MOTIVATED GOAL SETTING AND AFFECT:
EXPECTATIONS AND REALITY

Cecile K. Cho

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ABSTRACT

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People often set low goals in order to avoid future disappointment. This dissertation questions the assumption that future affect can be managed in this manner. This strategy can work only if performance is compared to the initially set goals. We argue that performance potential is instead spontaneously evoked at the time of performance feedback and used as the benchmark instead of goals. Even when goals are met, this comparison results in lower levels of satisfaction and greater disappointment when goals are set low vs. high. When performance falls short of initial goal, the default comparison appears to be to the initial goal, such that the resulting contrast exerts a downward pressure on satisfaction for both high and low goal setters. Contrary to people's assumption, however, satisfaction with achieving one's low goal was not any higher than falling short of one's high expectation, even when objectively, the outcome was superior in the former.

This dissertation holds four main theoretical contributions. First and foremost, it shows that people's intuition about managing their future satisfaction by strategically lowering their expectation and goals at present is misguided, if not counterproductive. Second, it shows that setting low expectation exerts a negative influence on one's satisfaction with the outcome, even when the outcome meets the
expectation. Third, satisfaction with confirmed low expectation exerts a negative influence on satisfaction even when compared to disconfirmed high expectation.

Lastly, the proposed comparison mechanism, whereby expectation is not recruited as a benchmark to evaluate the outcome but rather a higher comparison standard is recruited instead, contributes to the satisfaction literature's conceptualization of multiple comparison standards.
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CHAPTER 1
INTRODUCTION

"The greater danger for most of us lies not in setting our aim too high and falling short, but in setting our aim too low, and achieving our mark."

- Michelangelo (1475-1564)

People often go through life setting themselves low goals and expectations so that they are not disappointed at a later point in time. The question we raise is whether this strategy really works the way that people believe that it should. Setting goals for one’s performance and coming up with ways to achieve these goals is generally an adaptive strategy and can help goal fulfillment (Gollwitzer 1999; Oettingen et al. 2001). The level of goal one chooses to strive for is a function of how much and badly people want, tempered by how much people think they can achieve. Prior research on motivation and goal setting has suggested that people’s setting of goals can be motivated (Atkinson 1957). In consumer research as well, the notion that people strategically lower their expectation to manage their future satisfaction has been demonstrated (Kopalle and Lehmann, 2001; Houston and Monga 2006). Implicit is the notion that people deal with uncertain future outcomes and the possibility of failure by lowering their expectation for either their own performance or the performance of the product they choose (e.g. Norem and Cantor 1986; Jones and Berglas 1978).

Given that consumers exhibit this tendency to anticipate future negative outcomes and cope by managing their expectations (i.e., setting low goals), this
dissertation examines whether this strategy leads to increased satisfaction as anticipated. In this dissertation, we present the results of four experiments examining the accuracy of the lay theory that setting and achieving low goals for oneself or for products insures against future disappointment. We draw on the literature on social comparison and counterfactual thinking to suggest that low-balling on goals (vs. setting high goals) may not maximize future satisfaction even if the goals are met. Contrary to their belief that they can manage their future satisfaction by lowering their expectation, consumers may end up comparing the outcome to a better imagined outcome, that is, to a higher standard of comparison, such as the potential performance. Recruiting a higher standard of comparison would have a negative impact on the overall satisfaction and happiness with the outcome.

Five experiments presented in this dissertation use the domain of financial decision making to demonstrate this unintended and ironical consequence of setting low goals and also find evidence for the posited underlying process. The experiments require consumers to set financial return goals and then construct a stock portfolio based on information about different stocks. Participants then receive feedback about the performance of their portfolio (that their goals have been met) and provide open-ended as well as closed-ended cognitive and affective responses.

The domain of financial decision making was used because the tasks are involving and self-relevant, to the extent that the decision maker himself picks the stocks. The initial target which the decision maker sets as performance level of the stocks then, encompasses his desire for maximum performance, his self-efficacy belief, as well as his perception of how uncertain the performance of the chosen
stocks are likely to be. A routine consumption domain such as groceries would not have been adequate, since what we wish to examine is how consumers behave strategically under uncertain future. This product domain was chosen for the dual reason that it allows for self-relevant feedback as well as uncertainty of outcome.

Results support the hypothesis that low-balling on goals may not be an effective affect management device, despite consumer lay theories of its efficacy. In general, people fail to anticipate that they will not compare outcomes against personally set goals but against potential performance and hence, this low-balling on goals may perpetuate itself among consumers for whom affect management is a paramount concern.

**Organization of the Dissertation**

The dissertation is organized as follows. Chapter 2 provides overviews of the literatures relevant to goal setting from psychology literature, which provides the theoretical overview on antecedents to the behavior of defensive goal setting. Chapter 3 provides the theoretical perspective on whether the defensive goal setting has the beneficial consequence that people expect. This chapter provides an overview of the expectancy-disconfirmation model of satisfaction, which serves as the conceptual model from which the findings of this dissertation departs. Chapters 4, 5, 6, 7 and 8 provide the five experiments which test the accuracy of the beliefs behind the defensive goal-setting behavior and the adverse consequence this behavior on satisfaction. Finally in Chapters 9 and 10, the general contribution of this dissertation, its limitations, and directions for future research are discussed.
CHAPTER 2

GOAL SETTING—A THEORETICAL FRAMEWORK

Goals, a brief summary

The goal construct has been the focus of diverse streams of literatures, most notably in the motivation and organization theories. In essence, goal reflects one’s purpose and refers to quantity, quality, or rate of performance (Locke and Latham 1990). Goal setting involves establishing a goal standard which serves as the objective of one’s actions. While motivating people to exert effort necessary to meet task demands and to persist over time, goals can also direct individuals’ attention to relevant task features, appropriate behaviors to be performed, and affect how people process information (Gollwitzer 1996). The self-regulation theories of goal striving have focused on the question of how people overcome distractions to persevere towards their goal attainment (Gollwitzer and Brandstatter 1997). Having set a goal, one needs to identify, then persist in, the goal-directed actions that will bring her to a successful attainment of the goal. As the phase model of action suggests (Gollwitzer 1990), self-regulation of goal pursuit involve first identifying a goal (goal setting), then successfully striving for this goal (goal striving). Goal effects motivation, learning, and self-efficacy and subsequent self-evaluations of progress (Bandura 1997).

Organizational theory of goal setting. The organizational theory of goal setting suggests that those who set specific and manageable goals attain better
performance than those who set general goals such as “do my best” or “try harder” (Locke and Latham 1990). Specific goals raise performance because they specify the amount of effort required for success and boost self-efficacy by providing a clear standard against which to determine progress (e.g., Bandura 1997). On the other hand, the one exception to the benefits of specific and manageable goal is when the goals are overly easy to accomplish, in which case they are shown to be less effective than general but difficult goals (Locke and Latham, 1990). Locke and Latham have shown that overly easy goals do not motivate, nor do goals that are perceived to be impossible. Goals that are moderately difficult were shown to have the best effects on motivation and self-regulated performance (Locke and Latham 1990).

**Assigned vs. self-set goals.** Whether or not the goal is self-set or assigned could also moderate the backfiring of strategically lowered goals on satisfaction. Researchers have found that allowing individuals to set their goals generally enhance motivation and self-regulation because self-set goals tend to produce higher goal commitment. Legitimacy of assigned goals has also been found to produce strong goal commitment (Locke et al., 1988).

**Intrinsic vs. extrinsic goals.** Goals that are intrinsic in nature, deriving from within the person or from the activity itself, (e.g., self-acceptance, affiliation, enjoyment) positively affects behavior, performance and well being. They are distinguished from goals that are extrinsic, and instrumental towards achieving intrinsic goals (e.g., financial success, appearance, social recognition) which have been claimed to undermine intrinsic motivation (Deci and Ryan 1985). According to self-determination theory, intrinsically motivated behavior is alleged to derive from
and satisfy innate psychological needs, including needs for competence and autonomy (Deci and Ryan 1985). While it would be premature to predict whether defensive goal setting would occur differentially for intrinsic and extrinsic goals, one could argue that the desire to avoid failure could operate equally strongly for both.

**Antecedents of setting low goals**

The consumer satisfaction literature suggests that people are forward-looking and strategically lower their level of expectation in anticipation of the possible worst outcome (Boulding et al. 1993; Kopalle and Lehmann 2001). Recent research on temporally shifting expectation has also shown that people lower their expectations downward as uncertainty and the possibility of a negative outcome looms larger (van Dijk et al. 2003; Houston and Monga 2006).

When are low goals set? Some research has characterized the setting of low goals as an individual difference trait. For example, research by Schwarz and his colleagues (Schwarz et al. 2002) suggests that an individual’s tendency to satisfice is positively correlated with satisfaction, compared to a tendency to maximize, when faced with increasing choice options. They characterize it as a trait, whereby maximizers pursue maximal goals whereas satisficers pursue the minimum necessary. Kopalle and Lehmann (2001) have also demonstrated that the tendency to maintain a low level goal reflects individual differences in levels of disconfirmation sensitivity and perfectionism. It is possible that past disappointment could also make the desire to avoid disappointment salient, leading to setting of low, or easy goals.
Other antecedents to setting of low goals are found in various streams of literature on motivation, anticipated affect, and counterfactual thinking. Classic motivation theory has maintained that a person whose approach motive (to achieve) is stronger than the avoidance motive (to avoid failure) would tend to choose a goal level that is either so easy that he cannot fail, or a goal level that is so difficult that failure would be no cause for self-blame and embarrassment (Atkinson 1957). Similarly, research on regulatory focus suggests that avoidance orientation (prevention focus) is associated with pursuing minimal goals, whereas approach orientation (promotion focus) is associated with pursuing maximal goals (Forster, Higgins and Idson 1998). The motive to avoid failure is associated with the anticipated negative affect that accompanies this failure (McClelland 1953). In the following sections a brief overview of the literatures are provided.

**Antecedents to motivated goal standard—Achievement Motive**

Expectancy-value theory of motivation (Atkinson, 1964; McLelland 1953) assumes that an individual’s choice among achievement-related activities, and how hard one works at achievement tasks, is determined by one’s expectancy of success and the value of this success. It assumes that one’s beliefs about the likelihood of attaining a goal (success at an achievement task) mediates between the perception of the task stimulus and the final achievement-related response. In essence, it holds that what we attempt to accomplish depends upon what we will get and the perceived likelihood of getting it.
Atkinson identifies an individual's goal-directed action as a function of the benefits of achieving and the threat of failure that are both present whenever his ability is put to the test, and when there is some degree of uncertainty about whether he will succeed or fail. The theory asserts that a person's motive to achieve (to approach success and to avoid failure), and his expectation of success in some event, and the value of the outcome strongly influence the character of his motivation, as expressed in the level of aspiration, preference for risk, and the willingness to put effort and persist in an activity.

According to Atkinson, goal setting is characterized as resulting from a conflict situation, in which the hope of success and fear of failure create a tension system which then determine how difficult a goal one sets, along with two other factors: expectancy of success and incentive, or value of success or failure of achieving the goal:

\[
\text{Motive} = f(\text{Motive type} \times \text{Expectancy} \times \text{Incentive Strength})
\]

where, \textit{motive type} is determined by the relative strength of the tendency to approach success versus avoid failure; \textit{expectancy} is the subjective probability of success, and \textit{incentive strength} is the magnitude or intensity of pleasure of success or pain of failure. In choosing from alternatives that differ in difficulty, a person whose accessible motivation is to avoid negative outcome, would choose a goal level that is either so easy that he cannot fail, or a goal level that is so difficult that failure would be no cause for self-blame and embarrassment (defensive goal setting). This reflects the premise that different action tendencies coexist with increasing and decreasing strengths in a dynamic, situation-driven process (c.f. Gollwitzer and Moskowitz).
1996). The coexistence of the competing goals can be inferred from dual processing models literature. Information processing goals such as accuracy maximization and defensive motivational tendencies as examined under dual-processing theories of Heuristic-Systematic model (Chaiken 1980, 1999) also suggest a dynamic process of situationally accessible goals which then influences the level of expectation that one sets.

Expectancy of success. Goal setting and striving necessarily reflects one’s belief in future success and this facilitates subsequent goal commitment and effort that is expended (Locke et al. 1981; Oettingen and Mayer 2002). Expectancies of success increases confidence in the form of self efficacy as well as optimism for a positive outcome (e.g., Bandura and Locke 2003). Expertise and self-esteem, it follows, should be positively correlated with the level of goal or difficulty of task that one chooses to pursue. Those low on self-esteem are likely to be correlated with concern for potential failure, and tend to set their goals low in anticipation of this imagined failure.

Regulatory Focus Theory. Drawing on the regulatory focus theory (Higgins 1997) setting of maximal goals and optimism could also be characterized as behavioral tendencies of promotion orientation, which involves focusing on the attainment of desired future outcomes. Setting of minimal goals, on the other hand, is consistent with the concerns of prevention focus, namely preserving the status quo by avoiding undesirable outcomes. For individuals who are high on prevention focus (but not on promotion focus) vigilance and defensive pessimism would be the
strategy which would facilitate success in keeping current circumstances from getting worse (Norem and Cantor 1986).

**Anticipated emotion**

An important related variable in the motivation to avoid making the wrong choice is anticipated emotion. The psychology research on anticipated emotion suggests that it is anticipated emotion that guides the goal-setting behavior. In what is called the “motivational function of emotions in goal pursuit,” Bagozzi and his colleagues suggest that anticipation of future emotional experiences influences goal-directed behavior (Bagozzi et al. 1999). Similarly, Bettman (1979) has argued that consumers are guided by a “meta-goal” of minimizing negative emotion in making their decisions, under an implicit conflict between two meta-goals involving effort minimization and accuracy maximization (Payne, Bettman, and Johnson 1993).

The existence of competing goals that influence people’s evaluations of their well-beings is found in psychology literature (Schwartz et al. 2002). Specifically, Schwartz et al. suggest that people can be categorized according to their relative tendency to either maximize outcome (optimize) or to satisfice (to meet the minimal threshold of acceptability). Research on regret theory suggests that the tendency to satisfice and to settle on what is “good enough” is often the result of regret aversion (Loomes & Sugden 1982; Simonson 1992; Zeelenberg 1999). Behavioral decisions research has also recognized the influence of anticipated negative emotion as a meta-goal in cognitive processing (Luce, Bettman and Payne 2000).
In the context of consumer decision making, the uncertainty of whether or not one would be satisfied is inherent to the decision making process and the post-purchase (or post-consumption) evaluation of the product. As observed in Kopalle and Lehmann (2001), disconfirmation sensitive individuals were significantly more likely to set low expectation, in comparison to individuals with high perfectionist tendencies. Consistent with the competing motivation of accuracy versus defense motivations on information processing, their findings suggest that people for whom there is a chronic tendency to be perfect are more likely to maximize outcome by setting a higher expectation, while those high in disconfirmation sensitivity set lower expectation. Specifically, they found that perfectionists set higher expectation than non-perfectionists, while people high in disconfirmation-sensitivity set lower expectations than others, presumably due to their defense motivation to avoid the anticipated dissonance should their expectation be negatively disconfirmed.

**Affective forecasting.** The central premise of affective forecasting literature is that people mispredict their future affect. Errors in affective forecasts occur on four dimensions: a) valence of one’s future feelings; b) specific emotions (e.g., anger, fear, sadness, happiness); c) intensity; and d) duration. Termed “impact bias”, people have been found to overestimate the emotional impact of an event or outcome in a wide range of population and domains.

The central premise of the literature is that people are naturally forward-looking and desire to know what would make them happy; however, people’s predictions of what would make them happy or sad and by how much is inherently flawed (Gilbert et al. 1998; Schkade and Kahneman 1997; Wilson et al. 2000).
According to Gilbert, people are prone to “over-predict” their affective experiences with an event. That people tend to over-predict the intensity of disappointment should they fail to achieve their goal is consistent with the behavioral phenomenon that people strategically lower their goal standards in anticipation of the pain of disappointment should failure occur.

*Defensive pessimism and self-handicapping.* The literature on defensive pessimism suggests that anticipation of failure, and the negative affect that accompanies the outcome, often leads people to set lower goals as a defense and motivating mechanism (Norem and Cantor 1986; Sanna 1998). Similarly, according to the self-handicapping research, people are found to limit their own ability to succeed and deliberately impair themselves to avoid risk and maintain their self-esteem (Jones and Berglas 1978). The hallmark of defensive pessimism and self-handicapping is setting low expectations in anticipation of failure, and presumably, concern with the anticipated negative affect drives the expectation setting behavior. In contrast, individuals who are high on optimism and self-efficacy may have an optimism bias which would translate to setting of goal standards that are higher than necessary.

In summary, the level of goal standard can be seen as a function of one’s motivational state which is can be situational or dispositional. Given that people resort to “low-balling” their goals because they believe that doing so will help them to minimize negative affect and avoiding potential failure, the key question is, does this strategy work? In the next section, this question is examined theoretically from the
perspectives of expectancy-disconfirmation framework and comparison standards and processes.
CHAPTER 3

CONSEQUENCES OF MOTIVATED GOAL SETTING ON SATISFACTION

While it has been established that some people in certain situations hold the naïve theory that lowering their expectation will help increase satisfaction, and that they enact this belief in their decisions, no research has directly addressed whether such a strategy actually functions as assumed. This dissertation focuses on the consequence of this forward looking strategy, namely, motivated expectation setting, on affect and satisfaction. More specifically, when people strategically lower their goal standards and successfully meet this lowered goal, are they indeed maximizing their satisfaction? Are they helping themselves to avoid disappointment and optimize their future satisfaction holding outcome performance constant? What is the comparison process that drives their satisfaction? The widely accepted framework of Expectancy-Disconfirmation model of satisfaction would suggest that, confirmation of expectations, or goals, would avert disappointment and lead to satisfaction. However, it is unclear whether this assumption would hold when goal standards are deliberately [or unconsciously] lowered in anticipation of potential failure. While there exist much research in the domain of satisfaction, little research has actually looked at shifting comparison standards that may be recruited at different points of purchase and consumption processes. In the section which follows, a very brief review of the expectancy-disconfirmation model is provided. While there exists a rich stream of research on the topic, an exhaustive review would be outside the scope of
this dissertation which focuses on people’s misguided beliefs regarding managing their future affect by way of setting goal.

**Satisfaction**

Satisfaction is conceptualized as an attitude-like judgment following a purchase act or ased on a series of consumer-product interactions (Yi 1990). According to Oliver (1996), *satisfaction* is defined as the consumer’s fulfillment response—a judgment that a product or performance feature, or the product or service itself, provided a *pleasurable* level of consumption-related fulfillment, including levels of under- or over-fulfillment. The phrase “pleasurable fulfillment” implies that a goal, or a need exists. Thus, fulfillment (and satisfaction) can only be judged with reference to a standard. This standard forms the basis for comparison. Fulfillment, and hence satisfaction judgment, involves two stimuli—i.e. outcome and a comparison standard. Expectation-disconfirmation (ED) model is the prevailing model to conceptualize the how the comparison mechanism operates and satisfaction judgment is reached.

**Expectancy-Disconfirmation Model**

While alternative models of satisfaction focuses on perceived equity and attribution, the consumer satisfaction literature has evolved around the Expectancy-Disconfirmation model, or the “gap” model, whereby satisfaction is a function of the difference between experience and expectation (Oliver 1980; Churchill and
Suprenant, 1982; Boulding et al. 1993; Anderson and Sullivan 1993). A basic representation of the model is as follows:

\[
\text{Satisfaction} = \alpha + \beta(\text{Perf}) + \delta(\text{Perf} - \text{Exp}) + \lambda(\text{Exp}) + \epsilon
\]

or,

\[
\text{Sat} = \alpha + \beta(\text{perf}) + \delta(\text{perf-exp}) + \epsilon
\]

In essence, consumers are believed to form expectations of product performance, which then becomes a standard against which the actual performance is compared. If the actual performance is worse than expected, the comparison results in a negative confirmation; if better than expected, the comparison results in a positive confirmation; and simple confirmation if performance is as expected. ED model is the dominant model within the comparison standard (CS) paradigm’s premise that confirmation of the pre-consumption standard and positive disconfirmation (exceeding expectation) leads to satisfaction, and negatively disconfirmed (below expectation) leads to dissatisfaction.

