can have different subjective value to different people or to the same person at different times. Historically, the critical insight to account for such variability is that the psychological value of an outcome is not simply its objective value (for reviews, see Abelson & Levi, 1985; Ajzen, 1996; Dawes, 1998). One of the great contributions of decision science in the last quarter century has been to identify cognitive operations and representations that influence perceived **outcome value** (e.g., Kahneman & Tversky, 1979; for a recent review, see Thaler, 1999).

Decision making has both outcome benefits and outcome costs. The means used in decision making can contribute to the outcome costs. For example, decision means can be valued less because they have high emotional costs (e.g., Janis & Mann, 1977) or because they have high costs in cognitive effort or time (see, for

example, Payne, Bettman, & Johnson, 1993; Simon, 1955, 1967). Decision means also contribute to outcome benefits as a function of their goal supportiveness or instrumentality (see Lewin, 1935; for a review, see Brendl & Higgins, 1996). Goal hierarchy models concerned with the compatibility between lower-order and higher-order goals reflect such instrumentality with respect to higher level purposes (e.g., Beach, 1990; Harackiewicz & Sansone, 1991; Sansone & Harackiewicz, 1996; Sheldon & Elliot, 1999). Generally speaking, these models propose that decision value increases when lower-order goals or agendas, such as task goals or daily pursuits, are selected (as means) that support higher-order and relatively chronic goals, such as life purposes (as outcomes).

Means and outcomes are two components of self-regulation (see, for example, Carver & Scheier, 1981, 1990; Miller, Galanter, & Pribram 1960; Powers, 1973; Wiener, 1948). There is also a third component—the regulatory orientation of a person. At any moment in time a person has particular concerns or interests that guide self-regulation. A regulatory orientation could arise from physiological needs such as hunger, moods such as anger, epistemic needs such as a need for closure, social forces such as role prescriptions, and so on. As will be illustrated later, decision makers with different regulatory orientations will assign different importance to the same outcome of a choice alternative as a function of the relevance of the outcome to their regulatory orientation. This is not the only way that the regulatory orientation of the decision maker influences decision value, however. I have recently proposed that people experience a regulatory fit when they use goal means that are suitable to their regulatory orientation, and this regulatory fit increases the value of what they are doing (see Higgins, 2000; Freitas & Higgins, 2002). This **value from fit** is a distinct type of decision value that is distinct from outcome value.

Outcome value and means value that relate to outcome benefits and outcome costs have received the most attention in the literature. This is natural because they have to do with whether a decision is "worthwhile" or "worth it". It makes intuitive sense that the value of a decision is related to its worth because the decision science literature typically equates value with utility, and one sense of "utility" is "worth to some end" (Webster's Dictionary, 1989, p. 1300). However, "utility" has another sense-- "fitness for some purpose" (Webster's Dictionary, 1989, p. 1300). The notion of value from fit concerns this additional sense of utility.

The broad concept of "fit" concerns the relation between an individual's regulatory orientation to an activity and the means used to pursue that activity. Individuals can pursue the same goal activity with different regulatory orientations and with different means. Consider, for example, students in the same course who are working to attain an "A". Some students are oriented toward an "A" as an accomplishment, whereas others are oriented toward an "A" as a responsibility. Some students read material beyond the assigned readings as a means to attain an "A", whereas others are careful to fulfill all course requirements. The fit between these different orientations and means varies. Reading extra, non-assigned material fits an accomplishment orientation better than a responsibility orientation, whereas fulfilling course requirements fits a responsibility orientation better than an accomplishment orientation. For all students, receiving an "A" in the course will have outcome benefits regardless of their regulatory orientation and goal means. Independent of this value from worth, however, there is an additional value from regulatory fit.

Value from fit concerns the **manner** in which a decision is made. So too does the value that derives from a means being in agreement with established rules or normative principles. This kind of **value from proper means** has been described

in the literatures on “procedural justice” (see, for example, Thibaut & Walker, 1975; Tyler & Lind, 1992) and justification or accountability (see, for example, Pennington & Hastie, 1988; Tetlock, 1991; Tversky & Shafir, 1992). An example of this kind of value can be found in March's (1994) discussion of the relation between the situated identity of decision makers and the decision-making rules they use. March (1994) states that there is value from using established rules (as decision means) that are appropriate to a person's situated identity. In contrast to other kinds of means value that relate to the outcomes of a decision (e.g., instrumental value), value from fit and value from proper means derive their value from **how** a decision is made. These kinds of value are independent from outcome value. In these cases, there can be value from the way in which a decision is made regardless of the consequences of the decision. This paper uses the case of self-regulatory focus (Higgins, 1997, 1998) to illustrate the distinction between outcome value and value from fit. I begin, then, with a discussion of self-regulatory focus.

Promotion and Prevention Focus

Regulatory focus theory assumes that self-regulation operates differently when serving fundamentally different needs, such as the distinct survival needs of nurturance (e.g., nourishment) and security (e.g., protection). Parents' social regulatory style, for example, can emphasize either nurturance or security. It can emphasize nurturance by bolstering to meet desired end-states and by withdrawing love when desired end-states are not met. It can emphasize security by safeguarding to meet desired end-states and by criticizing when desired end-states are not met. These different social regulatory styles communicate distinct concerns about getting along in the world (see Higgins, 1989; Higgins & Silberman,

1998). Nurturant social regulation engenders a **promotion focus**, in which self-regulation is concerned with the presence and absence of positive outcomes, with **advancement, aspirations, and accomplishments**. Security social regulation engenders a **prevention focus**, in which self-regulation is concerned with the absence and presence of negative outcomes, with **protection, safety, and responsibilities**.

Momentary situations are also capable of temporarily inducing either promotion focus concerns or prevention focus concerns. Just as the responses of caretakers to their children's actions communicate to them about how to attain desired end-states, current feedback from a boss to an employee or from a teacher to a student is a situation that can communicate **gain/non-gain** concerns with the presence or absence of positive outcomes (promotion concerns) or **non-loss/loss** concerns with the presence or absence of negative outcomes (prevention concerns). Task instructions that frame outcome contingencies in terms of gains/non-gains versus losses/non-losses can also induce promotion or prevention concerns, respectively. Thus, the distinction between promotion focus concerns and prevention focus concerns does not apply only to individual differences. Situations and tasks can also vary in regulatory focus concerns.

It should also be noted that promotion focus concerns and prevention focus concerns are not conceived as bipolar constructs. Just as individuals can be high on both ideal and ought discrepancies or low on both (see Higgins, Bond, Klein, & Strauman, 1986), individuals and situations can be relatively high in both promotion and prevention focus concerns or they can be relatively low in both. In addition, as will be shown in studies reviewed later, there is evidence that promotion focus concerns influence decision making independent of prevention focus concerns and vice-versa.

Regulatory focus theory also distinguishes between different means of goal attainment. It distinguishes between **eagerness means** and **vigilance means** (see Crowe & Higgins, 1997; Higgins, 1997, 1998). In signal detection terms (e.g., Tanner & Swets, 1954; see also Trope & Liberman, 1996), eagerness involves ensuring "hits" and ensuring against errors of omission or "misses", and vigilance involves ensuring "correct rejections" and ensuring against errors of commission or "false alarms". Regulatory focus theory proposes (Crowe & Higgins, 1997; Higgins, 1997, 1998) that there is a natural fit between promotion focus concerns and the use of eagerness approach means because eagerness means ensure the presence of positive outcomes (ensure hits; look for means of advancement) and ensure against the absence of positive outcomes (ensure against errors of omission; don't close off possibilities). There is also a natural fit between prevention focus concerns and the use of vigilance avoidance means because vigilance means ensure the absence of negative outcomes (ensure correct rejections; be careful) and ensure against the presence of negative outcomes (ensure against errors of commission; avoid mistakes).

In sum, self-regulation in a promotion focus is concerned with advancement and accomplishment, with the presence and absence of positive outcomes. The natural strategy for promotion focus self-regulation is eagerness approach means. In contrast, self-regulation in a prevention focus is concerned with safety and responsibility, with the absence and presence of negative outcomes. The natural strategy for prevention self-regulation is vigilance avoidance means.

Generally speaking, when a specific self-regulatory system is active, the relations among regulatory orientation, means, and outcomes function synergistically such that relevance and suitability are assured. For example, people with a promotion orientation usually use eagerness means to attain promotion-relevant outcomes, and people with a prevention orientation usually use vigilance

means to attain prevention-relevant outcomes. Nevertheless, the magnitude of relevance or suitability can vary across persons and across situations. For instance, an employer can determine the instrumental means used by an employee to pursue a goal independent of that employee's regulatory orientation, thereby influencing value from fit. The studies on regulatory focus reviewed below demonstrate how relevance and suitability can vary across both persons and situations.

The proposed distinction between outcome value and value from fit can now be illustrated by the following regulatory focus postulates: (1) decision makers in a promotion orientation will treat promotion-relevant outcomes as more important in their decision than prevention-relevant outcomes, whereas the reverse will be true for decision makers in a prevention orientation (outcome value); (2) decision makers in a promotion orientation will evaluate decisions as better that are made with suitable eagerness means, whereas decision makers in a prevention orientation will evaluate decisions as better that are made with suitable vigilance means (value from fit). The next two sections review each of these postulates.

Value From Outcomes Relevant to Regulatory Focus Orientation

The outcome value postulate states that decision makers in a promotion focus will treat promotion-relevant outcomes as more important in their decision than prevention-relevant outcomes, whereas the reverse will be true for decision makers in a prevention focus. To test this postulate one needs to identify promotion-related and prevention-related outcome dimensions. Historically, emotional outcome dimensions have been especially important in psychology. A classic distinction has been made between the cheerfulness-dejection emotional

dimension and the quiescence-agitation emotional dimension (for a recent review, see Feldman Barrett & Russell, 1998).

There is substantial evidence that self-regulatory success and failure in a promotion focus produces emotions along the cheerfulness-dejection dimension, and that self-regulatory success and failure in a prevention focus produces emotions along the quiescence-agitation dimension (for a review, see Higgins, 2001). Thus, cheerfulness-dejection is a promotion-related outcome dimension and quiescence-agitation is a prevention-related outcome dimension. The psychological literature suggests that people are efficient at appraising objects along a dimension relevant to their personal concerns. That is, if a dimension is important to people, they are fast when using it to appraise objects and events in the world (e.g., Allport, 1955; Bargh, 1982; Bruner, 1957; Kelly, 1955). According to the outcome value postulate, then, people with a promotion focus should be faster to make appraisals along the cheerfulness-dejection dimension than along the quiescence-agitation dimension, and the reverse should be true for people with a prevention focus.

Recent studies by Shah and Higgins (2001) provide a test of this prediction. The difference between a promotion focus and a prevention focus was examined both as a chronic individual difference and as a situational difference induced by an experimental manipulation. The participants in every study made emotional appraisals on cheerfulness-related scales, dejection-related scales, quiescence-related scales, and agitation-related scales. The participants in one set of studies appraised positive or negative attitude objects like those previously used by Fazio, Sanbonmatsu, Powell, & Kardes (1986) and by Bargh, Chaiken, Gendler, & Pratto (1992) to study automatic attitude activation. In one study, for example, undergraduate participants were asked to rate how each word describing a positive object (e.g., "music") or a negative object (e.g., "guns") made them feel. The

object words were rated in relation to both the cheerfulness-dejection dimension and the quiescence-agitation dimension. Half of the positive object words were rated in relation to "happy" (or "satisfying") and the other half in relation to "relaxed". Half of the negative object words were rated in relation to "sad" (or "depressing") and the other half in relation to "tense" (or "agitating"). [Across the participants, each object word was rated on each emotional dimension an equal number of times.]

The participants varied chronically in the strength of their promotion focus and in the strength of their prevention focus. Consistent with previous work on attitude accessibility (see Bassili, 1995, 1996; Fazio, 1986, 1995), promotion focus strength was operationalized in terms of the chronic accessibility of a person's hopes and aspirations (ideal strength), and prevention focus strength was operationalized in terms of the chronic accessibility of a person's beliefs about his or her responsibilities and obligations (ought strength). Chronic accessibility of a person's ideals and oughts was measured via response times to inquiries about his or her ideal attributes and ought attributes. Accessibility is activation potential and knowledge units with higher activation potentials should produce faster responses to knowledge-related inputs (see Higgins, 1996). Ideal (or ought) strength was measured by response latencies in listing ideal (or ought) attributes, with stronger ideals (or oughts) being operationalized by shorter response latencies (for more details about this strength measure, see Higgins, Shah, & Friedman, 1997).

Because regulatory focus, as noted earlier, also relates to the intensity of different emotional experiences that could also contribute to reaction times, the analyses of the reaction times in each study statistically controlled for participants' frequency or extent ratings on each emotion. The studies found that promotion strength (controlling for prevention strength) was positively related to

speed of appraising the object words in relation to the cheerfulness-dejection dimension, and was, if anything, slightly negatively related to speed of appraising these words in relation to the quiescence-agitation dimension. In contrast, prevention strength (controlling for promotion strength) was positively related to speed of appraising the object words in relation to the quiescence-agitation dimension, and was, if anything, slightly negatively related to speed of appraising these words in relation to the cheerfulness-dejection dimension. These findings, which were replicated with the experimental manipulation, provide support for the outcome value postulate.

One can also conceptualize promotion-related and prevention-related outcome dimensions in terms of valued dimensions of object properties, and conceptualize importance as the weight given to a dimension when making a choice between objects. The importance of a value dimension increases as its relevance to decision makers' self-regulatory orientation increases (see, for example, Hong & Zinkhan, 1995; Maheswaren & Sternthal, 1990; Bettman & Sujan, 1987). Bettman and Sujan (1987), for instance, found that participants preferred either a product with creativity features or a product with reliability features depending on which features were more relevant to their momentary orientation, where exposure to either creativity words or reliability words was used to activate a creativity or reliability orientation, respectively.