Comparison standards in satisfaction research. The CS paradigm uses as comparison standards attribute-specific expectations as incorporated in the expectation-disconfirmation (ED) model (Boulding, et al. 1993; Oliver 1996). Attribute-specific desires for the product have also been identified as a comparison standard (Westbrook and Reilly, 1983) within the ED model. Other models use equity expectations as a comparison standard, whereby comparison of the outcome to those of others (consumers) have been proposed as an alternative comparison standard (Oliver and Swan 1989). Experience-based norms derived from personal
experience or information received (Cadotte, Woodruff, and Jenkins 1987) have also been proposed. As Fournier and Mick (1999) point out, little research has looked into the conditions that determine the use of certain standards over others and the possibility of multiple comparison standards, and their concurrent operations in the satisfaction with a few exceptions (Spreng, MacKenzie, and Olshavsky 1996).

Oliver (1996) points out that CS paradigm research have largely focused on cognitive dimensions, without incorporating the affective dimensions of the satisfaction judgment process. The consensus seems to be that research within the CS paradigm has likely underrepresented the emotional aspect of satisfaction and that further study of affective satisfaction mechanisms could “play a promising corrective role” in addressing the limitations of the comparison-standards-based models (Fournier and Mick 1999).

Although satisfaction has been conceptualized in terms of either a single transaction (i.e., an evaluative judgment following the purchase occasion) or a series of interactions with a product over time, Anderson and Fornell (1994) note that nearly all satisfaction research has adopted the former, transaction-specific view (c.f. Fournier and Mick 1999). Several observers have criticized the marketing field for treating satisfaction as a static evaluation derived from a single trial event, noting that comparison standards are likely to change with (during) consumer experience (Iacobucci, Grayson, and Ostrom 1994; Tse and Wilton 1988). In particular, Tse and Wilton point out that satisfaction is not an evaluative state but a process which extends across the entire consumption duration. From the perspective of the CS framework, this implies that comparison standards used in evaluating satisfaction are
pliant and unstable. One possibility is that one’s expectation level used to compare the outcome to shifts in magnitude (e.g. high versus low expectation); another possibility is that one maintains a coexisting set of comparison standards, each of which are recruited over the others differentially depending on the situational variables.

*Multiple comparison standards.* Subsequent satisfaction research has proposed and found support to the idea that expectation in the expectancy-disconfirmation model need not be a single, subjective probability judgment of a product’s performance but can be conceptualized as offering a multiple level of reference point against which to compare the outcome. It recognizes that expectation for a product can fall into a range of expectation levels, comprising a “zone of tolerance” (Zeithaml, Parasuraman and Berry 1988; Woodruff, Cadote, and Jenkins 1983). Boulding and his colleagues (1993) have proposed that there exist two types of expectations: A *should* (i.e. desired or deserved) and a *will* (i.e. predicted) expectations. They found that when the ideal or *should* level of expectations was the referent, satisfaction was lower than when the expected, *will* expectation was used. More recently, Kopalle and Lehmann (2001) have suggested that consumers maintain an even lower expectation level (“as-if”), and use all three levels to strategically manage—i.e avoid disconfirmation—their expectation and increase future satisfaction.

While the notion of multiple standards of comparisons has been recognized, little research has looked at why such multiple comparison levels—i.e. expectation levels—are maintained, and how these comparison standards operate. While
individual differences were proposed as a factor (disconfirmation sensitivity and perfectionism), little is known about the situational factors that presumably drive the strategic usage of one reference standard over another (Kopalle and Lehmann, 2001). For example, it is still unclear whether the "strategic" expectation setting behavior does indeed lead to satisfaction as intended. Specifically, if one sets a "will" expectation at the pre-purchase point, does one correctly retrieve this expectation at the post-purchase point? Is it possible that the expectation levels (reference point) shifts during and after the consumption?

The key criterion that drives a person's affective response to their purchase decision is likely to be the comparison standard that is used to evaluate the outcome. If consumers spontaneously recruit their goals and compare the outcome to the goal, they are likely to experience positive affect and be satisfied as long as the goal has been met. However, if consumers recruit a different standard of comparison than the goal, then performance relative to that standard will drive their affect. Various streams of literature in social psychology including social comparison theory (e.g., Tesser, Millar and Moore 1988) and well-being (Diener 1984), as well as the gap model of satisfaction (e.g., Oliver 1980; Parasuraman, Zeithaml, and Berry 1985) have suggested that comparing one's outcome—performance, outcome, or general happiness—to a higher standard has a negative impact on one's evaluation of the outcome. Hence, if the potential performance, rather than the goal is recruited at the time of performance feedback, affect and satisfaction are likely to suffer when goals (and hence performance) are low relative to the potential.
Single comparison standard—Reference price perspective. Whereas satisfaction research has allowed for multiple comparison standards, the reference price literature has generally assumed a single, internal reference point (e.g. Helson’s Adaptation-level theory, 1964). According to adaptation level theory, a person maintains a constantly updated point of reference which is the result of the pooled effects of present and past experiences and secondary information. Similarly, Assimilation-Contrast Theory (Sherif and Hovland, 1958) conceptualize reference points as an internally maintained range of expected prices, called a “latitude of acceptance,” which defines a range of acceptable prices. When a price falls within this range it is deemed “acceptable”; when a price falls outside the range, the price is contrasted away from what is acceptable, rendering it unacceptable. Subsequent research on reference prices has incorporated Kahneman and Tversky’s (1979) Prospect Theory of reference dependence, loss aversion and diminishing sensitivity (e.g. Hardie et al., 1993).

Counterfactual thinking. The idea that comparing one’s performance outcome to a higher standard negatively affects satisfaction is consistent with the research on counterfactual thinking. The latter suggests that comparing an outcome to a better imagined outcome, or higher comparison standard, incurs an affective cost of lower satisfaction with the actual outcome (Markman et al. 1993; Roese 1997).

Counterfactual thoughts (CFT) refer to people’s reflections of what might have been. Often in the forms of “if only” or “what if,” counterfactual thinking refers to mental simulations of alternative outcomes that people often have in response to events or outcomes. Such thoughts about “what might have been” can occur
spontaneously (Kahneman and Miller, 1986; Sanna and Turley 1996; Roese, 1994) or deliberately (Roese, 1994; Markman et al., 1993). CFT has been shown to affect evaluations, expectancies and causal inferences (Miller and Gunasegaram, 1990; Roese and Olson, 1996; and Wells and Gavanski, 1989), as well as emotions of regret and disappointment (Boninger, Gleicher, and Strathman 1994; Gilovich and Medvec 1995; Landman, 1987, 1995; Zeelenberg et al. 1998).

It is possible that under some conditions, consumers are likely to spontaneously compare their performance to the potential or “what could have been” rather than the goal that they set themselves. Such upward comparison is especially likely when the potential range, rather than the goal, is salient at the time of performance feedback. The notion that people recruit different standards of comparison is found in satisfaction research, which has suggested that comparison standards may change as a result product usage (Tse and Wilton 1988; Fournier and Mick 1999). Shifts in motivational mindset, whether caused by incidental priming or motivated by the wish to avoid negative affect, are likely going to create an incongruity between what one thought would ensure satisfaction and happiness and what one actually experiences. Furthermore, insecurities and the fear of future disappointment are likely to be greater at the time of goal setting compared to performance evaluation, resulting in a hot-cold empathy gap (Hoch and Lowenstein 1991; Metcalfe and Mischel, 1999). From a competing goals perspective, it could also be conceptualized as a differential weighting of competing goals at T1 and T2, such that, one’s concern with minimizing the pain of potential failure is given greater weight at T1, but at T2, the weight is shifted towards maximizing the potential.
Experiment 1 was designed to demonstrate that low-balling on goals does not always ensure satisfaction even when the goal is met. In terms of the gap-model of satisfaction, the level of the goal is important in addition to the difference between the performance and the goal. While this has been acknowledged in the satisfaction literature (Parasuraman et al. 1985; Boulding et al. 1993), the process by which this works has not been understood. In addition, we control for the absolute level of performance in two of our studies and show that it is perceived performance relative to the potential rather than relative to the expectation that drives satisfaction results. Finally, participants in all experiments set a financial return goal and then perform the stock portfolio construction task as a real decision making task. They then receive feedback about their ostensible performance that is matched to their goal level. Our interest lies in reported affect after feedback. Our principle message is that consumers may use the low-balling strategy because they believe it will help them manage their future satisfaction. However, they do not anticipate that they will evoke a different comparison standard (other than their goal) to benchmark their performance against, and hence their affect-management strategy may backfire.

Goal vs. Expectations. For the purpose of this research, terms goal standard is used instead of expectation because we feel that much of the non-routine and high-uncertainty consumption decisions lack knowledge from past experience or secondary sources, as implied by the term expectation. In picking stocks or choosing a surgeon for your LASIK surgery for example, the desire for the maximum outcome (hence setting goal high) is tempered by one’s assessment of the uncertainty of outcome and the motivation to prepare for negative outcome (by lowering one’s goal, or
expectation). The anticipation of failure, be it for one’s grade on an exam or product performance, lowering “expectation” is ubiquitously observed in consumer context. Because one’s ability to choose the product that is satisfying and performs well serves as a self-relevant feedback and affects self-efficacy and perhaps self-esteem, the motivation underlying the lowering of goal standard can be considered to be the same as that for lowering of one’s expectation.

Therefore, we use the term goal standard to refer to goal setting before task, and expectation to refer to goal setting after task. Similarly, goals set under uncertainty of future outcome, and in the absence of expertise and familiarity we refer to as goal standard; this term should be distinguished from expectation, which, as discussed in the prior section on expectancy, is defined as being a function of prior experience and external cues such as brand image or advertising (Oliver 1980; Churchill and Suprenant 1982).
CHAPTER 4
EXPERIMENT 1: ANTECEDENTS AND CONSEQUENCES OF
MOTIVATED GOAL SETTING

Overview

The goals of this study are two-fold: Under what conditions do people set goals low vs. high? Secondly, under what conditions do people use their previously set goal vs. the potential performance as the benchmark for comparison? We manipulate possible antecedents to goal setting rather than relying on participants’ selected goals to prevent self-selection biases. For example, goal low-ballers may tend to be dissatisfied people in general and this would introduce a problem of reverse causality. Our aim is to control for this potential confound as well as third variable problems by manipulating antecedents to goal setting and testing consequences among those who set goals as expected.

Background and hypotheses

One factor that could affect goal-setting is whether participants expect this to be an ongoing task or a one-shot task. This is because anticipating future decisions increases the need for accuracy, and works to prevent unrealistic goals. In addition, if people anticipate future episodes of the same task, the need to improve over time becomes salient (Lowenstein and Prelec 1991; Novemsky and Ratner 2003). This need is more likely to be met if initial goals are set low. This pressure is less likely when the decision is a one-shot deal. We also posit that individuals differ in the extent
to which they harbor affect management concerns. We expect that participants with a high concern for a potential negative outcome (not meeting the target goal) and desire to avoid negative affect such as disappointment and regret are likely to set low goals because of their naïve theory that meeting their goals should prevent negative affect and dissatisfaction. These two factors are also likely to interact, such that those with chronic affect management concerns exhibit the tendency to set low goals regardless of situational cues such as the need to make repeated decisions whereas those with low affect management concerns do so only if they anticipate repeated decision making. Such an interaction effect would be consistent with the literature that has shown interaction effects between chronic and temporary sources of accessibility (see Johar, Moreau and Schwarz 2003). Specifically, when chronic accessibility is high, then priming effects do not obtain because of ceiling effects (Schwarz et al. 1992).

Our second goal is to identify conditions under which potential (rather than goals) is used to evaluate one’s performance. Identification of these moderators can help pin down the mechanism underlying the posited negative consequences of goal low-balling. Our prediction is that people spontaneously recruit potential performance in order to evaluate their own performance. However, if their goals are made salient to them at the time of feedback, they are likely to compare performance against goals. If our hypothesis about the default comparison is correct, then making the performance potential salient at the time of feedback should have no effect; that is, the pattern of satisfaction rating in the performance plus potential condition should resemble that in the performance-only (i.e. default) condition. We manipulate the information present at the time of performance feedback to test our posited process.
Experimental Design

We tested these predictions using a 2 (anticipate repeated decisions vs. anticipate single decision) x 2 (affect management concern: high vs. low) x 3 (salient benchmarks at feedback: performance-only vs. performance-plus-goal vs. performance-plus-potential) between-subjects experiment conducted in financial domain. Affect management concern was a measured variable using three question items which were combined and divided using median split into high vs. low affect-management-concern groups.

Stimuli and Procedure

One-hundred thirty five students participated in the experiment for an $8 incentive. The study was conducted in two separate parts using paper-and-pencil, with a 15 minute filler task in between. In part 1, the respondents were presented with a stock picking scenario in a foreign country (See appendix for procedure sequence). They were asked to:

"Imagine that you are living in a foreign country and need to invest your money. You have an investment budget of $5,400 and want to invest it in the stock market of this country. Given the market condition in this country, at the end of a month, you can expect your portfolio to yield between 6% and 20% in return. As with any investment in a financial market investing in stocks involves risk."
Those in the “anticipate” condition were told “You make investment decisions on the first of every month—that is, you trade on the 1st of each month,” while those in the “no-anticipate” condition were simply asked to pick a target return. They were presented again with the typical range of monthly return as 6% and 20%, and asked to circle the level of return they would be satisfied with from a choice set of possible target returns in percent: 6%, 8%, 10%, 12%, 14%, 16%, 18%, and 20%.

Respondents then rated their agreement with various statements regarding setting goals. The following questions on a 1 (disagree) to 9 (agree) scale were combined to form a measure of affect management concerns (alpha = .70): I chose a performance goal that would reduce my future regret; choosing a low goal is better than choosing a high goal when the outcome is uncertain; setting a low goal or expectation is a good way to prepare for an uncertain outcome; I kept in mind that no achieving the target goal would make me feel unhappy.

Next, they were presented with a list of 20 fictitious stocks along with key information such as P/E ratio, price, ROE, debt-to-equity ratio, EPS (quarter vs. year ago), using the information layout of the eTrade website. They were also given a packet which had additional information on each of the twenty individual stocks. As a measure of effort, participants were asked to write down the time when they started their consideration of the stock information and the time they finished looking at the information. Participants then picked three stocks from the list and allocated their $5,400 budget across them. After a 10-minute filler task, participants were given the second part of the study, and told, “We have calculated the actual return of the stocks you chose and your allocation using actual data for that month.” For believability,
each respondent’s goal was written in by a research assistant during the filler task who ostensibly entered the stock picks and the allocation into the database to get the return performance. All participants were provided feedback such that the performance presented to them matched the goal they had previously selected. For the “performance only feedback” condition, only the performance information was provided at feedback: “Your portfolio has resulted in a return of __%. ” Those in the “performance plus potential at feedback” condition were told: “If you recall, the range of typical return for the stocks in this country is 6% to 20%,” before the performance was presented. Those in the “performance plus goal at feedback” condition were told “You had predicted that you would be satisfied with __% for the past month. Your portfolio has resulted in a return of __%.”

Following the outcome, respondents rated their satisfaction with the outcome on 9-point scales (“How satisfied are you with the performance of your portfolio? ”; “Given the identical set of stocks to choose from, I would make the same choice again.”; “I am pleased with the performance of the stocks I chose”; averaged to form an index of satisfaction, alpha = .82), their satisfaction with their effort (“How happy are you with the information search you conducted”; “Are you satisfied with the amount of information you have searched? ”; averaged to form an index of decision process satisfaction, alpha = .89). They then rated their satisfaction with the goal they set (“How satisfied are you with the performance target you had set in picking the stocks you chose? ”), followed by disappointment with the outcome (“How disappointed are you with the performance of the stocks? ”). Following these
dependent measures, all respondents were asked to write their target performance for the next month.

**Results**

*Antecedents to goal setting.* Regression analysis using anticipation of repeated (vs. single) decision making (dummy coded) and the measure of affect management concerns as independent variables and the chosen goal (i.e., rate of return) as the dependent variable revealed that both variables had the expected effect. Those who expected to make repeated decisions set higher goals than those who did not ($\beta = -.76$, $p<.001$). Also as expected, those with greater (vs. lower) affect management concerns set lower goals ($\beta = -.65$, $p<.001$). The interaction term for the two predictors was also significant as predicted ($\beta = .60$, $p<.05$). To follow up on the significant interaction, affect management concern (split at the median of 5.8) and anticipated future decision-making were submitted to an ANOVA with goal level as DV. Follow-up contrast tests showed that anticipation of future decisions had an impact only within the low affect management group ($M_{\text{anticip}} = 13.61\%$, $M_{\text{noanticip}} = 15.90\%$; $F(1, 131) = 11.49$, $p < .001$). In the high affect management group, goals were set low regardless of anticipation of future decision making ($M_{\text{anticip}} = 12.00\%$, $M_{\text{noanticip}} = 11.88\%$; $F < 1$). This finding is consistent with our prediction (Figure 1).

*Consequences of goal setting on satisfaction.* Analyses were conducted using respondents in the no-anticipate decision making group who set their goals on the high end of the 6% to 20% return scale (> 14%) and those in the anticipated decision making group who set their goals on the low end of the scale (< 14%; $N = 76$). This is
done to limit the analyses to those for whom the “anticipate/no anticipate”
manipulation led to the low (for anticipate) vs. high (no anticipate) goal standards as
intended by the design. Regression with the satisfaction index as the dependent
variable and goal level and information at feedback (performance only vs. goal and
performance) as the independent variables revealed significant main effects of both
factors (goal $\beta = .30, p < .05$; feedback $\beta = 1.55, p < .01$) as well as a significant
interaction effect ($\beta = -1.28, p < .05$). Follow-up ANOVA provided support for the
process explanation that participants do not spontaneously evoke goal as the
comparison standard when they receive feedback on their performance. Comparison
of satisfaction under high vs. low goal within the performance-only feedback
condition revealed that the low-goal group had a significantly lower satisfaction than
the high-goal group ($M_{\text{low}} = 6.53; M_{\text{high}} = 7.73, F(1, 76) = 5.14, p < .05$). However,
when goal was made salient at the time of outcome feedback—i.e., in the goal and
performance condition—the effect of goal disappeared; satisfaction with the outcome
was not different between the low and the high goal groups ($M_{\text{low}} = 7.45; M_{\text{high}} =
7.72, F < 1$) (Figure 2a).*

Regression using the performance-only feedback and the performance- plus-
potential feedback conditions and goal level as the independent variable revealed a
significant main effect of goal ($\beta = .48, p < .0001$), a non-significant effect of

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* Recall that $N=76$ is used to restrict the sample to those for whom the manipulation of “anticipate future
decisions” worked. Results are replicated when the entire sample of $N=135$ is used. Regression with the
satisfaction index as the dependent variable and goal level and the information at feedback as the independent
variables showed significant main effects of both factors (goal level $\beta = .26, p < .05$; info-at-feedback $\beta = .97, p
< .05$) as well as a marginally significant interaction effect ($\beta = .82, p < .06$). A follow-up ANOVA showed
results consistent with the restricted data sample: comparison of satisfaction under high vs. low goal within the
performance-only feedback condition revealed that the low-goal group had a significantly lower satisfaction than
the high-goal group ($M_{\text{low}} = 6.83; M_{\text{high}} = 8.02, F(1, 86) = 8.77, p < .01$). However, when goal was made salient
at the time of outcome feedback—i.e., in the goal-plus-performance condition, satisfaction with the outcome
was not different between the low and the high goal groups ($M_{\text{low}} = 7.44; M_{\text{high}} = 7.83, F < 1$).

N=76

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feedback ($\beta=.03, p>.9$) and as expected, no significant interaction ($\beta=.02, p>.9$). The non-significant interaction supports the hypothesis that potential performance is spontaneously recruited and used as a benchmark in the performance-only feedback condition. Providing the range (i.e. potential) of possible returns resulted in the same pattern of results as not providing any benchmark at feedback; satisfaction was lower for the low-goal group than for the high-goal group.

Contrasting within goal levels, comparisons of low goals in the three feedback conditions revealed that low-goal setters in performance-only condition did not differ significantly from performance-plus-potential condition ($M_{\text{log}_a\text{i}/\text{perf-only}}=6.53$, $M_{\text{log}_a\text{i}/\text{perf-plus-potential}}=6.98$; $F(1, 76)=1.08$, $p=\text{n.s.}$) but differed significantly when goal was provided with the performance ($M_{\text{log}_a\text{i} / \text{perf-only}}=6.53$, $M_{\text{log}_a\text{i} / \text{perf-and-goal}}=7.46$; $F(1, 76)=4.52$, $p<.05$). In contrast, high goals did not differ significantly across the three feedback conditions ($M_{\text{hig}_a\text{i}/\text{perf-only}}=7.73$, $M_{\text{hig}_a\text{i}/\text{perf-plus-potential}}=8.57$, $M_{\text{hig}_a\text{i}/\text{perf-and-goal}}=7.72$).