For consumer product properties, what are common examples of valued dimensions that are relevant to promotion and prevention orientations? For a promotion orientation, the valued dimensions would include luxury that reflects accomplishment (e.g., high status) and technical innovation that reflects advancement (e.g., state-of-the-art). For a prevention orientation, the valued dimensions would include protection/warning that reflects safety and reliability/service that reflects security. According to the outcome value

postulate, then, decision makers in a promotion focus should treat differences between products in luxuriousness or innovativeness as more important in their decision than differences in protectiveness or reliability, whereas the reverse should be true for decision makers in a prevention focus.

A recent study by Safer (1998) tested this prediction. In the first part of the study, participants were given information about either two cars or two apartments. For each pair, the participants were asked to form their impressions of each alternative and then make a choice between the two, without considering the cost of each alternative. The information consisted of attributes that, in pretesting, had received: (1) neutral protection ratings but high luxury ratings (e.g., as car luxury attributes-- plush, soft leather seats or a premium music sound system; as apartment luxury attributes-- grand, 12 foot-high ceilings or elegant, intricate wall moldings); or (2) neutral luxury ratings but high protection ratings (e.g., as car protection attributes-- reliable battery backup for cold days or anti-lock brakes; as apartment protection attributes-- secure, solid-steel safety locks on the front door or reliable smoke detectors).

For each pair of products, the overall desirability of the alternatives were equal, but one alternative was described primarily with high luxury attributes (the luxury dimension choice) whereas the other alternative was described primarily with high protection attributes (the protection dimension choice). Participants' strength of promotion focus and strength of prevention focus were measured as in the Shah & Higgins (2001) studies described earlier. For both the car choice and the apartment choice, participants with a stronger promotion focus (controlling for prevention strength) were more likely to choose the alternative that was higher in luxury, whereas participants with a stronger prevention focus (controlling for promotion strength) were more likely to choose the alternative that was higher in protection. These **choice** results are generally consistent with the outcome

value postulate but additional analyses were conducted to test this postulate more directly.

An analysis was conducted on participants' luxury and protection ratings of each alternative. Not surprisingly, both the luxury outcome dimension and the protection outcome dimension influenced participants' choices. Participants were more likely to choose the luxury alternative over the protection alternative as the former's rated superiority in luxury increased. They were also more likely to choose the protection alternative over the luxury alternative as the former's rated superiority in protection increased. Thus, both differences along the luxury dimension and differences along the protection dimension were important to the participants in making their choice. The critical question for testing the outcome value postulate, however, is whether differences along these two outcome dimensions were differentially important for the decisions of strong promotion focus participants and strong prevention focus participants.

Safer (1998) found that as participants' promotion strength increased (controlling for prevention strength), the impact of superiority in luxury ratings on choice increased whereas the impact of superiority in protection ratings on choice actually decreased. Thus, supporting the outcome value postulate, decision makers in a stronger promotion focus treated differences between products in luxuriousness as more important in their decision than differences in protectiveness. Safer (1998) also found that as participants' prevention strength increased (controlling for promotion strength), the impact of superiority in protection ratings on choice increased whereas the impact of superiority in luxury ratings on choice actually decreased. Thus, again supporting the outcome value postulate, decision makers in a stronger prevention focus treated differences between products in protectiveness as more important in their decision than differences in luxuriousness. These results demonstrate how the relevance of

the outcome to the regulatory orientation of the decision maker can influence the value of each choice alternative.

A second part of the Safer (1998) study tested the outcome value postulate in a different way. Following their choices between cars and between apartments, the participants were told to imagine that they wanted to purchase a computer (with cost again not an issue). They were provided a list of 24 questions about a computer and were asked to read all of them and then select those 10 questions that they believed would be most helpful in making their purchase decision. Which kinds of information would the participants seek out? Of the 24 questions, 8 concerned computer attributes along the innovation dimension (e.g., how creative or advanced it was), 8 were about computer attributes along the reliability dimension (e.g., its ability to prevent system crashes or other problems), and 8 were neutral features (e.g., total weight of the unit). The study found that participants with a stronger promotion focus (controlling for prevention strength) were more likely to seek information concerning innovation than reliability, whereas participants with a stronger prevention focus (controlling for promotion strength) were more likely to seek information concerning reliability than innovation. Thus, as predicted by the outcome value postulate, decision makers in a strong promotion focus treated information about innovativeness as more important in their decision than differences in reliability, whereas the reverse was true for decision makers in a strong prevention focus. It should be noted that the results for this information seeking study, as well as for the product choice study, were independent of the participants' mood during the session.

In sum, the results of the studies by Shah and Higgins (2001) and Safer (1998) provide strong support for the outcome value postulate. These studies found for both dimensions of emotional appraisal and dimensions of object evaluation that decision makers in a promotion focus treat promotion-relevant

outcome dimensions as more important in their decision than prevention-relevant outcome dimensions, whereas the reverse is true for decision makers in a prevention focus. Let us turn now to the value from fit postulate: decision makers in a promotion orientation will evaluate decisions as better that are made with suitable eagerness means, whereas decision makers in a prevention orientation will evaluate decisions as better that are made with suitable vigilance means.

Value From Means Suitable to Regulatory Focus Orientation

I proposed in a recent paper (Higgins, 2000) that, independent of instrumental means value or outcome value, people experience a regulatory fit when they use goal means that fit their regulatory orientation, and this regulatory fit increases the value of what they are doing. This **value from fit** proposal included the following propositions: (1) people will be more inclined toward goal means that have higher regulatory fit; (2) people's (prospective) feelings about a choice they might make will be more positive for a desirable choice (they want to happen) and more negative for an undesirable choice (they want **not** to happen) when regulatory fit is higher; (3) people's (retrospective) evaluations of past decisions or goal pursuits will be more positive when regulatory fit was higher; and (4) people will assign higher value to an object that was chosen with higher regulatory fit. This section will review the implications of each of these propositions for how regulatory focus can influence decision making.

Decision-Making Consequences of Preferring Means that Fit either a Promotion or a Prevention Orientation

The first proposition of the value from fit proposal states that people will be more inclined toward goal means that have higher regulatory fit. With respect to regulatory focus, people with a promotion orientation should be more inclined to

use eagerness means than vigilance means, whereas the reverse should be true for people with a prevention orientation. Several studies have found not only that people do have these strategic preferences, but also that these strategic preferences impact on basic decision-making processes, including "risky" and "conservative" (signal detection) biases and generating alternatives in hypothesis testing.

"Risky" and "conservative" biases. Decision makers in a promotion focus should prefer to use eagerness means more than vigilance means to make their decision, whereas the reverse should be true for decision makers in a prevention focus. As discussed earlier, eagerness in signal detection terms (e.g., Tanner & Swets, 1954; see also Trope & Liberman, 1996) involves ensuring "hits" and ensuring against errors of omission or "misses", and vigilance involves ensuring "correct rejections" and ensuring against errors of commission or "false alarms". From a signal detection perspective, using the eagerness means of ensuring hits and ensuring against errors of omission would produce a "risky" bias, whereas using the vigilance means of ensuring correct rejections and ensuring against errors of commission would produce a "conservative" bias. Thus, decision makers in a promotion focus should prefer to use eagerness means more than vigilance means to make their decision, producing a "risky" bias. Decision makers in a prevention focus should prefer to use vigilance means more than eagerness means to make their decision, producing a "conservative" bias.