These results replicated on the disappointment variable. Participants in the performance-only and performance-and-goal conditions were more disappointed when they had set low vs. high goals ($\beta=-.41$, $p<.01$). This effect was qualified by a significant interaction between goal level and feedback (performance only vs. performance and goal; $\beta=1.23$, $p<.05$). Follow-up ANOVA revealed a significant goal effect in the performance-only condition ($M_{\text{log}_a\text{i}}=3.07$, $M_{\text{hig}_a\text{i}}=1.73$; $F(1, 76)=6.55$, $p<.05$) but not in the performance-and-goal condition ($M_{\text{log}_a\text{i}}=2.09$, $M_{\text{hig}_a\text{i}}=2.00$; $F(1, 76)=.02$, n.s.) (Figure 2b).
Effort. One could argue that low goal setters are less satisfied than high goal setters because they feel that they did not expend sufficient effort on the task, and not because of the comparison standard evoked at the time of performance feedback. While the significant interaction effect observed above allays this concern, we also analyzed the decision process satisfaction index to examine this issue. Regression with the decision process satisfaction index as the dependent variable and goal level and feedback (performance only vs. goal and performance) as the independent variables revealed a significant interaction ($\beta = -1.50, p < .05$) and a significant main effect of feedback ($\beta = 1.51, p < .05$). Simple effects tests of goal within performance-only condition was significant ($M_{\text{lowgoal}} = 4.80; M_{\text{highgoal}} = 7.30, F(1, 76) = 9.02, p < .01$), while not significant within the goal and performance condition ($M_{\text{lowgoal}} = 5.33; M_{\text{highgoal}} = 5.91, F(1, 76) = .34, \text{n.s.}$). Participants in the performance-only condition are more satisfied with their search process when they set high vs. low goals. However, making the goal salient at feedback removes this effect, suggesting that perceptions of poor quality of information search or decision process are driven by outcome satisfaction. It does not appear to be the case that low goal setters perceive that they did not search adequately across the board; this only occurs when only performance (or performance plus potential) is provided at feedback. Providing the goal at the time of performance feedback does not instigate processes of decision process recrimination; hence one could argue that counterfactual thoughts about expending greater effort occur only when low outcome satisfaction arises as a result of the comparison standard used. The finding that actual search as indicated by amount of time spent on the task did not differ across goal levels ($M_{\text{lowgoal}} = 6.54 \text{ min.}; M_{\text{highgoal}} =$
6.25 min., F < 1) also helps to rule out the alternative explanation that low goal setters expend less effort and later regret it.

**Perceived goal level.** Regression on satisfaction with the goal level (versus outcome) reveals a similar pattern of results with significant main effects for goal, feedback, and a significant interaction effect (β = -1.05, p<.10). Whereas participants were generally less satisfied with the goal they had set when they had set low goal vs. high (M\(_{\text{goal}}\) = 6.54, M\(_{\text{high}}\) = 6.25; F(1, 49) = 7.32, p<.01), this effect is not found within the performance plus goal feedback condition (M\(_{\text{goal}}\) = 7.32, M\(_{\text{high}}\) = 8.00, n.s.). These results suggest that participants were aware of the goal that they had set. Replicating the decision and decision process satisfaction results, these findings suggest that low goal participants did not consider their goals to be low when they compared the performance to the goal, i.e., in the performance plus goal feedback condition. However, when they compared their performance to the potential, (as in the performance only feedback condition or in the potential plus performance feedback condition), they generated thoughts about the goals they had set as well as their search process.

**Goal at T2.** These effects carry over to influence the goal set for the next period. Recall that participants were free to select any goal in this open-ended task. ANOVA with the level of return selected for the next period as the dependent variable and time 1 goal level and feedback condition as factors reveals a main effect of goal (M\(_{\text{low}}\) = 13.40%, M\(_{\text{high}}\) = 19.14%; F(1,69) = 52.89, p<.001), a main effect of feedback, (M\(_{\text{perf+goal}}\) = 14.67%, M\(_{\text{perf-only}}\) = 16.87%, M\(_{\text{perf+potential}}\) = 17.28%; F(2,69) = 3.97, p<.05) and a marginally significant interaction (F(2, 69) = 2.62, p<.08).
Contrast analyses within the low goal condition reveal that the goals set for the next period are significantly different between the performance-only and the performance plus goal condition ($M_{perf-only} = 14.73\%, M_{perf+goal} = 12.33\%; F(1, 69)=2.66, p<.05$) but not between the performance only and performance-plus-potential condition ($M_{perf-only} = 14.73\%, M_{perf+potential} = 13.12\%, p = .15$). Comparison to a lower standard (i.e., the goal) in the case where the goal is made salient results in setting a lower goal for the next period. These results did not replicate in the high goal condition.

To summarize, based on the parallel findings in the performance-only and performance-plus-range conditions, we argue that consumers spontaneously evoke the potential performance at the time of performance feedback and compare the performance to the potential. The goal is only evoked as the comparison benchmark when it is made salient at the time of performance feedback. The significant interaction between goal level and feedback condition rules out other explanations for the effect. All results are summarized in Table 1.

**Regression analyses**

Given that T1-goal was set using a continuous scale, regression analyses were conducted to test for the relationship between satisfaction and independent factors (T1-goal, satisfaction with effort, disappointment, regret, promotion focus, prevention focus, and defensive pessimism). Result from the multiple regression using the pooled sample is used ($N=135$), with all the predictor variables with satisfaction as dependent variable is presented in Table 1b. The regression model is expressed as follows:
Satisfaction index = intercept + Goal T1\(\chi\) + effort satisfaction \(\chi\) + goal satisfaction \(\chi\) + disappointment \(\chi\) + regret \(\chi\) + promotion focus \(\chi\) + prevention focus \(\chi\) + defensive-pessimism \(\chi\) + \(\varepsilon\)

*Satisfaction as mediator to T2-goal.* Regression was run to test whether satisfaction mediates T2-goal’s relationship with the independent factors (Baron and Kenny, 1986). Of the independent factors analyzed, only promotion was a significant predictor of T2-goal and satisfaction. Satisfaction was found to partially mediate T2-goal’s relationship with promotion focus (Figure 2c).

**Discussion**

Experiment 1 provides support for the main prediction that when goals are set low, the subsequent satisfaction is negatively affected. These results cannot be explained as being a result of self-selection—that is, one could argue that dissatisfied people tend to set goals low and then are dissatisfied even when goals are met. However, the finding that in the performance plus goal feedback condition that participants were as satisfied as high goal setters argues against this interpretation of the results. A potential shortcoming in the study design is that concern for managing future affect was a measured variable, measured immediately following the goal setting task. Having just set a low goal, this may have caused the respondents to respond affirmatively to statements such as “I chose a performance goal that would reduce my future disappointment.” Subsequently in Experiment 3, affect management
concern is manipulated and offers triangulation of the construct and the effect using a less intrusive method.

In sum, Experiment 1 suggests that the strategy of lowering one’s goal to ensure satisfaction does not work. “Low-balling” yourself by setting low goals lead to lower satisfaction (vs. high goal setters) despite the goal being met because of potential being evoked as a benchmark. One shortcoming of Study 1 is that confirmed outcomes are actually higher at an absolute level for high-goal setters versus low-goal setters. In Study 2, we control for this by holding outcome performance constant. Specifically, outcome performance is held constant while perceived level of goal is varied.
CHAPTER 5

EXPERIMENT 2: COUNTERPRODUCTIVE CONSEQUENCE OF LOW-BALLED EXPECTATION CONTROLLING FOR PERFORMANCE

Overview

The purpose of this study was to replicate the finding that setting one’s goal low has the counter-intentional impact of lowering one’s satisfaction, controlling for objective (i.e., the absolute level) outcome. We again used the financial decisions domain, this time increasing the involvement and realism by using an interactive stock search and picking interface. In this experiment, we manipulated goal level by priming approach and avoidance motives. This is in keeping with the idea that one’s goal-setting behavior is not static but a dynamic process as driven by one’s motivational orientation (Atkinson 1957). Consistent with the finding that being under approach or avoidance motivation puts one in outcome maximization or regret minimization mindsets and has a differential effect on goal level (choice of goal levels), we used the two primes to induce high vs. low goal. We also manipulated whether or not the potential performance (i.e., the range) is salient at feedback to test once again whether this comparison standard is spontaneously evoked at the time of performance feedback. As in Experiment 1, we expected a main effect of goal level but no effect of feedback condition (performance only vs. performance plus range) on satisfaction. In this experiment, we provided the goal as well as the range along with performance feedback in one condition and only performance in the other condition. The goal level was provided to allay concerns about lack of recall of one’s goal at the
time of feedback. We expected that the higher standard (the potential) will be used as
the comparison benchmark even if the goal is salient. Because participants were
expected to spontaneously evoke the range when only provided with performance
feedback, satisfaction levels in the two feedback conditions should be similar.

Respondents were told that they have just moved to a foreign country. To
control for actual goal level, the range of stock performance in the avoidance vs.
approach motive primed conditions were different. We expected avoidance primed
participants to pick the lower goal; they were given the potential range as 12% to
25% and asked to pick one of two goals: 16% or 21%. Approach primed participants
were expected to pick the higher goal; they were given the potential range as 7% to
20% and chose between 11% and 16%. Thus low as well as high goals would be set
at 16% return rate (Figure 3a).

**Experimental Design**

One hundred nineteen participants were randomly assigned to one of the cells
in the 2 (prime: approach vs. avoidance) x 2 (feedback: performance-only vs.
performance plus goal and potential) between-subjects design. All tasks were
administered on computer using Medialab software.

**Stimuli and Procedure**

To prime approach and avoidance motivational states, respondents performed
two tasks: an anagram and a proofreading task (see Zhou and Pham 2004). The first
task consisted of solving four anagrams. In the approach condition, respondents were
instructed to “construct the maximum number of words” and “identify more than two thirds of all possible words.” In the avoidance condition, respondents were instructed to “avoid missing any words that can be constructed” and not “miss more than one-third of all possible words.” The second task consisted of proofreading a short article for which the respondents were instructed to “find a maximum number of misspellings,” whereas in the avoidance condition, respondents were instructed to “avoid missing any misspellings.” (Please appendix for procedure sequence.)

In the next phase, respondents were asked to imagine that they have moved to a foreign country and that they were about to invest in the stock market. Respondents were told:

"Imagine you are living in a foreign country and need to invest your money. You have an investment budget and want to invest it in the stock market. We have obtained real data for each of the stocks' performance as of November 1st, 2005 from an investment website. These data will be used to judge your performance, to be provided to you at the end of this study. Imagine that you have $5,400 available and are thinking of investing this money in the stock market of this foreign country. Given the market condition in this country, at the end of a month, you can expect your portfolio to yield between 7% and 20% [12% and 25% for avoidance condition] in return. As with any investment in the financial market, investing in stocks involves risk."

Next, they chose the desired rate of return for the month out of two target returns (16% vs. 21% for the avoidance group and 11% vs. 16% for the approach group). Respondents then performed an interactive stock search on twenty fictitious stocks (interface taken from eTrade.com), after which they allocated their budget among three stocks. On the subsequent screen respondents were told that it is now the first day of the following month and were provided with the actual performance (programmed to equal the target goal the participant had set) of the stock portfolio they put together. For both conditions, revealing of the performance outcome was
preceded by the cover story, “based on our actual database, the computer has calculated that your portfolio has returned ____%.” Participants in the “performance plus goal and potential” condition were provided with the range as well as goal at this point along with their performance; participants in the performance-only condition were given only their performance. Immediately upon performance feedback respondents answered scaled outcome and process satisfaction questions similar to the first study, and checked off their feelings at the time of feedback from a list provided to them.

**Results**

*Antecedents of goal setting.* As predicted, the avoidance prime group predominantly chose the lower of the two goals while the approach prime group predominantly chose the higher of the two goals (chi-sq = 21.82; p < .0001). To control for performance in our analysis, we use only those 85 respondents who picked 16% as their target goal, yielding cell sizes of 45 for low goal (out of 62 avoidance) and 40 for high goal (out of 54 approach) conditions. In the following analyses, low and high goal conditions mirror the “avoid” and “approach” motive manipulations respectively.

Consequence on satisfaction. Outcome satisfaction was measured using the same three items used in Study 1 (alpha = .89). ANOVA of the two factors (expectation level and feedback) on the outcome satisfaction index revealed only the expected significant main effect of goal level ($M_{low} = 6.61$, $M_{high} = 7.49$; $F(1, 81) = \ldots$)

* Analysis using all responses (N=116) with approach and avoid as factor also showed significant main effect of motive on satisfaction ($M_{avoid} = 6.61$, $M_{approach} = 7.49$; $F(1, 112) = 5.27$, p < .05). Disappointment was marginally significant ($M_{avoid} = 2.55$, $M_{approach} = 2.00$; $F(1, 112) = 3.34$, p = .06).
In the performance plus goal and potential condition, outcome satisfaction was significantly lower for the low goal condition ($M_{low} = 6.76$) than for high goal condition ($M_{high} = 7.68$; $F(1, 81) = 5.50$, $p < .02$). Similarly in the performance only feedback condition, satisfaction was lower under low vs. high goal ($M_{low} = 6.44$, $M_{high} = 7.28$; $F(1, 81) = 4.09$, $p < .05$) (Figure 3b).

Analyses of other dependent variables corroborate these results. Participants were more disappointed when they had set a low vs. high goal, regardless of feedback condition ($M_{low} = 2.53$, $M_{high} = 1.93$; $F(1, 81) = 4.37$, $p < .05$). Responses to the question “Would you recommend the same stocks to your friends who may consider investing in the market?” (1-definitely not; 9-definitely) were analyzed and revealed only a significant main effect of goal level with the low-goal group significantly less likely to recommend the same set of stocks compared to the high-goal group ($M_{low} = 5.78$, $M_{high} = 6.73$; $F(1, 81) = 5.31$, $p < .05$).

As in Experiment 1, decision process satisfaction was also lower under low vs. high goals. Respondents who had set a low goal (and had it confirmed) were significantly less satisfied with their information search than those who had a high goal (and had it confirmed with both performance outcomes at 16%; $M_{low} = 5.55$, $M_{high} = 6.54$; $F(1, 81) = 5.29$, $p < .05$). Satisfaction with goal level was also lower under low vs. high goal ($M_{low} = 6.60$, $M_{high} = 7.52$; $F(1, 81) = 6.99$, $p < .01$). Table 2 summarizes these results. To further investigate whether counterfactual thoughts about one’s effort, goal, and outcome are instigated by comparison of performance to a high standard (i.e., potential performance), respondents were asked to place a check next to the counterfactual statements which reflected how they felt.
To the statement, “The portfolio could have performed better,” respondents in the low-goal group (23/45) were more likely to agree than high-goal group (13/40), $z = 1.77, p < .1$), regardless of feedback condition (recall that actual performance was 16% in all conditions). This again suggests that setting of low goal is conducive to comparison of the outcome to a higher imagined level. Agreement with counterfactuals about goal levels (“If I could do it again, I would set a different target.”) were again more likely for the low-goal setters (12/45) than for high-goal setters (3/40; $z = 2.46, p < .05$), regardless of feedback.

**Regression analyses**

Regression analyses were conducted to test for the relationship between satisfaction and independent factors, with T1-goal expressed as a dummy variable (T1-goal, satisfaction with effort, satisfaction with process, satisfaction with goal set at T1, disappointment, regret, expertise, involvement, promotion focus, prevention focus, defensive pessimism and perfectionism). Result from the multiple regressions with all the predictor variables with satisfaction as dependent variable is presented in Table 2b.

**Discussion**

Experiment 2 shows that consumers with avoidance motives may set goals lower than those with approach motives. This is likely to be based on a naïve theory that meeting low goals is likely to result in lower levels of dissatisfaction and disappointment. Results also provide additional evidence that performance outcomes
are compared to potential performance rather than initially set goals and this comparison results in lower levels of satisfaction when performance is on the low end of the potential. Finally, comparison to a higher standard also results in generation of counterfactual thoughts about goal setting and search behavior. While experiments 1 and 2 suggest that counterfactual thoughts about effort are generated subsequent to the performance-potential comparison process, additional evidence of this sequence is desirable. Experiment 3 interferes with the generation of these thoughts by manipulating beliefs about the effort-performance relationship. Experiment 3 also improves on the design of experiment 1 by directly manipulating affect management concerns. Finally, goals are explicitly linked to the range at the time of goal setting in one condition to study whether the salience of potential performance at the time of goal setting has an impact on the comparison standard used.
CHAPTER 6
EXPERIMENT 3: NEGATIVE IMPACT OF LOW-BALLING OF EXPECTATION—COUNTERFACTUALS OR SHIFTING COMPARISON STANDARD?

Overview

Main purpose of the third study was to explore possible mechanisms behind the negative impact of low-balling of expectation on satisfaction. As suggested in the results of the second experiment, two mechanisms appear to be at work: counterfactual thoughts regarding one’s effort, and/or comparison of performance to a higher point of comparison standard, or potential.

To address which of the two competing processes underlies the observed effect of low-balled expectation, we manipulated both beliefs about effort-performance relationship and the salience of relative position of the chosen goal within the range of possible performance. We manipulated beliefs about the effort-outcome relationship to examine whether the generation of counterfactual thoughts about effort is necessary for the observed decrease in satisfaction in the low goal condition vs. high goal condition. Finally, we manipulated the salience of the relative position of one’s goals at the time of goal setting by labeling each of the two choices as “lower than average return” or “higher than average return” in the range salient condition (vs. not labeling them in the low range salience condition).

By explicitly linking the goals with the labels, we aimed to heighten the participant’s sense of having set a goal that is higher or lower than average, and hence
facilitate the upward comparison to the potential, which would then exaggerate or facilitate the downward impact on satisfaction for those who set had set a lower goal (and had this goal met).

Similar to Study 2, we used the scenario of a foreign stock market, and control for outcome by shifting the range that is provided in the disappointment (choose 11 or 16%; range of 7-20%) versus control conditions (choose 6 or 11%; range of 2-15%). We also tested the impact of future affect management concerns directly by priming concern for disappointment. We expected that those in the disappointment-prime condition were more likely to choose low goals compared to those in the control condition.

**Experimental Design**

One hundred twenty three subjects recruited on campus participated in this 2 (disappointment prime) x 2 (belief) x 2 (range salience: salient vs. not-salient) between-subjects experiment and were paid $10 as compensation.

**Stimuli and Procedure**

The procedure was similar to that used in Study 2 with some modifications made to implement the manipulations. (Please appendix for procedure sequence.) In addition, in this experiment respondents set their goal after they performed the search task and allocated their budget across three stocks. Goals set in this way may reflect real-world goal setting where expectations follow one’s performance and reflect beliefs about it. Asking respondents to set their expectation level after performing the
task is also similar to the manner in which expectations have been elicited in prior studies (Kopalle and Lehmann 2001). Participants in the range salient condition chose from two goals, one labeled “lower than average return” and the other labeled “higher than average return.” No labels were used in the range not salient condition.

Disappointment was primed via an ostensibly unrelated comprehension study allegedly given by the English department after participants performed the budget allocation task but before they set their goals. Under the cover story that the reading task tests for “understanding passages that are not related to their ongoing, current task,” the reading task is administered right after the stock picking task, but before the goal setting task. Those in the disappointment condition read a short essay about the importance of reducing potential disappointment for one’s well being, while those in control condition read a similar-length essay about the importance of experiencing enjoyment. In keeping with the cover story, participants answered some questions about the passage.

Next, at feedback, the belief (no belief) condition participants were told “we have found that there is a strong relationship (no relationship) between the amount of time spent on the stock selection task and performance of your stock portfolio.” To control for perceived effort, all respondents were also told: “The computer has calculated that you spent an average amount of time selecting stocks, that is, you spent the same amount of time as the average participant in this study.” Respondents were then provided with the return percentage of their stock portfolio, again matched to their initial goal (plus .04% for realism). Outcome satisfaction measures as well as affect and process satisfaction were then collected.
Results

Antecedents to goal setting. As predicted, respondents in the disappointment prime condition were significantly more likely to choose the lower of the two goals while those in the control condition were more likely to choose the higher goal (note that both goals are 11%; Pearson’s chi-sq = 21.18, p < .001). In the disappointment prime condition, 44 out of 61 respondents chose their low goal of 11%, and in the control condition 43 out of 62 chose their high goal of 11%. To control for absolute level of performance, we use only the responses of 87 respondents whose goal setting behavior reflected their prime condition in our analyses.*

Consequence on satisfaction. The outcome satisfaction index (alpha = .84) was analyzed using the complete 2 (goal: high vs. low) x 2 (belief vs. no belief) x 2 (range salience: salient vs. not-salient) design. A 2 x 2 x 2 between subjects ANOVA run revealed that, consistent with Studies 1 and 2, revealed a strong main effect of goal on outcome satisfaction in the predicted direction. The low goal group had a significantly lower satisfaction than the high-goal group (M_{low} = 6.08, M_{high} = 6.99; F(1, 79) = 12.70, p<.001).