These predictions were tested in a recognition memory study by Crowe and Higgins (1997). The participants were first shown a list of target items. Following a delay, they were then given test items that included both old target items from the original list and new distractor items not from the original list. The participants were asked to respond "Yes" if they believed the test item was an old target item, and to respond "No" if they believed the test item was a new

distractor item. In this task, "Yes" responses reflect a risky bias of ensuring hits and ensuring against errors of omission, and "No" responses reflect a conservative bias of ensuring correct rejections and ensuring against errors of commission. The participants were told that they would first perform a recognition memory task and then would be assigned a second, final task. A liked and a disliked activity had been selected earlier for each participant to serve as the final task. The participants were told that which of the alternative final tasks they would work on at the end of the session depended on their performance on the initial recognition memory task.

The relation between performance on the initial memory task and which of the final tasks they would do was described as contingent for everyone, but the framing varied as a function of both regulatory focus (promotion versus prevention) and outcome valence (success versus failure). The promotion framing of the contingency stated that by doing well on the initial memory task the participant would get to do the liked task (or by not doing well they would not get to do the liked task). The prevention framing of the contingency stated that by not doing poorly on the initial memory task the participant would not have to do the disliked task (or by doing poorly they would have to do the disliked task). The study found that, independent of success versus failure framing (which itself had no effect), participants with a promotion orientation had a risky bias of saying "Yes" in the recognition memory task, whereas participants with a prevention orientation had a conservative bias of saying "No".

Generating alternatives. A fundamental process in decision making, and in hypothesis testing more generally, is the generation of alternatives. Another study by Crowe and Higgins (1997) examined the impact of promotion and prevention orientations on generating alternatives when deciding how to classify and characterize objects in the world. Some decision tasks allow people to produce

either few or many alternatives without penalty. On a sorting task, for example, individuals can choose to use the same criterion, such as color, to sort a set of fruits and to sort a set of vegetables or they can choose to use different criteria, such as color for the fruits and shape for the vegetables. Either means of doing the task is considered correct. The requirement is only that within each category the sorting criterion be consistent across all members of that category. Thus, individuals can reduce the likelihood of making a mistake and still be correct by simplifying the task, such as sticking to one criterion for both categories.

If decision makers in a prevention focus prefer to use vigilance means more than eagerness means, then they should be inclined to be repetitive in this task. In contrast, decision makers in a promotion focus should **not** be inclined to be repetitive if, as proposed in the value-from-fit postulate, they prefer to use eagerness means more than vigilance means. By sticking to one category, alternative dimensions or criteria would be omitted during the sorting task, and the use of eagerness means ensures against such omissions. Decision makers in a promotion focus should eagerly pursue "hits" and thus should be inclined to generate different alternatives.

These predictions were tested by Crowe and Higgins (1997) with two tasks previously used by Mikulincer, Kedem, and Paz (1990) to study creativity. One of these tasks was a sorting task like the one just described. The other task was a characteristic listing task. Participants were presented with the names of furniture objects, such as "desk", "couch", or "bed", and were asked to write down all of the characteristics they could think of for each object. Promotion and prevention focus was induced through an experimental framing technique like that used in the recognition memory study. The study found that, compared to prevention focus participants, promotion focus participants were more fluent in choosing different category dimensions and in listing unique characteristics for

different category members. In contrast, prevention focus participants were more repetitive in employing sorting criteria across categories and in using specific descriptive terms or words across category members (controlling for fluency).

The sorting and characteristic listing tasks used by Crowe and Higgins (1997) are a special case of people generating alternatives. As Bruner, Goodnow, and Austin (1956) pointed out years ago, the basic process of people deciding what it is that they are perceiving involves generating hypotheses. A central issue for self-regulation is how many hypotheses to generate. Generating more hypotheses increases the likelihood of finding a correct hypothesis (i.e., more "hits") and decreases the likelihood of leaving out a correct hypothesis (i.e., less "misses"). If decision makers in a promotion focus prefer to use eagerness means more than vigilance means, then they should be inclined to generate more hypotheses. In contrast, decision makers in a prevention focus should **not** be inclined to generate more hypotheses if they prefer to use vigilance means more than eagerness means. This is because generating more hypotheses also increases the likelihood of including a wrong hypothesis (i.e., more "false alarms") and decreases the likelihood of rejecting a wrong hypothesis (i.e., less "correct rejections").

These predictions were tested in a couple of studies by Liberman, Molden, Idson, and Higgins (in press). The participants in one study varied in promotion strength and prevention strength as measured in an earlier session. In the second session held weeks later, the participants were introduced to an object naming task in which they received a booklet with four pictures, each on a separate page. Each picture was of a familiar object taken from an unusual angle, making it difficult to recognize (see Maysel & Kruglanski, 1987). The task was to guess what the object was in each picture. The participants were told that they could list as many or as few answers as they wanted. As predicted, participants with greater promotion strength (controlling for prevention strength) generated more

hypotheses about what the object was in each picture, and, independently, participants with greater prevention strength (controlling for promotion strength) generated fewer hypotheses.

The results of this study were replicated in another study by Liberman et al. (in press) in which participants' regulatory focus was experimentally manipulated by framing success on the task either in terms of adding points and gaining a dollar (promotion focus) or in terms of not subtracting points and not losing a dollar (prevention focus). The participants in the promotion focus condition generated approximately 30% more hypotheses than those in the prevention focus condition.

In sum, studies on "risky" versus "conservative" (signal detection) biases in decision making and studies on generating alternative hypotheses about objects in the world support the first proposition of the value from fit proposal: decision makers in a promotion focus prefer to use eagerness means more than vigilance means to make their decision, whereas the reverse is true for decision makers in a prevention focus (see also Roese, Hur, & Pennington, 1999; Shah & Higgins, 1997). These studies demonstrate that such preference for eagerness versus vigilance means, in turn, has profound effects on basic decision-making processes. Let us turn now to the next proposition of the value from fit proposal: people's (prospective) feelings about a choice they might make **will be more positive for a desirable choice and more negative for an undesirable choice** when regulatory fit is higher.

Imagining Prospectively How Good or Bad a Decision Would Make You Feel

A general strategy of decision making is to imagine or simulate how you would feel if you were to make a particular choice (e.g., Kahneman & Tversky, 1982). You can imagine feeling good if you were to make a desirable choice or feeling bad if

you were to make an undesirable choice. How might value from fit influence how good or bad people imagine they would feel about a particular decision?

To have regulatory fit, the means of goal attainment must be suitable for the regulatory orientation. They must be the right **type** and the right **level**. One way to have poor regulatory fit is to have the wrong type of means, such as vigilance avoidance means for goal pursuit in a promotion focus and eagerness approach means for goal pursuit in a prevention focus (see Higgins, 2000). Another way to have poor regulatory fit is to have the wrong level of means, such as having low eagerness during goal pursuit in a promotion focus or low vigilance during goal pursuit in a prevention focus. The results of previous studies (e.g., Idson, Liberman, & Higgins, 2000a) suggest that the eagerness of individuals in a promotion focus is maintained by imagining a positive outcome (gain) but is reduced by imagining a negative outcome (non-gain), whereas the vigilance of individuals in a prevention focus is maintained by imagining a negative outcome (loss) but is reduced by imagining a positive outcome (non-loss). Forster et al. (1998) also found that motivational intensity (as measured by arm pressure) was stronger in the promotion success framing condition (gain) than in the promotion failure framing condition (non-gain), and was stronger in the prevention failure framing condition (loss) than in the prevention success framing condition (non-loss). Thus, for positive outcomes there is a higher regulatory fit for a promotion than a prevention focus (eagerness is maintained but vigilance is not), and for negative outcomes there is a higher regulatory fit for a prevention than a promotion focus (vigilance is maintained but eagerness is not).

The second proposition of the value from fit proposal states that people's prospective feelings about a choice they might make will be more positive for a desirable choice and more negative for an undesirable choice when regulatory fit is higher. For positive outcomes, the level of eagerness means is suitable for a

promotion focus but the level of vigilance means is not suitable for a prevention focus. Therefore, decision makers in a promotion focus versus a prevention focus should have a stronger positive evaluative response when they imagine making a desirable choice; i.e., they should imagine feeling better about making a desirable choice. For negative outcomes, the level of vigilance means is suitable for a prevention focus but the level of eagerness is not suitable for a promotion focus. Therefore, decision makers in a prevention focus versus a promotion focus should have a stronger negative evaluative response when they imagine making an undesirable choice; i.e., they should imagine feeling worse about making an undesirable choice.

These predictions were tested in a series of studies by Idson, Liberman, and Higgins (2000b). Modifying a well-known example from Thaler (1980), undergraduate participants were instructed to imagine that they were in the bookstore, buying a book that they needed for one of their classes. In the promotion focus framing condition (gain/non-gain framing), the participants were told: "The book's price is \$65. As you wait in line to pay for it, you realize that the store offers a \$5 discount for paying in cash. Of course you would like to pay \$60 for the book. You have both cash and a credit card and have to choose between them." Half of these participants were then asked to rate how it would feel to pay in cash and get the \$5 discount (gain), and the other half were asked how it would feel to use their credit card and give up the \$5 discount (non-gain). In the prevention focus framing condition (non-loss/loss), the participants were told: "The book's price is \$60. As you wait in line to pay for it, you realize that the store charges a \$5 penalty for paying in credit. Of course you would like to pay \$60 for the book. You have both cash and a credit card and have to choose between them." Half of these participants were then asked to rate how it would feel to pay

in cash and avoid the \$5 penalty (non-loss), and the other half were asked how it would feel to use their credit card and pay the \$5 penalty.

The results of this prospective choice study supported the prediction. Not surprisingly, there was a valence of outcome effect reflecting the fact that participants' imagined feeling better when they paid \$60 for the book (positive outcome) rather than \$65 for the book (negative outcome). But independent of this between-valence effect, there was also a within-valence effect of promotion versus prevention focus. Participants' ratings of how good it would feel to pay what they would like for the book (\$60) were higher when it was a promotion focus gain than when it was a prevention focus non-loss. In addition, participants' ratings of how bad it would feel to pay more than they would like for the book (\$65) were higher when it was a prevention focus loss than when it was a promotion focus non-gain.

The value-from-fit proposal accounts for these within-valence effects in terms of differences in motivational strength as a function of regulatory fit. For positive outcomes, the higher regulatory fit for promotion than prevention focus should be reflected in people being more motivated to make the desirable choice happen for a promotion focus gain than a prevention focus non-loss. For negative outcomes, the higher regulatory fit for prevention than promotion focus should be reflected in people being more motivated to make the undesirable choice **not** happen for a prevention focus loss than a promotion focus non-gain. This motivational strength contribution to the within-valence effects should be independent of the imagined pleasure or pain contribution of outcomes to the between-valence effect.

To test these predictions, Idson et al. (2000b) conducted the same prospective choice study again as a repeated measures study that would allow a direct comparison of participants' ratings of how good or bad they would feel about

the choice they imagined, how pleasant or painful they imagined the outcomes of the choice would be, and how motivated they felt they would be to make the choice happen or not happen. [The order of these measures varied across participants, and there were no order effects.] Participants in the promotion positive condition imagined paying in cash and getting the \$5 discount (gain) and rated how good or bad they would feel, how pleasant it would be to get the discount, and how motivated they would be to make this happen. Participants in the promotion negative condition imagined using their credit card and giving up the \$5 discount (non-gain) and rated how good or bad they would feel, how painful it would be to give up the discount, and how motivated they would be to make this not happen. Participants in the prevention positive condition imagined paying in cash and avoiding the \$5 penalty (non-loss) and rated how good or bad they would feel, how pleasant it would be to avoid the penalty, and how motivated they would be to make this happen. Participants in the prevention negative condition imagined using their credit card and paying the \$5 penalty (loss) and rated how good or bad they would feel, how painful it would be to pay the penalty, and how motivated they would be to make this **not** happen.

On the original measure of the intensity of participants' good/bad feelings about desirable/undesirable choices, the results replicated the previous study. There was both a between-valence effect (i.e., the positive outcome felt better than the negative outcome) and within-valence regulatory focus effects (i.e., gain felt better than non-loss; loss felt worse than non-gain). The study also found that the **pleasure/pain intensity** ratings uniquely predicted the **between-valence** outcome effect, and the **motivational intensity** ratings uniquely predicted the **within-valence** regulatory focus effect. Thus, independent of the imagined pleasure or pain from choice outcomes, higher motivational intensity from regulatory fit contributed uniquely to the within-valence effect of imagining

feeling better from gain than non-loss and imagining feeling worse from loss than non-gain.

Evaluating Retrospectively a Decision You Have Made

After people make a decision, what determines their evaluation of their decision? On what basis do they judge their decision to be "good"? The Value From Fit Postulate states that a decision will be evaluated as better when it is made with means that fit the regulatory orientation of the decision maker. Thus, independent of decision outcomes, decision makers in a promotion focus will evaluate a decision as better when they made it with suitable eagerness means, whereas decision makers in a prevention focus will evaluate a decision as better when they made it with suitable vigilance means. Thus, making the desirable choice happen should be evaluated as a better choice by individuals in a promotion focus (making "gain" happen) than a prevention focus (making "non-loss" happen), and making the undesirable choice **not** happen should be evaluated as a better choice by individuals in a prevention focus (making "loss" not happen) than a promotion focus (making "non-gain" not happen).

In the repeated-measures study of Idson et al. (2000b), participants were asked two additional questions after they completed their three pre-decisional ratings. They were first asked, "Now if you were in this situation, would you choose to pay with cash or a credit card?" After they had made their decision, they were asked, "How good is this decision?" Not surprisingly, most participants said that they would pay with cash (which all scenarios presented as the desirable choice). Choosing to pay with cash makes the desirable choice happen, which should be evaluated as a better choice by individuals in a promotion than a prevention focus. Choosing to pay with cash also makes the undesirable choice not happen, which should be evaluated as a better choice by individuals in a prevention than a promotion focus. As predicted, participants evaluated the **same** choice to pay

with cash as **better** when they made promotion success (gain) happen or prevention failure (loss) not happen than when they made prevention success (non-loss) happen or promotion failure (non-gain) not happen.