Potential Range salience. A significant two-way interaction between goal and range salience was also obtained (F(1, 79) = 4.33, p < .05). Simple effect tests show that the effect of goal level was significant within the potential-salient condition only (M_{low} = 5.97, M_{high} = 7.42; F(1, 79) = 15.72, p<.001), where goal choices were supplanted with the description “above average” for high goal and “below average” for low goal. In the potential-not-salient condition this goal effect was not

*Analysis using all data with disappointment prime condition as a factor yielded a significant main effect of prime (M_{disapp} = 6.20, M_{high} = 6.81; F(1, 115) = 5.50, p<.05)
observed ($M_{\text{goal}} = 6.17$, $M_{\text{higoal}} = 6.57$; $F(1, 79) = 1.18$, $p=\text{n.s.}$). Contrasting within goal levels, low-goal setters did not differ in their satisfaction regardless of whether potential was salient or not ($M_{\text{goal/potential-salient}} = 5.97$, $M_{\text{goal/potential-not-salient}} = 6.17$; $F(1, 83)=.42$, $p=\text{n.s.}$). High-goal setters did exhibit differential satisfaction rating, consistent with the prediction that having the potential as the benchmark would amplify the effect of relatively superior performance outcome ($M_{\text{higoal/potential-salient}} = 7.42$, $M_{\text{higoal/potential-not-salient}} = 6.57$; $F(1, 83)= 5.46$, $p= .02$).

That the goal effect goes away in the potential-not-salient condition is somewhat at odds with the findings from Experiment 2, where the targets were also not labeled, but the negative effect of low-goal held (Figure 4a). One explanation for this is that in Experiment 3, goal-setting task was done after the stock-picking task (vs. before, in Experiment 2). This would imply that the target expectation that one holds is well-formed and hence more salient at feedback, subsequently serving as the comparison standard. Upon the confirmed outcome feedback, then, the relative strength of the initial target (vis-à-vis potential) would serve to drive satisfaction judgment, hence driving away the negative influence of low-balling.

Belief in effort-performance relationship. A 2x2 between-subject ANOVA of goal level and belief showed a strong main effect of goal level, with no other significant effect. The simple effect of goal within the no-belief in effort-performance relationship condition was significant ($M_{\text{goal}} = 5.77$, $M_{\text{higoal}} = 7.16$; $F(1, 75) = 14.32$, $p < .0001$), suggesting that counterfactual thoughts about effort are not necessary for the goal level-satisfaction relationship. Recall that one of the main

* Five from belief and three from no-belief conditions whose involvement rating was in the 5th percentile ("not at all interested") for their responses to two involvement measure were removed from analysis (N=79).
purposes of this study was to prevent people from having counterfactuals or regrets about their effort levels. Respondents in the no-belief condition were told, right before the feedback, that there is “no relationship between the amount of time spent on the stock selection task and performance of your stock portfolio.” That the low-goal group was still significantly less satisfied with the identical level of performance of their portfolio suggests that counterfactual thoughts are not necessary for the negative low-balling effect to take place; rather, it lends further support to the spontaneous evoking of a higher comparison standard as the process which facilitates the observed effect on satisfaction. Within the belief in effort-performance relationship condition as well, the effect of goal was marginally significant (M lowgoal = 6.21, M highgoal = 6.94; F(1,75)=3.26, p=.07). Comparing within goal levels, low goal condition did not differ across the belief conditions (F(1, 75)=1.16, n.s.), nor did high goal setters across the belief conditions (F(1,75)=.32, n.s.) (Figure 4b).

It is not clear why the effect attenuates in the belief condition, since belief that one’s effort bears on the actual performance would presumably encourage counterfactual thoughts within the low-goal setters. A post-hoc speculation is that, and consistent with our manipulation, in which participants are told they spent the average amount of time as the rest of the participants, participants worked as hard as the average person in the study and this may have forestalled any comparison with an objective standard such as the potential.

A similar pattern of results was found on the recommendation dependent variable. The main effect of goal was significant (F(1, 75) = 12.64, p<.001) such that low-goal setters were much less likely to recommend the stocks to others (M lowgoal =
The interaction between goal and range salience was also significant ($F(1, 75) = 8.33, p < .01$). Simple effect of goal was significant within the range-salient condition ($M_{\text{goal}} = 4.24, M_{\text{high}} = 6.71; F(1, 75) = 20.47, p < .001$), but not within the range-not-salient condition ($M_{\text{goal}} = 5.74, M_{\text{high}} = 5.99; F < 1$). Two-way interaction between goal level and belief was marginally significant ($F(1, 75) = 3.76, p = .06$). Simple effect tests reveal that goal level was a significant predictor of recommendation within the no-belief condition ($M_{\text{goal}} = 4.74, M_{\text{high}} = 6.84; F(1, 75) = 16.02, p < .001$) but not in the belief condition ($M_{\text{goal}} = 5.24, M_{\text{high}} = 5.86; \text{n.s.}$). Table 3 provides a summary of the results.

**Regression analysis**

Regression analyses were again conducted to test for the relationship between satisfaction and independent factors, with T1-goal expressed as a dummy variable (T1-goal, satisfaction with effort, satisfaction with process, satisfaction with goal set at T1, disappointment, regret, involvement, promotion focus, prevention focus and defensive pessimism). Result from the multiple regressions with all the predictor variables with satisfaction as dependent variable is presented in Table 3b.

**Discussion**

In this study, we directly tested for the premise that people set low expectation when their concern for potential negative affect is heightened. We also examined the impact of range salience, counterfactual thoughts to account for potential process mechanisms that underlie the observed impact of the low-balling strategy. Results
suggest that the negative impact of low-balling on one’s future performance may be driven by the fact that, contrary to the implicit belief that the lowered expectation will be used as a point of comparison, one ends up comparing the outcome to a higher standard, i.e., to the potential.
CHAPTER 7

EXPERIMENT 4: COMPARING CONFIRMED LOW GOAL STANDARD TO DISCONFIRMED HIGH GOAL STANDARD

Overview

While the earlier studies examined the process mechanisms of the negative impact of the low-balling strategy using confirmed goals only, we now address what happens when the low-balled goals are disconfirmed. This is important since people resort to the low-balling strategy with the assumption that, 1) doing so will decrease the likelihood of being negatively disconfirmed and; 2) setting lower goals, when confirmed, will lead to greater satisfaction than when absent of this strategy (i.e. setting higher goals and having it disconfirmed). As suggested in what one of the respondents wrote: "I chose the lower level because I don't want to be disappointed with higher expectations of the higher level," many who resort to this strategy do so with the implicit belief that setting a high level of goal and having it disconfirmed (as result of the higher likelihood of disconfirmation as compared with low goal) would be more averse than setting a lower goal and having it confirmed.

Experimental Design

To test whether confirmed low goal does indeed lead to greater satisfaction than disconfirmed high goal, we used a similar set up using financial decision making task, but added a disconfirmed condition, with two levels of negative disconfirmation. The study used a 2 (motive: approach vs. avoidance) x 3 (confirmed vs.
disconfirmed-1 vs. disconfirmed-2) x 3 (information at feedback: performance-only vs. performance-plus-goal vs. performance-plus-potential) between-subject design. Disconfirmation was administered on two levels: Respondents were provided with a return figure which fell short of their initially chosen goal by either 2% (disconfirmed-1: 10.04%) or 4% (disconfirmed-2: 8.04%). The online interface allowed us to provide the return rate contingent upon the respondents’ earlier responses for the expected return of their portfolio. Should the negative impact of low-balling strategy still hold when compared to negatively disconfirmed high goal, i.e., when performance falls short of initial goal, it would lend greater validity to the proposed dysfunctionality of people’s belief that lowering goal helps to guard against disappointment and hence leads to higher satisfaction.

Stimuli and Procedure

The procedure was similar to the one used in Study 2 with simple modifications of the feedback values to implement disconfirmed goals at performance feedback. Similar to Experiments 2 and 3, confirmed groups were provided with performance figure that matched their initial goal (plus .04%). For the disconfirmed goal groups, two levels of performances were provided: 10.04% (“low”) and 8.04% (“lowest”). (Please appendix for procedure sequence.)

Unlike previous three studies whose participants were recruited on campus, participants in this online study were recruited from a much larger pool between the age of 18 and 65, through Columbia’s vLab panel, and lend additional validity to the results. A total of 326 participants received $7 for participation in the study. Of these,
264 respondents chose as predicted by the primed conditions (chi-sq = 104.20, p<.001). Within the approach condition, 135 of the 172 participants chose high goal (12% vs. 8%), and within avoid condition, 129 of the 153 participants chose low goal (12% vs. 16%). Again, to control for performance, only those who chose 12% were chosen for analysis (leading to N=264). As with Study 2, the goal factor is now the new factor which is the subset of the approach and avoidance motive factor in the original design.*

Results

Confirmed low vs. disconfirmed high goals. Recall that the main purpose of this experiment is to compare satisfaction when low goal is confirmed vs. having high goal disconfirmed. That is, to address the main question of whether confirmed low-balled goal leads to greater satisfaction than disconfirmed goal (and in absence of the low-balling), a 2 (goal: high vs. low) x 3 (confirmed vs. disconfirmed-1 vs. disconfirmed-2) ANOVA was performed. Results were quite instructive. Those in the confirmed low goal group (chose lower goal at 12% and performance was 12.04%: Mlow-exp-conf=6.56) were not any more satisfied with the performance than those in the disconfirmed high goal condition (chose higher goal at 12% and return performance was 10.04%: Mhi-exp-disconf=6.62; n.s.). According to people’s intuition about lowering of goal, setting one’s goal too high and falling short of this goal should be more

* Analysis of all data with factors motive, feedback and information at feedback also replicates previous studies with a main effect of motive (Mavoid-conf = 5.94, Mapproach-conf = 6.33, F(1,308)=11.14, p<.05). There were also a significant main effect of information at feedback (Mperf = 6.35, Mperf+exp = 6.32, Mperf+post = 5.74, F(2,308)=4.30, p<.05), and feedback (Mconfirmed = 7.14, Mlow-10% = 6.23, Mlowest-8% = 4.97, F(2,308)=47.20, p<.0001). Motive by feedback interaction was also replicated: F(2,308)=3.34, p<.05).
aversive and should lead to lower satisfaction than "managing" it downward and having it confirmed. This result directly contradicts this lay belief (Figure 5a).

Standard expectancy-disconfirmation theory would also predict that disconfirmation would have a detrimental effect on satisfaction with a given outcome, compared to confirmation of goal. That the objective performance was worse in the disconfirmed condition compared to the confirmed (10.04% vs. 12.04%) makes for a more conservative test of the adverse consequence of the low-balling strategy.

Information at feedback. Recall that in Experiment 1, varying the information provided at feedback allowed for an examination of what is the comparison standard that is recruited when one's performance feedback is given. It was observed that the negative impact of setting low goals observed in the default state (i.e. performance only condition) was replicated when potential, i.e. higher performance, was made salient, whereas this effect was attenuated when goal was reminded along with the performance. Replicating earlier studies, within confirmed conditions, the lowballers were again less satisfied with their 12.04% performance ($M_{lo-exp-conf} = 6.53$) than those who obtained 12.04% return without resorting to this strategy ($M_{hi-exp-conf} = 7.84; F(1,172) = 12.07, p<.001$). Within each of the three conditions of information at feedback, the mean satisfaction rating of confirmed low goal was not significantly higher than a disconfirmed high goal. In fact, directionally, the disconfirmed high goal had a higher satisfaction rating than confirmed low goal: This was the case when just the performance was provided at feedback ($M_{lo-exp-conf} = 6.31; M_{hi-exp-disconf}$

* With the exception of Experiment 3’s potential-not-salient condition, in which the task of setting expectation was performed after the stock search and picking task and did not yield the satisfaction differential observed elsewhere.
= 6.98) or when performance and potential were provided at feedback (M_{lo-exp-conf} = 5.87; M_{hi-exp-disconf} = 6.08).

When performance was provided along with the respondent’s goal however, this directionality was no longer held (M_{lo-exp-conf} = 7.27; M_{hi-exp-conf} = 6.97). We speculate that the negative impact of low-balling strategy is attenuated when goal is provided as a reminder, consistent with the results of Experiment 1 (Figure 5b).

Simple comparisons of means for high vs. low goals within each of the three information-at-feedback conditions suggest that when confirmed, the default level of comparison recruited at performance feedback is the potential. In all three conditions, mean satisfaction for the confirmed low goal was lower than confirmed high goal, controlling for objective performance of 12.04% (See Table 4).

Within the two levels of disconfirmed groups (goal = 12%; performance = 10% or 8%), however, there was no significant difference between the high and low goals, but a main effect of disconfirmation driving the mean satisfaction downward. One possible conclusion is that when low-balled goal is confirmed, the spontaneous comparison standard used is the performance, i.e., the higher level of comparison; when disconfirmed, however, the default comparison is to one’s goal.

For disappointment, the results nicely mirror the satisfaction result, whereby those in the “low” negative disconfirmation feedback condition (i.e., set goal at 12% and obtain 10.04%) reported significantly higher disappointment if they had set low goal than if they had set high goal (M_{lo-exp-low} = 4.07; M_{hi-exp-low} = 2.84). This was also the case within confirmed condition (i.e., set goal at 12% and obtain 12.04%), with
those who low-balled their goal were more disappointed ($M_{\text{lo-exp-conf}} = 3.35$; $M_{\text{hi-exp-conf}} = 2.12$) (Figure 5d).

There was an interaction between goal (both high and low: 12%) and feedback (confirmed = 12.04%; low = 10.04%; lowest = 8.04%), whereby the low-goal group was more disappointed with their performance for both the confirmed and the low-disconfirmed feedback, but this difference went away under the lowest-disconfirmed condition ($F(2,245) = 3.40; p<.05$). It appears that under the lowest-disconfirmed condition, those in the high goal group recruited their initial goal (12%) to contrast the performance result (8.04%), while under the low-disconfirmed condition (10.04%), they compared the performance to the potential; consistent with this account would be that the relatively high position of this performance within the range evoked helps to suppress the disappointment with the performance.
CHAPTER 8

EXPERIMENT 5: CORRECTING THE LOW-BALLING OF GOALS

Overview

Experiments 1, 2, 3 and 4 were used to demonstrate the erroneous lay belief that setting goal standards lower will help to increase future satisfaction and decrease potential disappointment. Given that people are “shooting themselves in the foot” by doing so, it would be worthwhile to examine whether people’s low-balling strategy can be effectively influenced, or “corrected”. More specifically, can informing people of the lability of future affect, and hence the futility of trying to manage it, prevent them from resorting to the low-balling strategy? The purpose of Experiment 5 was to examine these questions with level of goals chosen as the main point of interest. An additional purpose of this study was to test whether individual differences such as regulatory focus (promotion or prevention), optimism-pessimism, perfectionism, and disconfirmation sensitivity plays a role in goal-setting behavior, and whether those who are high on traits that are correlated with the low-balling strategy can be effectively influenced away from setting their goals low.

Experimental Design

Responses from eighty participants recruited on campus were collected using a 2 (prime: corrective vs. disappointment) x 2 (dispositional trait measures of regulatory foci, optimism-pessimism, perfectionism, disconfirmation sensitivity: high
vs. low) between subjects design. All participants were told that they would perform several unrelated tasks, consisting of reading comprehension, stock-picking study, followed by a battery of personality questionnaires.

**Stimuli and Procedure**

The procedure was identical to the earlier online studies, except that in this study, the main dependent measure was the level of goals chosen. As such, respondents did not actually execute this task, although they were led to believe that the study would entail an actual stock-picking task, as suggested in the scenario [identical as scenario in experiments 1, 2, 3 and 4].

Respondents in the corrective condition read an article in a popular psychology magazine describing research by Gilbert and his colleagues on how unreliable goals and forecasted feelings can be. Those in the disappointment condition read an article about the importance of avoiding disappointment to succeed in life (See appendix 9). Next they read the stock-picking scenario and choose from a set of eight possible levels of returns (4%, 6%, 8%, 10%, 12%, 14%, 16% and 18%), where the range of average return provided was “between 4 and 18 percent.” Respondents then answered set of personality questionnaires designed to measure their chronic tendency to low-ball their goals; these responses were split into high vs. low at median and used as the second factor. Specifically, scales of Regulatory Focus Questionnaire (RFQ; Higgins et al. 2001), optimism-pessimism (Scheier, Carver and Bridges, 1994), perfectionism (Hewitt and Flett 1991), and disconfirmation sensitivity

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* Five from disappointment and seven responses form corrective conditions were excluded from analysis due to hypothesis guessing, leading to N=68.
(adapted from Kopalle and Lehman 2001) were used to explore potential trait variables that may influence goal setting. RFQ was administered using a 5-point (1-never or seldom; 5-very often) scale, while the rest of trait questionnaires used a 7-point (1-not at all true of me; 7-very true of me) scale.

**Results**

Levels of goals chosen were analyzed in a regression, with prime type (corrective vs. disappointment), trait differences and interaction as independent variables.* Priming task (corrective vs. disappointment concern) was marginally significant predictor of goal setting (β = 2.25, p=.08), while prevention focus was marginally significant a predictor of goal setting (β = -.55, p=.13). There was a significant interaction for the two factors (β = -.81, p<.05). As follow-up a 2(prime type: corrective vs. disappointment concern) x 2(prevention focus: high vs. low) ANOVA was run, with the prevention index split at the median of 3.4, and goal level as the dependent variable. There was a significant interaction of the two factors (F(1, 76)=3.02, p<.05), along with a marginal main effect of prevention focus (Mhigh-prev=10.67; Mlow-prev=11.66, F(1, 76)= 2.88, p=.08). Main point of interest would be whether the corrective priming task effectively prevented those who are likely to lowball their goals—i.e. high prevention individuals—from doing so. A comparison of means revealed that the high prevention group under corrective prime set their goals significantly higher (M=12.00%) than under disappointment prime (M=9.33%, F(1,76)=9.48, p<.01). In comparison, those in the low-prevention group did not differ

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* Cronbach’s alpha for trait variables were as follows: promotion (0.842; 6-item), prevention (0.836; 5-item), optimism (0.484; 3-item), pessimism (0.723; 3-item), perfectionism (0.876; 7-item), disconfirmation sensitivity (0.663; 3-item).
in the level of goals ($M_{\text{disapp}}=11.75; M_{\text{correct}}=11.58$, $F(1, 76)=.05$, n.s.). Notably, the high-prevention group under the corrective prime set goals that were not significantly different from the low-prevention group, suggesting that dispositional tendency to lowball on goals may be “corrected.”

**Correlates of Goal Setting: Individual Differences**

In all of the experiments, the main approach of analyses was to situationally vary the antecedent to goal setting. Another meaningful analysis would be to see whether individual differences may influence people’s propensity for defensive goal setting, and whether the more stable trait in goal setting behavior may influence satisfaction and disappointment differentially. Similar to study five, individual differences in regulatory foci, optimism-pessimism, defensive pessimism, perfectionism, and disconfirmation sensitivity and were collected in experiments one, two and three.

Experiment 1. Recall that in this study, respondents set their goal on a continuous range of eight target returns (6%, 8%, 10%, 12%, 14%, 16%, 18% and 20%). Regressing goal level to the trait differences individually revealed promotion to be a positive predictor of goal level ($\beta=2.45$, $p<.001$). One-way ANOVA performed with high vs. low promotion-focus (using median of 14 as midpoint) as predictor of goal level showed a significant effect of promotion focus on goal levels chosen ($M_{\text{lo-promo}}=12.81$, $M_{\text{hi-promo}}=14.55$; $F(1, 133)=8.98$, $p<.01$). The positive beta coefficient of promotion suggests that those high in promotion focus tend to set higher goals, and less likely to resort to low-balling strategy—a reasonable conclusion given that
promotion focus has been associated with greater tolerance for risk, and in this case, target level of stock performance. No other trait variables were significant predictors of goal setting. It is noted that prevention was not a significant predictor of the low-balking strategy.