Assigning Value to the Object of a Decision

It is possible for people to evaluate a decision as better when it was made with higher regulatory fit without believing that the object of the decision itself has greater value. Does value from fit add value to the decision object? Would people actually assign a higher monetary value to an object they chose from a decision that was made with higher regulatory fit? A recent study by Higgins and Idson (2000) examined this question of whether there is also **value transfer** for value from fit.

As part of a larger battery of measures, participants' ideal strength (chronic promotion orientation) and ought strength (chronic prevention orientation) were measured. After completing the battery, the participants were told that, over and above their usual payment for participating, they would receive a gift. They could choose between a coffee mug and a pen as their gift. [The coffee mug cost more and pre-testing had shown that it was clearly preferred to the pen.] The means of making the decision was manipulated through framing of the choice strategy. Half of the participants were told to think about what you gain by choosing "A", , and think about what you gain by choosing "B" (gain-related eagerness framing), where "A" and "B" alternated between being the mug or the pen. The other half were told to think about what you lose by not choosing "A", and think about what you lose by not choosing "B" (loss-related vigilance framing).

As expected, almost all of the participants chose the coffee mug. These participants were then asked to assess the price of the mug they had chosen. Predominant promotion focus individuals assigned a higher price to the mug when they had chosen it using eagerness means than vigilance means (almost 40%

higher), and predominant prevention focus individuals assigned a higher price to the mug when they had chosen it using vigilance means than eagerness means (over 60% higher). The assigned price did **not** vary as a function of either the predominant focus of the decision maker or as a function of the type of means used to make the decision. Differences in assigned price were a function of **only** the interaction of predominant focus and type of means used-- regulatory fit. The results of this study support the conclusion that value transfer can also occur for value from fit.

In sum, the results of our studies support the Value From Fit postulate. Decision makers in a promotion orientation evaluated their decisions as better that were made with suitable eagerness means, whereas decision makers in a prevention orientation evaluated their decisions as better that were made with suitable vigilance means. Imagining prospectively how good or bad you would feel if you were to make a particular decision, evaluating retrospectively a decision that you have made, and assigning value to the object of a decision were all influenced by regulatory fit. Each of these effects was independent of the outcomes of the decision. Let us turn now to the third type of value—value from proper means. Like value from fit, value from proper means concerns the value that derives from the manner in which a decision is made rather than from the consequences of a decision. Unlike value from fit, value from proper means concerns the relation of means to established rules or normative principles rather than the relation of means to the decision maker's regulatory orientation.

Value From the Use of Proper Means

We have seen that regulatory focus can influence outcome value. When people make a choice, the outcomes or consequences of their choice can have different

value depending on whether promotion-related or prevention-related outcome dimensions are more relevant to the decision maker. We have also seen that, independent of the outcomes or consequences of goal pursuit, the manner in which a decision is made can also have value. Means that fit the regulatory orientation of the decision maker can have value (value from fit). The manner in which a decision is made can also have value when the means used are in agreement with established rules or normative principles— value from proper means. One important case of value from proper means is the value that derives from providing an appropriate justification for a decision (e.g., Pennington & Hastie, 1988; Tetlock, 1991; Tversky & Shafir, 1992). A third postulate, then, is that decision makers will evaluate decisions as better when they perceive that the way in which they made their decision was justified (value from proper means).

Higgins, Idson, & Camacho (2000) recently examined justification as one kind of value from proper means and investigated whether this kind of value would be transferred to the value of a chosen object. The participants in the study were told that, over and above their usual payment for participating, they would receive a gift. They could choose between a coffee mug and a pen as their gift. It was expected that everyone would choose the coffee mug. The coffee mug cost more and pre-testing had shown that it was clearly preferred to the pen. Indeed, when the participants made their decision, almost all of the participants chose the coffee mug. There were two justification conditions—pre-decisional and post-decisional. Participants in the pre-decisional condition were told to write down how they would justify choosing one of the gifts rather than the other. Then they made their decision. Participants in the post-decisional condition first made their decision and then were told to write down how they justified having chosen one gift rather the other . [The study ended for the few participants who chose the pen.]

For those participants who chose the coffee mug, their last task was to assess the price of the mug they had chosen.

Justification concerns the manner in which a decision is made—the rules, strategies, or principles concerning **how** to make a good decision. Can you justify the decision-making process itself? Because justification concerns the **way** a decision is made rather than simply the outcomes of the final decision (“the ends don’t justify the means”), it should have greater impact when it is done while the decision is made rather than after the decision has already been made. When justification occurs during the process of making the decision, it has value from the manner of the decision making. It cannot have such value if it is done after the decision has already been made. Thus, it was predicted that value from justification would be transferred to the value of the coffee mug in the pre-decisional condition but not in the post-decisional condition, and thus the assessed price of the mug would be higher in the pre-decisional than the post-decisional condition. This prediction was confirmed. The assessed price of the coffee mug was more than 30% higher in the pre-decisional than the post-decisional condition.

A comparison condition was added to the design of the study in order to control for the possibility that people spend more time thinking about their choices prior to making a decision than after making a decision, and thus become more aware of the positive qualities of the coffee mug in the pre-decisional condition. If this were the explanation for the justification result, then there should generally be greater assigned value when people think pre-decisionally than post-decisionally about why to make one choice rather than another.

To examine this alternative “attention advantage” explanation, another group of participants were randomly assigned to writing down reasons for their choice either pre-decisionally or post-decisionally. As described in classic reasoned-action models of decision making (see Ajzen, 1996), the value of the outcomes of each

choice provide reasons for a decision. Reasons concern outcome value. Before the participants have made their decision, they would consider reasons they might choose the coffee mug and reasons they might choose the pen. For those participants who chose the coffee mug, after making their decision they would naturally consider reasons they chose the coffee mug and did **not** choose the pen. Thus, the relative value of the coffee mug should be, if anything, greater post-decisionally than pre-decisionally. In direct contrast to the justification condition, then, and contrary to any “attention advantage” notion, the assigned value of the coffee mug should be greater post-decisionally than pre-decisionally in the reasons condition. Indeed, the study found that reasons increased the assessed price of the coffee mug more when they were given post-decisionally than pre-decisionally. Thus, pre-decisional justification did not increase the assessed price of the mug simply because participants spent more time thinking about their choices prior to making a decision. Instead, the results suggest that value from using proper means, as reflected in pre-decisional justification, was transferred to the value of the chosen object.

Summary and Conclusions

The proposed distinction among outcome value, value from fit, and value from proper means was illustrated in terms of three postulates: (1) decision makers in a promotion orientation will treat promotion-relevant outcomes as more important in their decision than prevention-relevant outcomes, whereas the reverse will be true for decision makers in a prevention orientation (outcome value); (2) decision makers in a promotion orientation will evaluate decisions as better that are made with suitable eagerness means, whereas decision makers in a prevention orientation will evaluate decisions as better that are made with suitable vigilance

means (value from fit); (3) decision makers will evaluate decisions as better when they perceive that the way in which they made their decision was justified (value from proper means). Evidence for each of these postulates was then reviewed.

The results of the studies by Shah and Higgins (2001) and Safer (1998) provided strong support for the outcome value postulate. These studies found for both dimensions of emotional appraisal and dimensions of object evaluation that decision makers in a promotion focus treat promotion-related outcome dimensions as more important in their decision than prevention-related outcome dimensions, whereas the reverse is true for decision makers in a prevention focus. Shah and Higgins found that promotion strength was positively and uniquely related to speed of appraising attitude objects in relation to the cheerfulness-dejection (promotion) dimension, whereas prevention strength was positively and uniquely related to speed of appraising the same objects in relation to the quiescence-agitation (prevention) dimension. In a study on choosing between two cars or two apartments in which one was the luxury (promotion) alternative and one was the protection (prevention) alternative, Safer (1998) found that promotion strength was positively and uniquely related to the impact of superior luxury ratings on choice, whereas prevention strength was positively and uniquely related to the impact of superior protection ratings on choice. In another study on purchasing a computer, Safer (1998) found that participants with a stronger promotion focus were uniquely more likely to seek information concerning innovation (promotion) than reliability (prevention), whereas participants with a stronger prevention focus were uniquely more likely to seek information concerning reliability than innovation.

The value from fit postulate was supported in several different ways. There was strong support for the proposition that people with a promotion orientation would be more inclined to use eagerness means than vigilance means, whereas the reverse would be true for people with a prevention orientation. Several studies

were reviewed which found not only evidence for these strategic preferences, but also that these strategic preferences impact on basic decision-making processes, including "risky" and "conservative" (signal detection) biases and generating alternatives in hypothesis testing.

In a recognition memory task in which participants decide whether a word did or did not appear in an earlier list, Crowe and Higgins (1997) found that decision makers in a promotion focus (from framing) preferred to use eagerness means more than vigilance means to make their decision, which produced a "risky" bias, whereas decision makers in a prevention focus preferred to use vigilance means more than eagerness means to make their decision, which produced a "conservative" bias. In another study on generating alternatives, Crowe and Higgins (1997) found that participants in a promotion focus (from framing) were more fluent than participants in a prevention focus in choosing different category dimensions and in listing unique characteristics for different category members (eagerness means). In contrast, prevention focus participants were more repetitive in employing sorting criterion across categories and in using specific descriptive terms or words across category members (vigilance means). Studies by Liberman et al. (in press) examined generating alternatives with respect to hypothesis testing. The task was to guess what the object was in each picture. They found that participants in a promotion focus (chronically or induced by framing) generated more hypotheses about what the object was in each picture than participants in a prevention focus.

The value from fit postulate was also supported by research on prospective and retrospective evaluations of the goodness of a decision. First, decision makers in a promotion versus a prevention focus imagined feeling better about a prospective desirable choice, and decision makers in a prevention versus a promotion focus imagined feeling worse about a prospective undesirable choice.

Moreover, independent of the imagined pleasure or pain from choice outcomes, higher motivational intensity from regulatory fit contributed uniquely to these within-valence effects of imagining feeling better from gain than non-loss and imagining feeling worse from loss than non-gain. Second, after making their decision, participants evaluated their choice more positively when they made promotion success (gain) happen or prevention failure (loss) not happen than when they made prevention success (non-loss) happen or promotion failure (non-gain) not happen. Third, predominant promotion focus individuals assigned a higher price to an object that they had chosen when they used eagerness versus vigilance means to make their decision, whereas predominant prevention focus individuals assigned a higher price when they used vigilance versus eagerness means to make their decision.

The value from proper means postulate was supported by the Higgins et al. (2000) study. This study found that giving reasons for one's decision, which relates to outcome value, had greater impact when it was done post-decisionally than pre-decisionally. In contrast, providing justification for one's decision, which relates to the manner in which a decision is made, had greater impact when it was done pre-decisionally than post-decisionally. These results support the proposal that value from proper means is independent from outcome value and concerns how a decision is made rather than the consequences of a decision.

The results from these different studies illustrate how distinct types of decision value can be created by different relations among basic components of self-regulation. Outcome value, or classic utility, is only one type of value created by self-regulation. Value in this case is increased by the relevance of a goal pursuit outcome to the regulatory orientation of the actor. Relevance is not the only relation among self-regulatory components, however. There are two other relations as well. There is the suitability of means to the regulatory orientation of

the actor, which creates value from fit, and there is the agreement of means with rules or normative principles, which creates value from proper means. Note that both of these additional types of value concern the manner in which a decision is made, to **how** goal pursuit is carried out. Perhaps this is the source of maxims such as, "It is not enough to do good; one must do it the right way", "What counts is not whether you win or lose but how you play the game," and "The ends do not justify the means." It should be emphasized, however, that there are **two** distinct types of value beyond outcome value that involve relations to means— one based on using means that fit the regulatory orientation of the decision maker, and one based on using means that are in agreement with established rules or normative principles. Future research and theory construction need to recognize the distinction between these two types of value that derive from the manner in which a decision is made rather than the consequences of a decision.

This paper has used mostly research on regulatory focus to illustrate the distinction among different types of decision value. Future research needs to examine the general proposal with self-regulatory variables other than regulatory focus. The Higgins et al. (2000) study on justification versus reasons provides one example of such research. As another example, it is possible that providing instructions to engage an activity in a fun way could enhance value when actors have a fun orientation to the task to begin with, but could actually undermine value when actors have a serious orientation to the task.

One of the most important conclusions from our research is that not only is there value from the decision-making process beyond outcome value, but also that this value can be transferred post-decisionally to the chosen alternative. This **value transfer** effect has been demonstrated for both transfer of value from proper means and transfer of value from fit. Outcome value was controlled in both studies by giving participants a choice between two alternative objects, a

coffee mug and a pen, where the coffee mug was clearly superior to the pen and was chosen by almost all of the participants. The Higgins et al. (2000) study found that increasing value from proper means by having decision makers justify their possible choices pre-decisionally increased the assessed price value of the mug that participants subsequently chose. In contrast, thinking of outcome-related reasons for choosing the mug increased assessed price value when it occurred post-decisionally rather than pre-decisionally.

The Higgins and Idson (2000) study investigated transfer of value from fit. It is notable that the assessment of the monetary value of the coffee mug (i.e., the price participants assigned to it) did **not** vary by participants' predominant regulatory focus. It is also notable that the assessment of the monetary value of the coffee mug did **not** vary by the type of means used to make the decision. Thus, the striking differences in the perceived monetary value of the coffee mug, on average about 40% higher in this study, cannot be explained in terms of either outcome value or instrumental means value. Rather, the post-decisional differences in assigned price were due to value from fit.

Outcome value, value from fit, and value from proper means all contribute to people's evaluation of their decision. It is unlikely, however, that people can calibrate the relative contribution of each type of value to their "good" decision. Indeed, people are likely to overestimate the contribution of outcome value because it is more apparent. It is more natural for people to infer that their decision is "good" because of its outcome value than because of some relation between means and regulatory orientation or between means and normative principles. Thus, the contributions of value from fit and value from proper means are likely to be unconsciously transferred to the contribution of outcome value, thereby increasing the perceived worth of the choice. As illustrated in the Higgins

and Idson (2000) and Higgins et al. (2000) studies, this value transfer process can have a major impact on perceived value, including monetary value.