Experiments 2 and 3. In Experiment 2 participants set their goals from a binary choice of target returns: 11 vs. 16%, or 16 or 21%. Out of the total pool of respondents (N=134) only prevention focus was marginally predictive of the goals chosen (Chi-sq: 2.39, p=.08). As predicted, respondents high on prevention focus were more likely to choose the low goal (either 11 or 16%) than the high goal (either 16 or 21%). For Experiment 3, chi-square tests of the goals chosen rendered none of the four individual trait measures as significant predictors. It is possible that the binary measure of goal was not sensitive to the trait measures tested, compared to continuous scale measures of goal levels which were used in experiments 1 and 5.

Open-ended Thoughts

Open-ended thoughts were collected and coded for their content for the first four experiments. Each discrete thought was coded on whether they regret their initial goal, counterfactual thoughts about level of goal they set, counterfactuals about whether the outcome could have been higher or lower, and whether they should have expended more or less effort, references to range and potential, positive and negative affect, and general market conditions. Analysis was conducted using chi-square tests for frequency of each coded thoughts. Thoughts did not differ significantly across
these dimensions. It is suspected that the manner in which thoughts were elicited was not sensitive enough to capture the different thought processes across condition.
CHAPTER 9

GENERAL DISCUSSION

Results from four experiments support the general hypothesis that people are not very good managers of their future affective states, with the fifth experiment suggesting ways to correct for the mis-management. Consumers appear to hold the lay theory that they will be satisfied if they set low goals and these goals are met. Yet, results reveal that the initially set low goal is not spontaneously used as a benchmark for comparing the performance standard. Potential performance is evoked and used to compare actual performance, resulting in lower satisfaction and greater disappointment when goals are set low (vs. high) and confirmed. However, if the goal is made salient at the time of performance feedback (Experiment 1), or if goals are set after the decision task (Experiment 3), the anticipated salutary effects of low goal setting are observed; satisfaction is similar in the low and high goal conditions. What is also noteworthy about these findings is that satisfaction with one’s performance makes one complacent and leads to renewed setting of low goals for the next period. This finding raises the question of functionality—dissatisfaction and disappointment with one’s performance as a result of comparison to a higher potential appears to be functional in that thought of the possible makes one try harder (at least set higher goals) for the next period.

Experiment 2 suggested that comparison to a higher standard instigates counterfactual thoughts about one’s own effort and decision making process. Although one could argue that this is accurate self-reflection because higher goals do
lead to higher effort levels (Deci and Ryan 1985), actual effort did not differ as a result of goal in these experiments. Experiment 3 was designed to test whether these counterfactual thoughts are necessary in order for the effect of goal level on satisfaction to obtain. It appears that simply comparing one’s performance to a higher potential results in negative affect such as disappointment and dissatisfaction without the necessity of counterfactual thoughts about one’s efforts. In Experiment 4, we found that people who had low-balled their goal and successfully achieved this lowered goal were less satisfied than those who didn’t resort to this strategy and fell short on their goal (fell short by 2%). When the failure to meet goals were pronounced (fell short by 4%), this effect did not hold, suggesting that the negative impact of disconfirmation outweighs the effect of low-balling of goals and leads to dissatisfaction for both the low and high goal setters.

This research ties in with the research on affective forecasting which suggests that people are poor predictors of their future affective states (e.g. Gilbert and Wilson 2000; Wilson and Gilbert 2003). Gilbert and his colleagues find that in general, people exaggerate future affect when in fact affect felt will be much lower in intensity, shorter in duration or not felt at all. Recent research has found that such affective misforecasting occurs in consumer domains such as functional (hiking boots and business suits) and hedonic goods (movies and foot massager) and affects satisfaction Patrick, MacInnis and Park 2007). Our findings add to this literature by showing that people not only mis-predict future affective states but also mis-manage them.
The main contribution of this dissertation is in shedding light on the mechanism that underlies the effect of suppressed satisfaction when low goals are met. We find consistent evidence that people spontaneously evoke potential performance rather than the goal at the time of performance feedback as a benchmark for comparison. This finding also has implications for the standard expectancy-disconfirmation model of satisfaction. Contrary to the model's prediction that confirmation of goal should be superior in satisfaction to negative disconfirmation of goal, our finding suggests that this may not hold if one strategically lowers one's goal. By holding performance level constant in three of the four studies, we ruled out the possibility that performance is the driver of satisfaction, and suggest that goal, let alone motivated goal, is a key driver of satisfaction over and beyond performance.

Our main finding that setting low goal still leads to disappointment and suppresses satisfaction despite the goal being met could be moderated by whether a person has a *performance* goals (in which individuals are concerned with gaining favorable judgments of their competence) or *learning* goals (in which individuals are concerned with increasing their competence, (Dweck and Leggett, 1988). A person who has a learning goal should feel less disappointed when the outcome of an unfamiliar task is perceived to be sub par against a higher comparison standard. This is so presumably because the mediocre gain is a starting point to improve upon. In contrast, having a performance goal orientation should exacerbate one's disappointment when an outcome that is perceived to fall on the lower end of the range of possible outcomes.
Perceived control and expertise. Another potential moderator is expertise and perceived control. Would satisfaction have suffered if a low-baller felt he had control over the outcome and had his low goal standard confirmed? Expertise would moderate the effect, since those who consider themselves experts would feel even worse about having short-changed themselves by lowering their goals and presumably expending effort that was commensurate with the outcome. Those who consider themselves novices, on the other hand, would probably attribute the low performance to their lack of knowledge or ability and be less susceptible to the compromised satisfaction. It is notable that for the experiments discussed earlier, participants were generally inexperienced with picking stocks, yet still felt that their effort had an impact on their low performance, as evidenced by the counterfactual thought measure.

Task difficulty and desirability of outcome. A different view on the findings in this dissertation is offered by Brehm’s energization theory (e.g. Brehm and Self, 1989) which posits that desirability of outcomes is a function of the difficulty of attaining the outcome. The theory holds that immediately prior to and during task performance, the subjective appeal of an outcome should increase with task demand up to a certain level of difficulty. Beyond that level of difficulty, the subjective appeal of the outcome should be relatively low. What this theory suggests is that people would prefer outcomes that are preceded by a difficult task. Should desire for outcomes are more difficult to obtain be greater than outcomes that are easy to obtain, outcomes that are more difficult to attain are perceived to be more attractive and satisfying than outcomes that were easy to attain. For the stock-picking task, it is
possible that those who set their goals high (hence difficult task and outcome) and had them confirmed would value their performance outcome more than those who set their goals low (hence easy task and outcome). Holding outcome constant, setting a challenging goal and obtaining it would increase their satisfaction with the outcome than those who set their goals low and obtain this goal. Notably, the amount of effort as measured in time spent searching for information did not differ between high vs. low goal setters (experiments 1 and 2) and it would be necessary to establish that high goal setters did indeed perceive the effort they invested to be greater than the low goal setters. Questions remain as to whether high-goal setters set their goals high because they know and anticipate that setting a challenging goal would make the outcome more satisfying.

Unconscious vs. Deliberate strategy. An interesting question raised by this research is whether the strategy of low-balling of goals occurs on an unconscious level, and if so, whether the observed negative effect of low-balling of goals would hold. The research on conscious (vs. unconscious) thoughts suggests that conscious deliberations often lead people to poorer decisions whereas unconscious decisions tend to be more consistent with their preferences and rational (Wilson and Schooler, 1991; Dijksterhuis, 2004). The premise of the present research was that people resort to the low-balling strategy strategically, and hence deliberately. Could this strategy operate on a more unconscious level? If so, would the spontaneous recruitment of superior comparison standard occur? Dijksterhuis’ research focuses on preference-consistent choices and one’s satisfaction with the choices. Whether or not the
prediction would hold for setting of goal standards and one’s satisfaction with the outcome or performance based on this goal standard remains to be examined.

Goals as reference points. The finding that potential serves as the standard of comparison at evaluation for those who resort to the low-balling strategy is consistent with the multiple reference points research. If one maintains multiple goals and goal standards, the goal standard that is recruited to evaluate one’s performance (or product performance) serves as reference points. Should the recruited goal standard be higher than the performance which meets the lower goal standard, this would create a gap and negatively impact satisfaction. From the perspective of goals as reference points (Health et al., 1999) recruiting of a higher goal standard as the reference point would put one in a domain of loss with respect to one’s outcome. Ironically for the defensive goal setters, lowering their goals only to have the potential serve as the reference point likely induces a sense of failure, despite having achieved the lowered goal level.

It is possible that the lowering of goals and the perceived failure serves an adaptive function when setting goals in the future. In Experiments two and three, where all goals were set at objectively identical level (16% in Exp. 2 and 12% in Exp. 3) and were confirmed, those who set low goals set higher goals (although marginally so) for the next time period. Presumably Time 2 goals are the results of the perceived room for better performance given the salience of the potential. It may also be that the low-ballers are mindful (hence strategic) of the motivating functions of the low-balling strategy for the long-term future duration; this possibility could be drawn from
the defensive pessimism research, wherein people strategically lower their forecast, only to try their best in actual delivery.

A possible boundary condition could be that, should reference points be unavailable at performance feedback the observed effect will may not hold. Reference points, or comparison standards may be absent in situations of completely new products or unfamiliar decision making domains. One could argue that lacking any expectations or aspirational standards would be rare given that all decisions inherently bear some form of need and the desire to fulfill this need. Another moderator to the effect of low-balling strategy could be whether or not the performance outcome is easy to measure in objective terms, as was the case in stock performances. Should the evaluation of outcome be purely subjective in nature (i.e. difficult to assess in objective terms), would people still generate comparison standards that are necessarily superior to the obtained outcome? Or resort to reducing the dissonance of acknowledging the perceived failure? Arguments could be made both ways, and moderators to whether or not people assimilate or contrast away from their initial goal would be a promising extension of this research.

From a practical standpoint, this dissertation has implications for the management of customer satisfaction. It may be tempting in this era of customization to allow different customers to select their own levels of product performance. However, even if the product lives up to an individual customer’s goal, the longing for the potential is likely to color the customer’s satisfaction. Satisfaction from customization may be only an illusion. As our final study (Experiment 5) indicates, informing consumers of
the inaccuracies of forecasting future satisfaction and the potential problems of “lowering expectation” for their important decision making could make for a less more satisfied, less misguided consumers.
CHAPTER 10

FUTURE DIRECTIONS

In this dissertation, the concept of motivated goal setting was tested using standards of goals that people set. An interesting extension would be to test the effect using goal types: Do people strategically shape the nature of their goals in anticipation of uncertainty and potential failure? Similarly, do people shift their goals along the goal hierarchy in anticipation of the future? Are people strategic about the nature of the goals they pursue? What would be the consequence of such goal-shifting on satisfaction with an outcome?

Another meaningful approach would be to look at the different nature of goals of learning vs. performance goals (Dweck, 1999). Research suggests that learning goals, which involve learning skills or strategies for learning sake, would lead to perseverance in face of setbacks or failures; performance goal, on the other hand, focus on performing well to avoid appearing incompetent. This research would suggest that those with performance goals are more likely to lowball their goal standard since not meeting the goal would be particularly embarrassing, whereas those with learning goals would be less fearful of failure and negative feedback. It would be interesting to examine whether the difference in the nature of goal moderates the extent to which people lowball their goal standards.

An interesting extension would be to focus on the determinants of comparison standards that operate when one evaluates an outcome. In this dissertation, using financial return targets allowed for goal standards and outcome that were concrete and easy to evaluate. Departing from the goal-standard approach to domains in which
outcomes are difficult to measure and evaluate, how do people form various forms of comparison standards for higher-order goals? People compare their current marriages, careers and other long-running experiences against expectancies and higher-order goals taking the form of dreams, ideals and obligations to others (Carver and Scheier, 1998; Higgins, 1987). Surely, aiming high to be the next Bill Gates or a super-mom with an uncompromised career and family life may lead to disappointment if one is to fall short of the ideals, but aiming less and achieving less may later render one towards regrets of “what-if” and alternative construals of reality that is recruited as comparison standard. How do people “manage expectations” for life’s higher-order goals and aspirations, and do these strategic goal setting function as intended to render one happy with what they have without short changing themselves? These are some of the interesting questions that would be worthwhile to examine.

Limitations

Across the four studies in which satisfaction was reported, satisfaction levels are well above the mid-point of the scale suggesting that low-balling on goals may not be a bad strategy. However it is not clear what levels of dissatisfaction or disappointment one is prepared to suffer when the anticipation at the time of setting goals is rosy. How much disappointment is too much? If one were to predict, how satisfied would consumers like to be? What is the optimal level at which the tradeoff should be made, such that satisfaction is maximized? These are open questions that this dissertation raises. Another issue that remains to be addressed is whether low-balling on goal level strategy could be functional because it results in higher goal levels for the next period, even though it does not achieve its intended aim of
managing affect. We have preliminary evidence of this but additional and stronger evidence is needed.

The research described thus far pertains to financial decision making domain and would benefit by replicating the results in other consumer domains. While it offers a unique set of characteristics that served well for testing the proposed hypotheses regarding goal setting and satisfaction, replicating the findings in a more traditional domain of self regulation and goal striving could add to the generalizability of the findings and its implications for consumer welfare. Although the experiments employed a realistic stock picking task which ostensibly gave real-life performance feedback, demonstrating the effect using real choices and decision consequences using lotteries and actual monetary rewards would strengthen the implications offered by the findings.
FIGURES

FIGURE 1: ANTECEDENTS TO MOTIVATED GOAL SETTING

![Bar chart showing antecedents to motivated goal setting. The chart compares Low Affect Management Concern and High Affect Management Concern scenarios. The percentages for Low Affect Management Concern are 13.61% and 15.90%, while for High Affect Management Concern they are 12.00% and 11.88%. The chart indicates that Anticipate repeat task and Anticipate single task have different percentages depending on the level of affect management concern.](image-url)
FIGURE 2a: CONSEQUENCE OF LOW (vs. HIGH) GOAL ON SATISFACTION
FIGURE 2b: Consequence of Low (vs. High) Goal on Disappointment

![Bar chart showing the consequence of low (vs. high) goal on disappointment.](image)

- High Goal
- Low Goal

Information at Feedback

- Perf. Only
- Perf + Goal
- Perf + Potential

Disappointment

N=76

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FIGURE 2C: SATISFACTION AS A PARTIAL MEDIATOR OF GOAL SETTING AT T1 AND T2

Promotion focus → Satisfaction → T2-goal

(β = 3.55, p< .001)

(β = .57, p< .05)

(β₁ = .74, p< .01)

(β₂ = .57, p< .05)
FIGURE 3A: EXPERIMENT 2 SET UP

Approach

7% 11% 16% 20%
Exp = Perf (potential)

Avoidance

12% 16% 21% 25%
Exp = Perf (potential)
FIGURE 3B: CONSEQUENCE OF LOW (VS. HIGH) GOALS ON SATISFACTION CONTROLLING FOR PERFORMANCE (EXPERIMENT 2)

![Bar chart showing the consequence of low vs. high goals on satisfaction controlling for performance.](chart.png)
FIGURE 4A: IMPACT OF COMPARISON STANDARD USED ON SATISFACTION WHEN GOALS ARE SET *AFTER* TASK (EXPERIMENT 3)

![Bar chart showing satisfaction index with different comparison standards and goal levels]

N=87

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FIGURE 4B: BELIEF IN EFFORT-PERFORMANCE RELATIONSHIP AND SATISFACTION (EXPERIMENT 3)

![Bar chart showing satisfaction index with and without belief in effort-outcome relationship for high and low goal conditions.]

N=79
FIGURE 5A: EFFECT OF LOW-BALLING ON SATISFACTION WITH CONFIRMED VS. DISCONFIRMED GOALS (COLLAPSED ACROSS FEEDBACK CONDITIONS, EXPERIMENT 4)

![Bar Chart]

- **Satisfaction Index**
- **Feedback**
- **N=176**

- Confirmed (12%→12%): Hi Goal (7.75), Lo Goal (6.57)
- Disconfirmed (12%→10%): Hi Goal (6.63), Lo Goal (5.74)
FIGURE 5B: EFFECT OF LOW-BALLING ON SATISFACTION WITH CONFIRMED (PERF=12%) VS. DISCONFIRMED (PERF=10%) GOALS (PERFORMANCE-ONLY CONDITION, EXPERIMENT 4)

Confirmed vs. Disconfirmed

N=59

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FIGURE 5C: SATISFACTION WITH EFFORT FOR HIGH VS. LOW GOAL SETTERS, WITHIN THREE LEVELS OF PERFORMANCE OUTCOMES (EXPERIMENT 4)

Effort: How satisfied are you with the amount of time you spent on the stock choice task?

- **Confirmed (12.04%)**
- **Disconfirmed-1 (10.04%)**
- **Disconfirmed-2 (8.04%)**

- **Hi goal**
- **Lo goal**
FIGURE 5D: DISAPPOINTMENT WITH PERFORMANCE FOR HIGH VS. LOW GOAL SETTERS, WITHIN THREE LEVELS OF PERFORMANCE OUTCOMES (EXPERIMENT 4)

Disappointment with Performance

Confirmed (12.04%)  Disconfirmed-1 (10.04%)  Disconfirmed-2 (8.04%)

Feedback

High exp
Low exp
TABLE 1: EXPERIMENT 1 RESULTS

<table>
<thead>
<tr>
<th>Feedback</th>
<th>Goal</th>
<th>Satisfaction</th>
<th>Disappointment</th>
<th>Process Satisfaction</th>
<th>Goal Satisfaction</th>
<th>T2 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance only</td>
<td>High</td>
<td>7.73</td>
<td>1.80</td>
<td>7.30</td>
<td>8.20</td>
<td>18.9%</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>6.53</td>
<td>3.07</td>
<td>4.80</td>
<td>6.60</td>
<td>14.7%</td>
</tr>
<tr>
<td>Goal and performance</td>
<td>High</td>
<td>7.72</td>
<td>2.00</td>
<td>5.33</td>
<td>8.00</td>
<td>17.0%</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>7.45</td>
<td>2.09</td>
<td>5.91</td>
<td>7.32</td>
<td>12.3%</td>
</tr>
<tr>
<td>Performance + potential</td>
<td>High</td>
<td>8.57</td>
<td>1.14</td>
<td>7.14</td>
<td>8.86</td>
<td>21.4%</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>6.98</td>
<td>3.00</td>
<td>5.75</td>
<td>7.13</td>
<td>13.1%</td>
</tr>
</tbody>
</table>

Note: N = 76. All measures on 9-point scales with 1 = not at all and 9 = extremely
### TABLE 1b. EXPERIMENT 1 MULTIPLE REGRESSION RESULTS

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Standard Coefficient</th>
<th>Error</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1-goal</td>
<td>.006</td>
<td>.775</td>
<td>.275</td>
<td>.784</td>
</tr>
<tr>
<td>Effort satisfaction**</td>
<td>.140</td>
<td>.038</td>
<td>3.725</td>
<td>.0001</td>
</tr>
<tr>
<td>Goal satisfaction**</td>
<td>.282</td>
<td>.059</td>
<td>4.756</td>
<td>.0001</td>
</tr>
<tr>
<td>Disappointment**</td>
<td>-.326</td>
<td>.052</td>
<td>-6.82</td>
<td>.0001</td>
</tr>
<tr>
<td>Regret</td>
<td>-.057</td>
<td>.048</td>
<td>-1.20</td>
<td>.233</td>
</tr>
<tr>
<td>Prevention focus*</td>
<td>.455</td>
<td>.196</td>
<td>2.323</td>
<td>.022</td>
</tr>
<tr>
<td>Promotion focus*</td>
<td>.407</td>
<td>.166</td>
<td>2.448</td>
<td>.016</td>
</tr>
</tbody>
</table>

* significant at p<.05  
** significant at p<.001

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>7</td>
<td>157.087</td>
<td>22.441</td>
<td>41.317</td>
<td>.0001</td>
</tr>
<tr>
<td>Residual</td>
<td>125</td>
<td>67.892</td>
<td>.543</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>224.979</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ R^2 = .702 \]
### TABLE 2: EXPERIMENT 2 RESULTS

<table>
<thead>
<tr>
<th>Goal</th>
<th>Feedback</th>
<th>Satisfaction</th>
<th>Process satisfaction</th>
<th>Goal satisfaction</th>
<th>Disappointment</th>
<th>Recommendation</th>
<th>T2 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>High goal</td>
<td>Performance Only</td>
<td>7.28</td>
<td>6.05</td>
<td>7.42</td>
<td>1.68</td>
<td>6.58</td>
<td>17.9%</td>
</tr>
<tr>
<td></td>
<td>Performance plus Goal and Range</td>
<td>7.68</td>
<td>5.88</td>
<td>7.62</td>
<td>2.14</td>
<td>6.57</td>
<td>17.4%</td>
</tr>
<tr>
<td>Low goal</td>
<td>Performance Only</td>
<td>6.44</td>
<td>5.81</td>
<td>6.62</td>
<td>2.33</td>
<td>5.52</td>
<td>18.3%</td>
</tr>
<tr>
<td></td>
<td>Performance plus Goal and Range</td>
<td>6.76</td>
<td>5.27</td>
<td>6.58</td>
<td>2.71</td>
<td>5.63</td>
<td>19.6%</td>
</tr>
</tbody>
</table>