Future research needs to investigate the implications of value transfer. Not only could it influence what consumers are willing to pay for a product, it might also have a major influence on consumer satisfaction. Indeed, our results suggest that the concept of "value to the customer" might need to be revised. It is not only the outcomes of a decision that can have value to a customer. **How** the decision itself was made can have value as well, either because the means are in agreement with established rules or normative principles (value from proper means) or because the means are suitable to the regulatory orientation of the customer at the time of decision making (value from fit). Our results suggest that, independent of outcome value, the perceived monetary value of a product post-decisionally can be increased substantially by allowing customers to make their decision with means that are perceived as "being right" or "feeling right". The object of the decision has greater value because the decision, by "being right" or "feeling right", is experienced as being "good".

There is another implication of the fact that outcome value, value from proper means, and value from fit all contribute to people's evaluation of their decision. When predicting or explaining people's decision making, motivations beyond those related to outcome value need to be considered. Despite there being many different perspectives on how value influences decisions (for reviews, see Abelson & Levi, 1985; Ajzen, 1996; Dawes, 1998), the most influential models all concern outcome value. What differentiates these models is how the objective and psychological value of outcomes are related. Bernoulli (1738/1954), for example, proposed a concave logarithmic function relating the value of money to its objective amount. More recently, Kahneman and Tversky (1979) proposed a concave value function for gains (above the reference point) but a convex value

function for losses (below the reference point). Framing models have also been proposed to relate the objective and psychological value of outcomes (for a recent review, see Thaler, 1999).

The dominance of outcome value models of decision making is evident in accounts of classic decision phenomena in the literature. Two such classic phenomena are the "endowment effect" and "sunk costs". The endowment effect refers to the phenomenon of people being reluctant to exchange an object that they already possess for another object of comparable monetary value (see, for example, Kahneman, Knetsch, and Thaler, 1991). The "sunk costs" effect refers to the phenomenon of people sticking to some previous plan in which they have already invested time or money (that cannot be returned) despite now having an alternative choice whose benefits they prefer and whose costs would be no greater than sticking to the old plan (see, for example, Arkes and Blumer, 1985).

A popular explanation in the literature for both the endowment effect and the sunk costs effect concerns the psychological variable of "loss aversion", which refers to the notion that when a loss and a gain have the same monetary value, the motivation to avoid the loss is stronger than the motivation to approach the gain. The psychological variable of loss aversion, in turn, is often understood in terms of Kahneman and Tversky's (1979) "prospect theory" which proposes that the curve relating psychological value to objective value for loss outcomes is steeper than the curve relating psychological value to objective value for gain outcomes. Giving up an object one already possesses or giving up a plan in which one has already invested would entail a certain loss. From a loss aversion perspective, the motivation to avoid this painful outcome is so great that it overwhelms the motivation to approach a pleasant alternative, even a pleasant alternative that might otherwise have been preferred. This produces both the endowment effect and the sunk costs effect.

Loss aversion as understood in terms of prospect theory provides an outcome value account of the endowment effect and the sunk costs effect. Might value from proper means or value from fit also contribute to these effects? If either of them did, then the size of the effects might vary depending on the contributions of value from proper means or value from fit to the value of the alternative choices. Considering the potential role of regulatory focus in particular, does promotion focus or prevention focus moderate the endowment effect or the sunk costs effect independent of outcome value? Indeed, there is some evidence that regulatory focus moderates each of these effects.

Lieberman, Idson, Camacho, and Higgins (1999) examined how regulatory focus varying as a chronic personality variable and as an experimentally induced variable influenced the endowment effect. In each study the participants were given an object or imagined being given an object as a gift (e.g., a pen) and then they were asked whether they wanted to exchange it for another gift of comparable monetary value. Lieberman et al. predicted that participants' willingness to exchange the object they possessed for the alternative object, i.e., their choice to take or not to take the new alternative, would vary by regulatory focus. According to value from fit, participants in a prevention focus would prefer vigilance means of decision making, and vigilance involves ensuring against errors of commission. This conservative bias of vigilance should make these participants less open to change, thus producing the endowment effect. According to value from fit, participants in a promotion focus would prefer eagerness means of decision making, and eagerness involves ensuring hits. This risky bias of eagerness should make these participants more open to change, thus reducing the endowment effect.

All three studies found that, as predicted, a significant endowment effect was found when participants were in a prevention focus, but **no** endowment effect was

found when participants were in a promotion focus. One of the studies also asked the participants before they made their decision how much they liked the object they had been given as a gift. Regulatory focus was not related to participants' liking of this object. Thus, regulatory focus influenced participants' decision to take or not take the new alternative despite having no influence on participants' liking for the gift object. This finding is consistent with value from fit influencing decision making independent of outcome value.

A couple of recent studies have examined how regulatory focus influences people's decisions in two different versions of sunk costs (see Study 1a and 1b in Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2000). These studies used a new questionnaire, the Regulatory Focus Questionnaire [RFQ] that measures participants' subjective history of promotion success (promotion pride) and subjective history of prevention success (prevention pride). There is little correlation between promotion pride and prevention pride as measured by the RFQ. Eagerness means have value from fit for individuals with promotion pride, and vigilance means have value from fit for individuals with prevention pride.

Higgins et al. (2000) selected two different versions of sunk costs from those described in Arkes and Blumer (1985). One scenario (Arkes & Blumer, 1985, Experiment 1) concerned the cost of making an error of omission (i.e., omitting a "hit"): the error of missing a more enjoyable trip to Wisconsin simply because you already paid more for a trip to Michigan that would take place at the same time. Another scenario (Arkes & Blumer, 1985, Experiment 3, Question 3A) concerned the cost of making an error of commission (i.e., saying "yes" when you should say "no"): the error of wasting additional money on an endeavor with almost no possible benefit just because you have already spent (i.e., wasted) money on it.

Higgins et al. (2000) predicted that regulatory focus would moderate the likelihood of making a sunk costs error, and that the moderation would be different

for the two different versions of sunk costs. On the first scenario where an error of omission would produce the sunk costs effect, the preference for eagerness means of participants with higher promotion pride should make them less likely to show the sunk costs effect than participants lower in promotion pride (with prevention pride having no moderating effect). On the second scenario where an error of commission would produce the sunk costs effect, the preference for vigilance means of participants with higher prevention pride should make them less likely to show the sunk costs effect than participants lower in prevention pride (with promotion pride having no moderating effect). The results of the studies supported both of these predictions.

The findings from the Liberman et al. (1999) studies on the endowment effect and the Higgins et al. (2000) studies on the sunk costs effect demonstrate that decisions are not determined by outcome value alone. Other kinds of decision value can influence choices. This is not to say that outcome value does not contribute to the endowment and sunk costs effects or to decisions in general. I am not suggesting that outcome value should be ignored. I am suggesting that our understanding of the motivational underpinnings of decision making would benefit from increased attention to other kinds of decision value. Given that these other kinds of decision value can contribute to people's well-being (see Higgins, 2000), it is especially important that they receive more attention in future research.

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