Note: N = 85, All measures on 9-point scales.
### TABLE 2b. EXPERIMENT 2 MULTIPLE REGRESSION RESULTS

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Standard Coefficient</th>
<th>Error</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1-goal</td>
<td>.141</td>
<td>.277</td>
<td>3.014</td>
<td>.005</td>
</tr>
<tr>
<td>Effort satisfaction</td>
<td>.112</td>
<td>.069</td>
<td>1.627</td>
<td>.114</td>
</tr>
<tr>
<td>Goal satisfaction</td>
<td>.081</td>
<td>.093</td>
<td>.866</td>
<td>.393</td>
</tr>
<tr>
<td>Process satisfaction</td>
<td>.186</td>
<td>.103</td>
<td>1.803</td>
<td>.081</td>
</tr>
<tr>
<td>Disappointment</td>
<td>-.225</td>
<td>.094</td>
<td>-2.399</td>
<td>.022</td>
</tr>
<tr>
<td>Regret</td>
<td>-.019</td>
<td>.073</td>
<td>-.255</td>
<td>.801</td>
</tr>
<tr>
<td>Expertise</td>
<td>-.020</td>
<td>.063</td>
<td>-.310</td>
<td>.759</td>
</tr>
<tr>
<td>Involvement</td>
<td>.052</td>
<td>.019</td>
<td>2.753</td>
<td>.010</td>
</tr>
<tr>
<td>Promotion</td>
<td>.617</td>
<td>.298</td>
<td>2.071</td>
<td>.047</td>
</tr>
<tr>
<td>Prevention</td>
<td>-.099</td>
<td>.228</td>
<td>-.434</td>
<td>.667</td>
</tr>
<tr>
<td>Defensive perfectionism</td>
<td>-.013</td>
<td>.010</td>
<td>-1.356</td>
<td>.184</td>
</tr>
<tr>
<td>perfectionism</td>
<td>.009</td>
<td>.013</td>
<td>.694</td>
<td>.493</td>
</tr>
</tbody>
</table>

* significant at p<.05
* significant at p<.001

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>12</td>
<td>44.603</td>
<td>3.717</td>
<td>6.721</td>
<td>.0001</td>
</tr>
<tr>
<td>Residual</td>
<td>32</td>
<td>17.697</td>
<td>.553</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>62.300</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( R^2 = .716 \)
### TABLE 3: EXPERIMENT 3 RESULTS

<table>
<thead>
<tr>
<th>Belief in effort-perf.</th>
<th>Range salience</th>
<th>Goal</th>
<th>Satisfaction</th>
<th>Recommendation</th>
<th>T2 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belief in effort-perf.</td>
<td>Not salient</td>
<td>High</td>
<td>6.43</td>
<td>5.80</td>
<td>13.30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>6.27</td>
<td>5.70</td>
<td>14.27%</td>
</tr>
<tr>
<td>Salient</td>
<td></td>
<td>High</td>
<td>7.36</td>
<td>5.92</td>
<td>11.67%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>6.67</td>
<td>4.78</td>
<td>14.11%</td>
</tr>
<tr>
<td>No belief in effort-perf.</td>
<td>Not salient</td>
<td>High</td>
<td>6.70</td>
<td>6.18</td>
<td>12.67%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>6.10</td>
<td>5.77</td>
<td>15.31%</td>
</tr>
<tr>
<td>Salient</td>
<td></td>
<td>High</td>
<td>7.47</td>
<td>7.50</td>
<td>12.67%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>5.27</td>
<td>3.70</td>
<td>11.50%</td>
</tr>
</tbody>
</table>

Note: N = 87. All measures on 9-point scales with 1 = not at all satisfied; 9 = extremely satisfied.
### TABLE 3b. EXPERIMENT 3 MULTIPLE REGRESSION RESULTS

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Standard Coefficient</th>
<th>Error</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1-goal</td>
<td>.315</td>
<td>.198</td>
<td>1.591</td>
<td>.116</td>
</tr>
<tr>
<td>Effort satisfaction</td>
<td>.282</td>
<td>.065</td>
<td>4.368</td>
<td>.0001</td>
</tr>
<tr>
<td>Goal satisfaction</td>
<td>.405</td>
<td>.104</td>
<td>3.910</td>
<td>.0001</td>
</tr>
<tr>
<td>Process satisfaction</td>
<td>-.022</td>
<td>.062</td>
<td>-.364</td>
<td>.717</td>
</tr>
<tr>
<td>Disappointment</td>
<td>-.183</td>
<td>.076</td>
<td>-2.395</td>
<td>.019</td>
</tr>
<tr>
<td>Regret</td>
<td>-.117</td>
<td>.087</td>
<td>-1.354</td>
<td>.717</td>
</tr>
<tr>
<td>Expertise</td>
<td>-.143</td>
<td>.051</td>
<td>-2.819</td>
<td>.006</td>
</tr>
<tr>
<td>Involvement</td>
<td>-.027</td>
<td>.045</td>
<td>-.613</td>
<td>.542</td>
</tr>
<tr>
<td>Promotion</td>
<td>-.625</td>
<td>.275</td>
<td>-2.27</td>
<td>.026</td>
</tr>
<tr>
<td>Prevention</td>
<td>-.345</td>
<td>.178</td>
<td>-1.937</td>
<td>.057</td>
</tr>
<tr>
<td>Defensive-pessimism</td>
<td>-.010</td>
<td>.008</td>
<td>-1.238</td>
<td>.220</td>
</tr>
</tbody>
</table>

* significant at p<.05
* significant at p<.001

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>11</td>
<td>92.876</td>
<td>8.443</td>
<td>12.616</td>
<td>.0001</td>
</tr>
<tr>
<td>Residual</td>
<td>72</td>
<td>48.187</td>
<td>.669</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>83</td>
<td>141.062</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$R^2 = .811$
TABLE 4: EXPERIMENT 4 RESULTS
(High goal =12%; Low goal = 12%, N=263)

<table>
<thead>
<tr>
<th>Factor 3: Info at feedback</th>
<th>Factor 2: Confirm/Disconfirm</th>
<th>Factor 1: Expectation</th>
<th>Factor 2: Performance feedback</th>
<th>DV 1: Satisfaction</th>
<th>DV 2: Disappointment</th>
<th>DV 3: Effort</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Only</td>
<td>Confirm</td>
<td>High (12%)</td>
<td>12%</td>
<td>7.39</td>
<td>2.39</td>
<td>7.06</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12%)</td>
<td>12%</td>
<td>6.31</td>
<td>2.92</td>
<td>6.67</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Disconfirm</td>
<td>High (12%)</td>
<td>10%</td>
<td>6.98</td>
<td>2.64</td>
<td>6.64</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12%)</td>
<td>10%</td>
<td>6.13</td>
<td>3.47</td>
<td>6.53</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Disconfirm 2</td>
<td>High (12%)</td>
<td>8%</td>
<td>5.18</td>
<td>3.92</td>
<td>5.00</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12%)</td>
<td>8%</td>
<td>5.23</td>
<td>4.13</td>
<td>6.06</td>
<td>16</td>
</tr>
<tr>
<td>Performance plus Goal</td>
<td>Confirm</td>
<td>High (12%)</td>
<td>12%</td>
<td>8.77</td>
<td>1.38</td>
<td>8.00</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12%)</td>
<td>12%</td>
<td>7.27</td>
<td>3.13</td>
<td>6.31</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Disconfirm</td>
<td>High (12%)</td>
<td>10%</td>
<td>6.97</td>
<td>2.25</td>
<td>6.67</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12%)</td>
<td>10%</td>
<td>6.00</td>
<td>4.67</td>
<td>6.25</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Disconfirm 2</td>
<td>High (12%)</td>
<td>8%</td>
<td>4.88</td>
<td>4.68</td>
<td>4.11</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12%)</td>
<td>8%</td>
<td>5.21</td>
<td>3.85</td>
<td>6.08</td>
<td>13</td>
</tr>
<tr>
<td>Performance plus Potential</td>
<td>Confirm</td>
<td>High (12%)</td>
<td>12%</td>
<td>7.37</td>
<td>2.61</td>
<td>7.11</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12%)</td>
<td>12%</td>
<td>6.02</td>
<td>4.00</td>
<td>6.07</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Disconfirm</td>
<td>High (12%)</td>
<td>10%</td>
<td>6.00</td>
<td>3.63</td>
<td>5.81</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12%)</td>
<td>10%</td>
<td>5.13</td>
<td>4.07</td>
<td>5.73</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Disconfirm 2</td>
<td>High (12%)</td>
<td>8%</td>
<td>4.67</td>
<td>4.64</td>
<td>4.21</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12%)</td>
<td>8%</td>
<td>4.80</td>
<td>4.53</td>
<td>5.87</td>
<td>15</td>
</tr>
</tbody>
</table>

Note: N = 263. All measures on 9-point scales with 1 = not at all satisfied; 9 = extremely satisfied
### TABLE 4a: EXPERIMENT 4 RESULTS-2

(High goal=12 or 16%; Low goal= 8 or 12%, N= 326)

<table>
<thead>
<tr>
<th>Info at feedback</th>
<th>Confirm/Disconfirm</th>
<th>Expectation</th>
<th>Performance feedback</th>
<th>Satisfaction</th>
<th>Disappointment</th>
<th>Effort</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Confirm</td>
<td>High (12% or 16%)</td>
<td>12% or 16%</td>
<td>7.39</td>
<td>2.17</td>
<td>7.35</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12% or 16%)</td>
<td>12% or 16%</td>
<td>6.31</td>
<td>2.92</td>
<td>6.56</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Disconfirm</td>
<td>High (12% or 16%)</td>
<td>10%</td>
<td>6.98</td>
<td>2.88</td>
<td>6.69</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12% or 16%)</td>
<td>10%</td>
<td>6.13</td>
<td>3.47</td>
<td>6.53</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Disconfirm2</td>
<td>High (12% or 16%)</td>
<td>8%</td>
<td>5.18</td>
<td>3.88</td>
<td>5.31</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12% or 16%)</td>
<td>8%</td>
<td>5.23</td>
<td>4.13</td>
<td>6.06</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Confirm</td>
<td>High (12% or 16%)</td>
<td>12% or 16%</td>
<td>8.77</td>
<td>1.47</td>
<td>7.73</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12% or 16%)</td>
<td>12% or 16%</td>
<td>7.27</td>
<td>3.48</td>
<td>5.96</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Disconfirm</td>
<td>High (12% or 16%)</td>
<td>10%</td>
<td>6.97</td>
<td>2.50</td>
<td>6.50</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12% or 16%)</td>
<td>10%</td>
<td>6.00</td>
<td>4.67</td>
<td>6.25</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Disconfirm2</td>
<td>High (12% or 16%)</td>
<td>8%</td>
<td>4.88</td>
<td>4.71</td>
<td>4.56</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12% or 16%)</td>
<td>8%</td>
<td>5.21</td>
<td>3.85</td>
<td>6.08</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Confirm</td>
<td>High (12% or 16%)</td>
<td>12% or 16%</td>
<td>7.37</td>
<td>2.30</td>
<td>7.17</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12% or 16%)</td>
<td>12% or 16%</td>
<td>6.02</td>
<td>3.52</td>
<td>6.16</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Disconfirm</td>
<td>High (12% or 16%)</td>
<td>10%</td>
<td>6.00</td>
<td>3.46</td>
<td>5.92</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12% or 16%)</td>
<td>10%</td>
<td>5.13</td>
<td>4.07</td>
<td>5.73</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Disconfirm2</td>
<td>High (12% or 16%)</td>
<td>8%</td>
<td>4.67</td>
<td>5.00</td>
<td>4.00</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low (12% or 16%)</td>
<td>8%</td>
<td>4.80</td>
<td>5.07</td>
<td>5.87</td>
<td>15</td>
</tr>
</tbody>
</table>

Note: N = 326. All measures on 9-point scales with 1 = not at all satisfied and 9 = extremely satisfied

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REFERENCES


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Fournier, Susan and David Glen Mick (1999), "Rediscovering Satisfaction," *Journal of Marketing*, 63 (October), 5-23.


EXPERIMENT 1: EXPERIMENT 1 PROCEDURES

EXPERIMENT 1: ANTECEDENTS AND CONSEQUENCES OF MOTIVATED GOAL SETTING

2 (Expectation Level: High vs. Low) x 3 (Information given at feedback: Performance-only vs. Performance plus expectation vs. Performance plus potential)

- Select Expectation Level
- Rate affect management concern
- Stock search, choose three and allocate
- Filler task
- Performance Feedback (expectation = performance)
  - Told Performance only vs. Performance plus Expectation vs. Performance plus Potential
- List thoughts
- Satisfaction, Disappointment
APPENDIX 2: EXPERIMENT 2 PROCEDURES

Experiment 2: Consequence of Low-balled Expectation Controlling for Performance

2 (Prime: approach vs. avoidance) x 2 (Information at feedback: Performance-only vs. Performance plus expectation and potential)

- **Priming Task:** Approach vs. Avoidance
  - Read Scenario
  - Select Expectation Level
  - Interactive Stock Picking Task
  - Information at Performance Feedback
    - (exp = perf)
    - Told Performance only vs. Told Performance Plus Reminded of Exp and Potential
  - Thought Listing Task
  - Satisfaction, Disappointment DV
APPENDIX 3: EXPERIMENT 3 PROCEDURES

Experiment 3: Isolating the Process Mechanisms for Low-Balling Effect

2(prime: concern for disappointment vs. enjoyment) 
  x 2(potential performance salience) 
  x 2(belief about effort-performance relationship)

Stock search and allocate

Prime affect management concern 
Disappointment vs. Delight Prime

Expectation Setting: Salience of 
potential performance

Belief about effort-performance

Outcome feedback 
(Exp = Perf)

Satisfaction, Disappointment
APPENDIX 4: EXPERIMENT 4 PROCEDURES

Experiment 4: Comparing Confirmed Low Goal to Disconfirmed High Goal

2(Prime: Approach (high goal) vs. Avoidance (low goal))
\times 3(Dis/Confirmation: Confirmed vs. Disconfirmed-1 vs. Disconfirmed-2)
\times 3(Information at Feedback: Performance only vs. Performance and goal vs. Performance plus potential)

Diagram:

Priming Task: Approach vs. Avoidance

- Read Scenario
- Select Expectation Level

Interactive Stock Picking Task

Information at Performance Feedback
(perf = goal, 10% or 8%)

Told Performance only vs.
Told Performance Plus Reminded of Exp vs.
Told Performance Plus Potential

Thought Listing Task

Satisfaction, Disappointment

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APPENDIX 5: EXPERIMENT 5 PROCEDURES

Experiment 5: Correcting the Low-Balling of Goals

2(prime: corrective vs. disappointment) x 2(personality traits: high vs. low)

Reading task:
Corrective vs. Disappointment prime

Stock Scenario

Set goals from continuous scale
(4%, 6%, 8%, 10%, 12%, 14%, 16%, 28%)

Trait measures: RFQ, perfectionism, optimism-pessimism, disconfirmation-sensitivity

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APPENDIX 6A—STIMULI

EXPERIMENT 1—PART 1 [ANTICIPATE REPEAT DECISION CONDITION]

INVESTMENT DECISION MAKING STUDY

In this study you will be asked to perform an investment decision-making task. You will be given a budget as well as real information about several stocks and asked to pick three stocks that will together form an investment portfolio. We have obtained real data for each of the stocks' performance over the past month from an investment website. Your portfolio's performance will be judged based on this data and provided to you at the end of this study. You will then be asked to repeat the investment decision-making task for the next period.

Please read and respond to the questions carefully.

Once you are done with a page, please move forward and do not look back at your previous responses. There is no right or wrong answers; we are only interested in your decisions and your evaluations.
APPENDIX 6B--STIMULI

EXPERIMENT 1—PART 1 [NO-ANTICIPATE CONDITION]

INVESTMENT DECISION MAKING STUDY

In this study you will be asked to perform an investment decision-making task. You will be given a budget as well as real information about several stocks and asked to pick three stocks that will together form an investment portfolio. We have obtained real data for each of the stocks' performance over the past month from an investment website. Your portfolio's performance will be judged based on this data and provided to you at the end of this study.

Please read and respond to the questions carefully.

Once you are done with a page, please move forward and do not look back at your previous responses. There is no right or wrong answer; we are only interested in your decisions and your evaluations.
Picking Stocks: Part 1

Imagine that you are living in a foreign country and need to invest your money. You have an investment budget of $5,400 and want to invest it in the stock market of this country. Given the market conditions in this country, at the end of a month, you can expect your portfolio to yield between 6% and 20% in return. As with any investment in a financial market investing in stocks involves risk.

Please turn to the next page...
You make investment decisions on the first of every month—that is, you only trade on the 1\textsuperscript{st} of each month. It is now the first day of February. What is the rate of return you would be satisfied with for this month?

As stated previously, the typical rate of return is 6\% and 20\% on a monthly basis. Please circle the level of return you would be satisfied with from the possible performance levels below.

I would like the stocks I choose to obtain:

| 6\% | 8\% | 10\% | 12\% | 14\% | 16\% | 18\% | 20\% |

*Please turn to the next page...*
Now that you have set a target goal for your portfolio, we would like to ask you about your choice of target level. What are the thoughts that come to mind when you chose the target level that you did? Please list all your thoughts in as much detail as possible in the space below. Please write in full sentences.
Please indicate the extent to which you agree/disagree with the following statements.

I chose a performance goal that would make me feel safe.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Agree</td>
</tr>
</tbody>
</table>

Not achieving the target goal would make me feel worse than I feel now.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Agree</td>
</tr>
</tbody>
</table>

Achieving the target goal would make me feel happy.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Extremely</td>
</tr>
</tbody>
</table>

Choosing a low goal is better than choosing a high goal when the outcome is uncertain.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Agree</td>
</tr>
</tbody>
</table>

Setting a low goal or expectation is a good way to prepare for an uncertain outcome.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Agree</td>
</tr>
</tbody>
</table>

*Please turn to the next page...*
On the next page you will be provided with twenty stocks from which to choose three stocks for your portfolio. Please feel free to browse and use the information provided before choosing three stocks and deciding how much of your budget to allocate to each (in percent).

*Please turn to the next page...*
Please pick three stocks and indicate how much of your budget you would allocate to each stock, in percent.

Stock 1: __________________
Percentage of your budget to be allocated to this stock: ____________%

Stock 2: __________________
Percentage of your budget to be allocated to this stock: ____________%

Stock 3: __________________
Percentage of your budget to be allocated to this stock: ____________%

Total: ____________%
*should equal 100

You have reached the end of this part of the study.
Please turn it over, put it aside, and wait for the research assistant's instruction.
APPENDIX 6C—STIMULI

EXPERIMENT 1—PART 2: GOAL AND RANGE AT FEEDBACK CONDITION

INVESTMENT DECISION MAKING STUDY, Part 2

In the earlier study you were asked to perform an investment decision making task. You were given a budget and asked to pick three stocks that will together form an investment portfolio. We have calculated the actual return of the stocks you chose and your allocation again actual data of the month of January (2006).
One month has passed. It is now the first of February 2006. You return to your online trading account to see how your portfolio has performed.

If you recall, the range of typical return for the stocks in this country is 6% to 20%.

You had predicted that you would be satisfied with _________% for the past month. Your portfolio has resulted in a return of _________%.

Please write down all thoughts that came to your mind when you saw the level of performance for your stock portfolio. Please write in full sentences.
APPENDIX 6D--STIMULI

EXPERIMENT 1—PART 2: PERFORMANCE ONLY AT FEEDBACK

CONDITION

INVESTMENT DECISION MAKING STUDY, Part 2

In the earlier study you were asked to perform an investment decision making task. You were given a budget and asked to pick three stocks that will together form an investment portfolio. We have calculated the actual return of the stocks you chose and your allocation again actual data of the month of January (2006).
One month has passed. It is now the first of February 2006. You return to your online trading account to see how your portfolio has performed.

Your portfolio has resulted in a return of ___________%.

Please write down all thoughts that came to your mind when you saw the level of performance for your stock portfolio. Please write in full sentences.
Now we would like you to think about the search process, choice of stocks you made, the performance of these stocks, and how you feel about the outcome. Please consider the questions that follow carefully and respond as accurately as you can.

How satisfied are you with the performance of your portfolio?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all satisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Extremely satisfied</td>
</tr>
</tbody>
</table>

Given the identical set of stock to choose from, I would make the same choice again.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
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<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

I am pleased with the performance of the stocks I chose.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

How happy are you with the information search you conducted?

<table>
<thead>
<tr>
<th></th>
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<th>2</th>
<th>3</th>
<th>4</th>
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<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all happy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Extremely happy</td>
</tr>
</tbody>
</table>

Are you satisfied with the amount of information you have searched?

<table>
<thead>
<tr>
<th></th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all satisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Extremely satisfied</td>
</tr>
</tbody>
</table>

How satisfied or dissatisfied are you with your experience of deciding which stocks to choose?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extremely dissatisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Extremely satisfied</td>
</tr>
</tbody>
</table>
How satisfied are you with the performance target you had set in picking the stocks you chose?

<table>
<thead>
<tr>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely dissatisfied</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Extremely satisfied</td>
</tr>
</tbody>
</table>

How disappointed are you with the performance of the stocks?

<table>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all disappointed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Very much disappointed</td>
</tr>
</tbody>
</table>

How much regret do you feel about your research process, such as the number of stocks and the amount of effort you put into choosing the three stocks?

<table>
<thead>
<tr>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>No regret at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A lot of regret</td>
</tr>
</tbody>
</table>

How much regret do you feel about how you arrived at your stock choices?

<table>
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<th>4</th>
<th>5</th>
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<th>8</th>
<th>9</th>
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<tbody>
<tr>
<td>No regret at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A lot of regret</td>
</tr>
</tbody>
</table>

I would be happy to choose the same set of stocks on my next purchase occasion.

<table>
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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

Would you recommend the same stocks to your friends who may consider investing in the market?

<table>
<thead>
<tr>
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<th>4</th>
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<tbody>
<tr>
<td>Definitely not</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Definitely</td>
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</table>

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The following set of questions consists of a number of different words that describe different feelings or emotions. For each item, please indicate to what extent you felt this way with regards to the stock picking study you completed today.

<table>
<thead>
<tr>
<th>Feeling</th>
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<th>5</th>
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<td>Upset</td>
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<td></td>
<td></td>
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<tr>
<td>Determined</td>
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<tr>
<td>Proud</td>
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<tr>
<td>Active</td>
<td></td>
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<td>Strong</td>
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<td>Hostile</td>
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<td>Irritable</td>
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<td></td>
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<tr>
<td>Interested</td>
<td></td>
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<td>Attentive</td>
<td></td>
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<td></td>
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<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Afraid</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Not at all</td>
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<td></td>
<td></td>
<td>Extremely</td>
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<td>Excited</td>
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<td></td>
<td>Not at all</td>
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<td></td>
<td></td>
<td>Extremely</td>
</tr>
<tr>
<td>Guilty</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td>Extremely</td>
</tr>
<tr>
<td>Enthusiastic</td>
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<td></td>
<td></td>
<td>Extremely</td>
</tr>
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<td>Alert</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Not at all</td>
<td></td>
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<td></td>
<td>Extremely</td>
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<tr>
<td>Nervous</td>
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<td></td>
<td>Not at all</td>
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<td></td>
<td>Extremely</td>
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<tr>
<td>Jittery</td>
<td></td>
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<tr>
<td></td>
<td>Not at all</td>
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<td>Extremely</td>
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<tr>
<td>Scared</td>
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<tr>
<td></td>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td>Extremely</td>
</tr>
</tbody>
</table>
APPENDIX 7

EXPERIMENT 2—STIMULI

Welcome.
In this study you will be asked to perform a series of unrelated tasks, consisting of proofreading, solving anagrams, and stock-picking. Please take care to read the instructions and answer the questions carefully. When done with a page, press the “next” button to proceed.
Task 1: Proofreading

Proofreading is a task in which you have to read carefully and try to look for incorrectly spelled words in a passage.

Please read the following passages closely and try to find maximum number of misspellings in it. The errors in the passage only consist of misspellings and there are no errors based on grammar or punctuation. Circle the words that are misspelled. Try to find at least 80% of the misspellings.

Once the prince of waterfowl in the East, black ducks are in trouble. Their population has declined steadily for 20 years. Biologists with the U.S. Fish and Wildlife Service, Canadian Wildlife Service, and State Wildlife agencies are studying the problem and have intensified research in recent years. Meanwhile, hunters are being asked to go easy on black ducks.

The black duck is a wild duck related to the mallard duck. This excellent game bird is commonly found in eastern North America. Unfortunately, its nesting and wintering habitats have been destroyed by urban development and agriculture, and have also been further degraded by pollution. Mallard ducks have been able to adjust to these changing environments better than the black duck. Thus, as the eastern forests have disappeared, the more adaptable mallards have moved in. Now there is evidence that mallard ducks are breeding with black duck hens, and some biologists fear that black ducks could be bred out of existence.
Task 1: Proofreading

Proofreading is a task in which you have to read carefully and try to look for incorrectly spelled words in a passage.

Please read the following passages closely and avoid missing any misspellings in the passages as much as you can. The errors in the passage only consist of misspellings and there are no errors based on grammar or punctuation. Circle the words that are misspelled. Make sure that you do not miss more than 20% of all misspellings.

Once the prince of waterfowl in the East, black ducks are in trouble. Their population has declined steadily for 20 years. Biologists with the U.S. Fish and Wildlife Service, Canadian Wildlife Service, and State Wildlife agencies are studying the problem and have intensified research in recent years. Meanwhile, hunters are being asked to go easy on black ducks.

The black duck is a wild duck related to the mallard duck. This excellent game bird is commonly found in eastern North America. Unfortunately, its nesting and wintering habitats have been destroyed by urban development and agriculture, and have also been further degraded by pollution. Mallard ducks have been able to adjust to these changing environments better than the black duck. Thus, as the eastern forests have disappeared, the more adaptable mallards have moved in. Now there is evidence that mallard ducks are breeding with black duck hens, and some biologists fear that black ducks could be bred out of existence.
Task 2: Anagram

Anagram is a task that involves unscrambling a series of letters to form as many words as possible using all the letters in the series. In other words, what you do in solving an anagram is to change the order of these letters to form words. You have to use all letters provided in the series.

**Example:**
For the five-letter series “ALSET”, the following three words can be formed:
1. tales; 2. stale; 3. steal

For each string of letters below, your goals is to construct the maximum number of words. Please try to identify more than two thirds (2/3) of all possible words and write down the words you have come up with in the provided space.

1. EACHP
2. NELMO
3. IDFEL
4. OLSPO
Task 2: Anagram

Anagram is a task that involves unscrambling a series of letters to form as many words as possible using all the letters in the series. In other words, what you do in solving an anagram is to change the order of these letters to form words. You have to use all letters provided in the series.

Example:
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1. tales; 2. stale; 3. steal

For each string of letters below, your goals is to construct the maximum number of words. Please try to identify more than two thirds (2/3) of all possible words and write down the words you have come up with in the provided space.

1. EACHP

2. NELMO

3. IDFEL

4. OLSPO
Task 3: Picking Stocks

You are about to play an investment game. You will be given a budget and asked to pick three foreign stocks that will together form an investment portfolio. We have obtained real data for each of the stocks' performance over the past month (September 2005) from an investment website; your portfolio's performance will be judged based on this data and provided to you at the end of this study.

Imagine that you have $5,400 available and are thinking of investing this money in a foreign stock market. Given the market condition in this country, at the end of a month, you can expect your portfolio to yield between 7% and 20% in return.

DV 1: You make investment decisions on the first of every month. It is now the first day of September. What is the rate of return (monthly) you would like to achieve for the portfolio of stocks you are about to pick? Please circle your goal for the average performance of your portfolio:

11% .................. 16%

On the following page, you will find the stocks that you are considering. You will be given information on 20 stocks from which to pick three stocks. These are real data obtained as of October 1, 2005. You can click on the sticker of each stock to access more detailed information relevant to evaluating the stock, such as key ratios, past earnings and growth history. Click on as many or as few as you need. To return to the stock list, click on “return to stocklist”. Click on “continue” only when you are ready to choose the three stocks and allocate your budget to each.
Task 3: Picking Stocks

You are about to play an investment game. You will be given a budget and asked to pick three foreign stocks that will together form an investment portfolio. We have obtained real data for each of the stocks' performance over the past month (September 2005) from an investment website; your portfolio's performance will be judged based on this data and provided to you at the end of this study.

Imagine that you have $5,400 available and are thinking of investing this money in a foreign stock market. Given the market condition in this country, at the end of a month, you can expect your portfolio to yield between 12% and 25% in return.

DV 1: You make investment decisions on the first of every month. It is now the first day of September. What is the rate of return (monthly) you would like to achieve for the portfolio of stocks you are about to pick? Please circle your goal for the average performance of your portfolio:

16% ........................ 21%

On the following page, you will find the stocks that you are considering. You will be given information on 20 stocks from which to pick three stocks. These are real data obtained as of October 1, 2005. You can click on the sticker of each stock to access more detailed information relevant to evaluating the stock, such as key ratios, past earnings and growth history. Click on as many or as few as you need. To return to the stock list, click on "return to stocklist". Click on "continue" only when you are ready to choose the three stocks and allocate your budget to each.
Stock List

Here are twenty stocks you can choose from. Provided on this page are basic information about the individual stocks. Click on the stock symbol (sticker) for more information on each stock. Click on "return to stock list" to return to this page to access information about other stocks. Click on "continue" only when you are ready to pick three stocks and allocate your $5,400 budget. Write down the symbols of the three stocks on your scratch paper; you will be asked to input the name and the allocation for each stock, one stock at a time.

<table>
<thead>
<tr>
<th>Company Symbol</th>
<th>1 Day Price</th>
<th>5 Day Price</th>
<th>Price ($)</th>
<th>CPE</th>
<th>Price to Book</th>
<th>RGE %</th>
<th>Debt to Equity</th>
<th>Rev. Qtr vs. Yr Ago</th>
<th>EPS Qtr vs. Yr Ago</th>
</tr>
</thead>
<tbody>
<tr>
<td>MILL</td>
<td>44.72</td>
<td>39.49</td>
<td>18.51</td>
<td>375.16</td>
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<td>0.85</td>
<td>7.46</td>
<td>8.48</td>
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<td>33.78</td>
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<td>-</td>
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<td>-</td>
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<td>-</td>
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<td>-170.69</td>
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<td>4.25</td>
<td>-</td>
<td>1.96</td>
<td>-8.77</td>
<td>-48.85</td>
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<td>30.23</td>
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<td>25.60</td>
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<td>3.94</td>
<td>-</td>
<td>8.02</td>
<td>-42.84</td>
<td>-</td>
<td>-34.15</td>
<td>-7.92</td>
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<tr>
<td>BART</td>
<td>15.87</td>
<td>15.87</td>
<td>8.04</td>
<td>13.91</td>
<td>17.48</td>
<td>556.12</td>
<td>35.47</td>
<td>5.68</td>
<td>-20.54</td>
</tr>
<tr>
<td>FENN</td>
<td>15.18</td>
<td>13.11</td>
<td>4.40</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>72.44</td>
</tr>
<tr>
<td>BANA</td>
<td>14.81</td>
<td>26.29</td>
<td>4.42</td>
<td>-</td>
<td>2.55</td>
<td>-49.04</td>
<td>100.12</td>
<td>16.81</td>
<td>21.60</td>
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<td>BLVR</td>
<td>14.34</td>
<td>14.19</td>
<td>8.77</td>
<td>-</td>
<td>2.28</td>
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<td>-13.73</td>
<td>-262.72</td>
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<td>HHS</td>
<td>13.99</td>
<td>13.99</td>
<td>2.05</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>357.67</td>
<td>17.20</td>
<td>11.99</td>
</tr>
<tr>
<td>JHK</td>
<td>13.11</td>
<td>17.05</td>
<td>2.78</td>
<td>34.92</td>
<td>2.44</td>
<td>14.18</td>
<td>1.05</td>
<td>251.31</td>
<td>-36.22</td>
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All data as of 02/01/00's closing price.
## MILL GROUP INC Mill Stock

<table>
<thead>
<tr>
<th>Last Price</th>
<th>Today's Change</th>
<th>Open</th>
<th>Day High</th>
<th>Day Low</th>
<th>52-Week Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.51</td>
<td>+ 5.72 (+44.72%)</td>
<td>18.66</td>
<td>18.69</td>
<td>17.96</td>
<td>19.50 / 11.50 (8/24/2005 / 3/11/2005)</td>
</tr>
</tbody>
</table>

### Detailed Quote | Charts | Company News | Key Ratios & Earnings | Financials | Analysts & Insiders

### Valuation Ratios

<table>
<thead>
<tr>
<th></th>
<th>Company</th>
<th>Industry</th>
<th>Sector</th>
<th>S&amp;P 500</th>
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</thead>
<tbody>
<tr>
<td>P/E Ratio (TTM)</td>
<td>375.15</td>
<td>24.24</td>
<td>25.34</td>
<td>20.64</td>
</tr>
<tr>
<td>P/E High - Last 5 Yrs.</td>
<td>NM</td>
<td>33.60</td>
<td>40.87</td>
<td>38.32</td>
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<tr>
<td>P/E Low - Last 5 Yrs.</td>
<td>10.10</td>
<td>11.30</td>
<td>16.65</td>
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<tr>
<td>Beta</td>
<td>2.21</td>
<td>1.29</td>
<td>1.06</td>
<td>1.00</td>
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### Price Ratios

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<th>Industry</th>
<th>Sector</th>
<th>S&amp;P 500</th>
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<tbody>
<tr>
<td>Price to Sales (TTM)</td>
<td>0.86</td>
<td>1.80</td>
<td>2.94</td>
<td>2.90</td>
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<tr>
<td>Price to Book (MRQ)</td>
<td>2.28</td>
<td>5.01</td>
<td>3.76</td>
<td>4.04</td>
</tr>
<tr>
<td>Price to Tangible Book (MRQ)</td>
<td>2.28</td>
<td>7.02</td>
<td>8.59</td>
<td>6.86</td>
</tr>
<tr>
<td>Price to Cash Flow (MRQ)</td>
<td>11.46</td>
<td>16.09</td>
<td>15.13</td>
<td>15.01</td>
</tr>
<tr>
<td>Price to Free Cash Flow (MRQ)</td>
<td>34.54</td>
<td>33.20</td>
<td>28.16</td>
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</table>

### % Owned Institutions

|               | 94.28 | 72.05 | 52.84 | 67.67 |

### Dividends

<table>
<thead>
<tr>
<th></th>
<th>Company</th>
<th>Industry</th>
<th>Sector</th>
<th>S&amp;P 500</th>
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<tbody>
<tr>
<td>Dividend Yield</td>
<td>NA</td>
<td>1.27</td>
<td>2.32</td>
<td>2.08</td>
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<tr>
<td>Dividend Yield - 5 Year Avg.</td>
<td>0.00</td>
<td>0.65</td>
<td>1.49</td>
<td>1.63</td>
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<tr>
<td>Dividend 5 Year Growth Rate</td>
<td>17.06</td>
<td>3.48</td>
<td>8.07</td>
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</tbody>
</table>

### Payout Ratio (TTM)

|                     | 0.00   | 9.93    | 20.16  | 27.85   |

### Growth Rates (%)

<table>
<thead>
<tr>
<th></th>
<th>Company</th>
<th>Industry</th>
<th>Sector</th>
<th>S&amp;P 500</th>
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</thead>
<tbody>
<tr>
<td>Sales (MRQ) vs. Qtr. 1 Yr. Ago</td>
<td>8.46</td>
<td>15.40</td>
<td>15.63</td>
<td>16.59</td>
</tr>
<tr>
<td>Sales (TTM) vs. TTM 1 Yr. Ago</td>
<td>1.84</td>
<td>13.18</td>
<td>13.95</td>
<td>16.59</td>
</tr>
<tr>
<td>Sales - 5 Yr. Growth Rate</td>
<td>11.68</td>
<td>12.44</td>
<td>14.97</td>
<td>9.71</td>
</tr>
<tr>
<td>EPS (MRQ) vs. Qtr. 1 Yr. Ago</td>
<td>0.02</td>
<td>20.32</td>
<td>13.26</td>
<td>17.96</td>
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<tr>
<td>EPS (TTM) vs. TTM 1 Yr. Ago</td>
<td>-89.08</td>
<td>24.22</td>
<td>20.66</td>
<td>20.55</td>
</tr>
<tr>
<td>EPS - 5 Yr. Growth Rate</td>
<td>14.08</td>
<td>13.39</td>
<td>13.69</td>
<td></td>
</tr>
<tr>
<td>Capital Spending - 5 Yr. Growth Rate</td>
<td>24.79</td>
<td>6.35</td>
<td>7.02</td>
<td>2.82</td>
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<tr>
<td>Financial Strength</td>
<td>Company</td>
<td>Industry</td>
<td>Sector</td>
<td>S&amp;P 500</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>---------</td>
<td>----------</td>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td>Quick Ratio (MRQ)</td>
<td>1.64</td>
<td>1.12</td>
<td>0.84</td>
<td>1.22</td>
</tr>
<tr>
<td>Current Ratio (MRQ)</td>
<td>2.41</td>
<td>2.44</td>
<td>1.39</td>
<td>1.72</td>
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<tr>
<td>LT Debt to Equity (MRQ)</td>
<td>5.77</td>
<td>0.21</td>
<td>0.72</td>
<td>0.61</td>
</tr>
<tr>
<td>Total Debt to Equity (MRQ)</td>
<td>6.61</td>
<td>0.25</td>
<td>0.84</td>
<td>0.77</td>
</tr>
<tr>
<td>Interest Coverage (TTM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Profitability Ratios (%)</th>
<th>Company</th>
<th>Industry</th>
<th>Sector</th>
<th>S&amp;P 500</th>
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<tbody>
<tr>
<td>Gross Margin (TTM)</td>
<td>33.43</td>
<td>38.95</td>
<td>43.00</td>
<td>46.05</td>
</tr>
<tr>
<td>Gross Margin - 5 Yr. Avg.</td>
<td>35.32</td>
<td>36.94</td>
<td>41.91</td>
<td>45.15</td>
</tr>
<tr>
<td>EBITD Margin (TTM)</td>
<td>5.33</td>
<td>14.05</td>
<td>22.01</td>
<td>22.05</td>
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<tr>
<td>EBITD - 5 Yr. Avg.</td>
<td>9.97</td>
<td>12.70</td>
<td>21.07</td>
<td>20.03</td>
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<tr>
<td>Operating Margin (TTM)</td>
<td>0.39</td>
<td>10.96</td>
<td>13.24</td>
<td>20.68</td>
</tr>
<tr>
<td>Operating Margin - 5 Yr. Avg.</td>
<td>6.31</td>
<td>9.12</td>
<td>11.43</td>
<td>17.99</td>
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<tr>
<td>Pre-Tax Margin (TTM)</td>
<td>0.42</td>
<td>10.73</td>
<td>11.48</td>
<td>18.78</td>
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<tr>
<td>Pre-Tax Margin - 5 Yr. Avg.</td>
<td>6.07</td>
<td>9.17</td>
<td>10.15</td>
<td>16.63</td>
</tr>
<tr>
<td>Net Profit Margin (TTM)</td>
<td>0.24</td>
<td>6.87</td>
<td>7.72</td>
<td>13.70</td>
</tr>
<tr>
<td>Net Profit Margin - 5 Yr. Avg.</td>
<td>3.55</td>
<td>5.57</td>
<td>6.84</td>
<td>11.12</td>
</tr>
<tr>
<td>Effective Tax Rate (TTM)</td>
<td>41.09</td>
<td>37.82</td>
<td>31.21</td>
<td>30.77</td>
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<tr>
<td>Effective Tax Rate - 5 Yr. Avg.</td>
<td>41.49</td>
<td>40.68</td>
<td>33.60</td>
<td>33.09</td>
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<table>
<thead>
<tr>
<th>Management Effectiveness (%)</th>
<th>Company</th>
<th>Industry</th>
<th>Sector</th>
<th>S&amp;P 500</th>
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<tbody>
<tr>
<td>Return On Assets (TTM)</td>
<td>0.38</td>
<td>11.62</td>
<td>6.00</td>
<td>7.88</td>
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<tr>
<td>Return On Assets - 5 Yr. Avg.</td>
<td>6.11</td>
<td>11.27</td>
<td>4.90</td>
<td>6.29</td>
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<tr>
<td>Return On Investment (TTM)</td>
<td>0.47</td>
<td>16.00</td>
<td>8.63</td>
<td>11.85</td>
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<tr>
<td>Return On Investment - 5 Yr. Avg.</td>
<td>7.72</td>
<td>15.32</td>
<td>7.16</td>
<td>9.94</td>
</tr>
<tr>
<td>Return On Equity (TTM)</td>
<td>0.85</td>
<td>22.33</td>
<td>12.96</td>
<td>19.94</td>
</tr>
<tr>
<td>Return On Equity - 5 Yr. Avg.</td>
<td>10.22</td>
<td>20.89</td>
<td>11.10</td>
<td>17.62</td>
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<table>
<thead>
<tr>
<th>Efficiency</th>
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<th>Industry</th>
<th>Sector</th>
<th>S&amp;P 500</th>
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<tbody>
<tr>
<td>Revenue/Employee (TTM)</td>
<td>312999.30</td>
<td>264016.39</td>
<td>582702.25</td>
<td>800847.28</td>
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<tr>
<td>Net Income/Employee (TTM)</td>
<td>767.14</td>
<td>19318.50</td>
<td>82959.57</td>
<td>102831.05</td>
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<tr>
<td>Receivable Turnover (TTM)</td>
<td>40.71</td>
<td>58.27</td>
<td>18.01</td>
<td>10.38</td>
</tr>
<tr>
<td>Inventory Turnover (TTM)</td>
<td>7.22</td>
<td>4.47</td>
<td>19.91</td>
<td>13.07</td>
</tr>
<tr>
<td>Asset Turnover (TTM)</td>
<td>1.56</td>
<td>1.79</td>
<td>1.11</td>
<td>0.98</td>
</tr>
</tbody>
</table>
On the next page, please pick three stocks and indicate how much of your budget you want to allocate to each stock, in percent. Please note, the allocation for the three stocks should add up to 100.

What is your choice for Stock 1?: ______________
What portion of your budget would you allocate to Stock 1?: ___________%

What is your choice for Stock 2?: ______________
What portion of your budget would you allocate to Stock 2?: ___________%

What is your choice for Stock 3?: ______________
What portion of your budget would you allocate to Stock 3?: ___________%

| Total: | % |
One month has passed, and it is now the first of November, 2005. You return to your online trading account to see how your portfolio has performed.

As you may recall, the range of typical return for the stocks in this country is 7% to 20%.

You predicted that you would be satisfied with ______% for the past month.

Based on actual data, your portfolio has resulted in a return of ______%.
One month has passed, and it is now the first of November, 2005. You return to your online trading account to see how your portfolio has performed.

Based on actual data, your portfolio has resulted in a return of ________%.
Please write down all thoughts that came to your mind in the space below. Please write in full sentences, and feel free to use as much space as you can.
Now, please tell us any thoughts that came to your mind about the level of return you had targeted for your portfolio, the performance of the portfolio, your satisfaction with this performance, and your information search process. Please write in full sentences.
Now we would like you to think about the search process, choice of stocks you made, and the performance of the portfolio of stocks you chose. Please consider the questions that follow carefully, and respond as accurately as you can.

**How satisfied are you with the performance of your portfolio?**

1........2........3........4........5........6........7........8........9
Not at all satisfied  Extremely satisfied

**Given the identical set of stocks to choose from, I would make the same choice again.**

1........2........3........4........5........6........7........8........9
Strongly disagree  Strongly agree

**I am very pleased with the performance of the stocks I chose.**

1........2........3........4........5........6........7........8........9
Strongly disagree  Strongly agree

**How satisfied are you with the information search you conducted?**

1........2........3........4........5........6........7........8........9
Not at all satisfied  Extremely satisfied

**Are you satisfied with the amount of information you have accessed?**

1........2........3........4........5........6........7........8........9
Not at all satisfied  Extremely satisfied

**How satisfied are you with the performance target you had set in picking the stocks you chose?**

1........2........3........4........5........6........7........8........9
Not at all satisfied  Extremely satisfied

**How do you describe the performance target you had set for your stock portfolio?**

1........2........3........4........5........6........7........8........9
Very low  Very high
How disappointed were you with the performance of the stocks?

1........2........3........4........5........6........7........8........9
Not at all 
Very much disappointed

disappointed

How much regret do you feel regarding the performance of the stock portfolio?

1........2........3........4........5........6........7........8........9
No regret at all
A lot of regret

How much regret do you feel about how you arrived at your stock choices?

1........2........3........4........5........6........7........8........9
No regret at all
A lot of regret

I would be happy to choose the same set of stocks on my next purchase occasion.

1........2........3........4........5........6........7........8........9
Strongly disagree Strongly agree

Would you recommend the same stocks to your friends who may consider investing in the market?

1........2........3........4........5........6........7........8........9
Definitely not Definitely

The following statements are quotes from students like you who have taken part in a similar experiment. In the context of your choice of stocks and the outcome of their performance, please place a check mark on the statements that reflect your own thoughts during your choice process.

- “I wish I had searched more.”
- “I wish I had searched less.”
- “I wish I had set a higher target.”
- “Given the range, my target for the portfolio’s performance was unrealistic.”
- “The portfolio could have performed better.”
- "I wish I had researched and considered the information more."
- "If I could do it again, I would search differently."
- "If I could do it again, I would set a different target."
Now it is the 1st of November. You are about to decide to make a decision on your portfolio’s allocation for this month.

Again, the range of the performance typical of this market is 7% to 20%.
If you recall, your target for the previous month was [respondents’ earlier goal]%, and the actual performance of the portfolio was [respondent’s earlier goal] %.

What is your target for the portfolio’s performance this month?

My target for the portfolio’s performance for this month is: ____%
How are you feeling now? (open ended)

Please tell us to what extent the words that follow describe how you feel right now:

Disappointed (1-not at all; 9-extremely)
Regretful (1-not at all; 9-extremely)
Delighted (1-not at all; 9-extremely)
Happy (1-not at all; 9-extremely)
Sad (1-not at all; 9-extremely)
Anxious (1-not at all; 9-extremely)

We are interested in how you feel about the performance of your portfolio. Please tell us whether you agree with the following statements:

- I feel happy about the outcome (happy-outcome)
  o (1-strongly disagree; 9-strongly agree)
- How disappointed are you with the performance of the stocks? (disapp-outcome)
  o (1-not at all disappointed; 9-very much disappointed)
- I feel regret concerning the outcome. (regret-outcome)
  o (1-strongly disagree; 9-strongly agree)
- How much regret do you feel about your research process, such as the number of stocks and the amount of effort you put into choosing the three stocks? (1-no regret at all; 9-a lot of regret) (process-regret1)
- How much regret do you feel about how you arrived at your stock choices? (process-regret2)

Now we would like you to think about the search process, choice of stocks you made, and the performance of the portfolio.

- How satisfied are you with the performance of your portfolio? (out1) (1-not at all satisfied; 9-extremely satisfied).
- Given the identical set of stocks to choose from, I would make the same choice again. (out2) (1-strongly disagree; 9-strongly agree)
- I am pleased with the performance of the stocks I chose. (out3) (1-strongly disagree; 9-strongly agree)
- If I could, I would do this task again. (redo) (1-strongly agree; 9-strongly disagree)

If you could, what would you do differently? Please take a moment to think about your expectations about the portfolio, information search, decisions about the stock allocations, and tell us if you would do anything differently, and if so, how. (open-ended)

- I would change my earlier expectation / target level of return (1-downward; 9-upward) (goalCFT)
- I would change my search process. (1-strongly disagree; 9-strongly agree) (searchCFT1)
- I feel that I should have searched more. (1-strongly disagree; 9-strongly agree) (searchCFT2)
- I feel that I should have searched less. (1-strongly disagree; 9-strongly agree) (searchCFT3)

- How happy are you with the information search you conducted? (1-not at all happy; 9-extremely happy) (effort1)
- Are you satisfied with the amount of information you have searched? (1-not at all; 9-extremely) (effort2)
- In researching and choosing stocks, I feel that I have put in: (1-little effort; 9-a lot of effort) (effort3)
- How satisfied or dissatisfied are you with your experience of deciding which stocks to choose? (1-extremely dissatisfied; 9-extremely satisfied) (process)

- How satisfied are you with the performance target you had set in picking the stocks you chose? (1-extremely dissatisfied; 9-extremely satisfied) (exp2)
- How do you describe the performance target you had set for your stock portfolio? (exp1)
- I would be happy to choose the same set of stocks on my next purchase occasion (1-strongly disagree; 9-strongly agree) (repeat)
- Would you recommend the same stocks to your friends who may consider investing in the market? (1-definitely not; 9-definitely) (recommend)

- How hard do you think you worked on the stock picking task: (manip1)
  1-Less than average respondent  3-same as average resp  5-higher than avg resp.

- I believe that there is a relationship between goal and effort; that is, increasing my effort in picking the stocks would improve the performance of the stock. (1-strongly disagree; 9-strongly agree) (manip2)

- I feel that the performance of outcome depended on my own actions (1-strongly disagree; 9-strongly agree) (attrb1-self attribution)
- I feel that the performance of outcome depended on the situation and factors beyond my own actions (1-strongly disagree; 9-strongly agree) (attrib2—others attribution)

We are interested in how you set your goal for the performance of the stock portfolio. Please indicate the extent to which you agree/disagree with the following statements.

- I wanted to set a goal that I felt I could achieve given my knowledge of stocks. (goal1)

- I chose a performance goal that reduce my future disappointment. (goal2)

- Choosing a low goal is better than choosing a high goal when the outcome is uncertain. (goal3)

- I chose a performance goal that reduce my future regret. (goal4)

- Setting a low goal or expectation is a good way to prepare for an uncertain outcome. (goal5)

- I kept in mind that not achieving the target goal might put me in a bad mood. (goal6)

- By choosing a low goal or expectation I can minimize my chance of being disappointed with an unexpected outcome. (goal7)

- I tried to manage my expectation in setting my target since not achieving the target would be embarrassing. (goal8)

Now we would like you to think back and recall the range of monthly return that was provided to you earlier. What was the range of monthly return? Please write the two percent figures. The range of the stock performance was approximately between: ________% and ________% (please write the two percent figures). (recall1)

What was the goal or target performance you chose for your portfolio in percent? ________% (recall2)
We are interested in how you evaluate the outcome of the stock performance in general, and in your satisfaction with the performance. Please indicate the extent to which you agree/disagree with the following statements.

I compared the performance of my portfolio to my initial expectation. (eval1).

I thought about how much better I could have done. (eval2)

I thought about how much worse I could have done. (eval3)

My evaluation of the stocks' performance is based on how it compares to the range of outcomes that are typical. (eval4)

I am very familiar with the stock market and making financial investments. (familiarity)

I consider myself as knowledgeable about investing in the financial market. (knowledge)

I am interested in investing in the stock market or the financial market. (involve)

The task of choosing and investing in stocks was interesting to me. (involve2)

COVARIATES (paper-and-pencil)
- RFQ questions
- Defensive pessimism
- Perfectionism
- Risk propensity

THANK YOU FOR PARTICIPATING IN THIS STUDY!
APPENDIX 8

EXPERIMENT 3--STIMULI

Welcome. Today you will take part in two studies. One of the studies is a reading comprehension study administered by the English department, and the other is a decision making study about financial investment. For the financial decision making study, you will be given a budget and asked to pick three foreign stocks that will together form an investment portfolio. We have obtained real data for performances of 20 stocks from an investment website. You can use these data to decide which three stocks to pick for your portfolio.

Your portfolio’s performance (i.e., the returns of the three stocks you pick) will be provided to you at the end of this study.

When you are clear on this task, hit “Enter” to move on to the study.
Imagine that you have $5,400 available and are thinking of investing this money in the stock market of a foreign country that you have moved to. You make investment decisions on the first of every month, that is, you only trade on the 1st of each month. It is now February 1st.

On the following page you will find the stocks that you are considering. You will be given information on 20 stocks from which to pick 3 stocks. These are real data obtained as of February 1st, 2006.

You can click on the sticker of each stock to access more detailed information relevant to evaluating the stock, such as key ratios, past earnings and growth history. Click on as many or as few as you need.

To return to the stock list, click on the link “Return to stocklist.” Click on “continue” only when you are ready to choose three stocks and allocate your budget.

We suggest that you use the scratch paper provided to jot down the three stocks and how much (in percent) of the $5,400 you want to allocate to each, so that you can remember your choices and allocation decisions later. Please note, the percentage allocation for each stock should add up to 100%.

[STOCK SEARCH]

Interactive stock list

P:\Stock stimuli\E-lab questionnaires\eTrade\STOCKLIST.html

[ALLOCATION]

On the next page, please pick three stocks and indicate how much of your budget you want to allocate to each stock in percent. Please note, allocation for the three stocks need to add up to 100 percent.

What is your choice for Stock 1? (type in name of stock) 
What portion of your budget would you allocate to Stock 1? 

What is your choice for Stock 1? (type in name of stock) 

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What portion of your budget would you allocate to Stock 2? _____

What is your choice for Stock 1? (type in name of stock) ______
What portion of your budget would you allocate to Stock 3? _____
STUDY 2

STUDY FROM THE ENGLISH DEPARTMENT

This study is being run by the English department to investigate students’ ability to understand passages that are not related to their ongoing, current task. Please read the following excerpt written by a specialist on college life and respond to the questions below.

Words of Advice to Students of Columbia: Disappointments Are Detrimental to Success in Life and to Life Satisfaction....Minimize Disappointments While in School!

When you graduate from Columbia, you’ll not only have an excellent education, you’ll obtain and develop insights into what determines one’s success in life. One key insight: It is very important to keep disappointment in check when in college.

Everyone remembers the first days of school when they didn’t know their way around and felt a bit out of place. In time, students develop an understanding of the campus, and start engaging in classes and extracurricular activities. However, students often experience setbacks and disappointments in the course of their four years in college. In turn, studies have shown that when you are disappointed, this experience has a negative impact on your self-confidence and your abilities to succeed in life.

Once you graduate and enter the real world, the life’s uncertainty can be overwhelming. Researchers say that one way to cope with such uncertainties in life is for people to be more careful and set manageable goals for themselves. This helps them to minimize the potential for disappointment, and hence to improved happiness and well-being.

Recent research survey by educational psychologists have found that there is a close relationship between the amount of disappointment experienced in school to whether one becomes motivated in life. That is, the more disappointment you experience in school, the less motivated you become. This is because experience of disappointment works as a negative feedback to your belief about yourself.

Of course you already know that these next four years are an investment in a lifetime of learning, but remember that these next four years are also an investment in a lifetime of skills in making the right choices and preparing for the unpredictable world ahead.

School years are an important time in your life. We hope that you will exercise care in choosing and setting goals, and learn to minimize disappointment when possible. Doing so will let you optimize your Columbia
education by avoiding disappointing outcomes and prepare for the real world.
1. What is the key message contained in this article?

2. How difficult or easy was it to understand this article?

   1  2  3  4  5  6  7
Very difficult  Very easy

3. How convincing was this article?

   1  2  3  4  5  6  7
Not at all  Very
STUDY FROM THE ENGLISH DEPARTMENT

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Words of Advice to Students of Columbia: Make the most of New York City!

When you graduate from Columbia, you’ll not only have an excellent education, you’ll have memories that will last you a lifetime.

Everyone remembers the first day of school when they didn’t know their way around and felt a bit out of place. In time, students develop an understanding of the campus and the city and they feel more confident.

The four years we spend in college give us a chance to explore the city as we become mature adults. This is why some college experiences are considered so important. In fact, 73% of adults who ever lived in New York City say “the best place I ever lived was New York.”

Of course you already knew that these next four years are an investment in a lifetime of learning, but remember that these next four years are also an investment in a lifetime of New York City Experiences too. New York city is not just culture and diversity. There’s a lot more besides museums and great restaurants. Catch a basketball game with the New York Knicks at Madison Square Garden. Rollerblade around Central Park. Dance until dawn at an underground club. Ride the Cyclone on Coney Island.

We hope you’ll take the time to make the most of these four years to build lasting memories. Remember … today’s experiences are tomorrow’s memories.

Once our students graduate and leave the City, they find it difficult to have access to the same level of culture, history, food, music, and art. There are a number of reasons for this, including other cities having less diverse populations, people having less time to explore cultural opportunities, and the loss of student discounts.
1. What is the key message contained in this article?

2. How difficult or easy was it to understand this article?

   1  2  3  4  5  6  7
   Very difficult        Very easy

3. How convincing was this article?

   1  2  3  4  5  6  7
   Not at all            Very
Please choose the monthly level of return you expect from the levels below. After you receive information on the stocks and select your three stocks, you will be given the actual monthly rate of return that you obtained on your portfolio (based on stock prices on March 1st).

What is the level of return that you expect for the portfolio of stocks that you picked? Circle one of the two target returns below. You will receive the actual performance of the stocks you choose in the next part of this study.

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Lower than average return  
Higher than average return

For this country, the typical market return is between 2% and 15% on a monthly basis. Please choose the level of return you would be satisfied with from the two levels below.

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Lower than average return  
Higher than average return

Please rate your target expectation on the following scale:

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Why did you choose the level of expected return that you picked above? Please use the space below to tell us why you chose the target return that you did.

[FEEDBACK]

We have found that there is a strong relationship between the amount of time spent on the stock selection task and performance of your stock portfolio. The computer has calculated that you spent an average amount of time selecting stocks, that is, you spent the same amount of time as the average participant in this study.

Vs.

We have found that there is no relationship between the amount of time spent on the stock selection task and performance of your stock portfolio. The computer has calculated that you spent an average amount of time selecting stocks, that is, you spent the same amount of time as the average participant in this study.

One month has passed. It is now the first of March 2006. You return to your online trading account to see how your portfolio has performed.

Your portfolio returned xx %, rounded to the nearest whole number.
Please write down all thoughts that came to your mind when you saw the level of performance of your stock portfolio. You will have two minutes to write down your thoughts. (open-ended, 2-minutes imposed)

[T2-goal]

Now it is the 1st of March. You are about to decide on making a decision on your portfolio’s allocation for this month.

What is your target for the portfolio’s performance for this month?

My target for the performance of the portfolio for this month is: ________%

Why did you set this goal? Please tell us all thoughts that came to your mind as you were selecting the target level of return (open-ended):

How are you feeling now? (open-ended)

Please tell us to what extent the words that follow describe how you feel right now:

Disappointed (1-not at all; 9-extremely)
Regretful (1-not at all; 9-extremely)
Delighted (1-not at all; 9-extremely)
Happy (1-not at all; 9-extremely)
Sad (1-not at all; 9-extremely)
Anxious (1-not at all; 9-extremely)

We are interested in how you feel about the performance of your portfolio. Please tell us whether you agree with the following statements:
- I feel happy about the outcome (happy-outcome)
  o (1-strongly disagree; 9-strongly agree)
- How disappointed are you with the performance of the stocks? (disapp-outcome)
  o (1-not at all disappointed; 9-very much disappointed)
- I feel regret concerning the outcome. (regret-outcome)
  o (1-strongly disagree; 9-strongly agree)
- How much regret do you feel about your research process, such as the number of stocks and the amount of effort you put into choosing the three stocks? (1-no regret at all; 9-a lot of regret) (process-regret1)
- How much regret do you feel about how you arrived at your stock choices? (process-regret2)

Now we would like you to think about the search process, choice of stocks you made, and the performance of the portfolio.
- How satisfied are you with the performance of your portfolio? (out1) (1-not at all satisfied; 9-extremely satisfied).
- Given the identical set of stocks to choose from, I would make the same choice again.(out2) (1-strongly disagree; 9-strongly agree)
- I am pleased with the performance of the stocks I chose. (out3) (1-strongly disagree; 9-strongly agree)
- If I could, I would do this task again. (redo) (1-strongly agree; 9-strongly disagree)

If you could, what would you do differently? Please take a moment to think about your expectations about the portfolio, information search, decisions about the stock allocations, and tell us if you would do anything differently, and if so, how. (open-ended)

- I would change my earlier expectation / target level of return (1-downward; 9-upward) (goalCFT)
- I would change my search process. (1-strongly disagree; 9-strongly agree) (searchCFT1)
- I feel that I should have searched more. (1-strongly disagree; 9-strongly agree) (searchCFT2)
- I feel that I should have searched less. (1-strongly disagree; 9-strongly agree) (searchCFT3)
- How happy are you with the information search you conducted? (1-not at all happy; 9-extremely happy) (effort1)
- Are you satisfied with the amount of information you have searched? (1-not at all; 9-extremely) (effort2)
- In researching and choosing stocks, I feel that I have put in: (1-little effort; 9-a lot of effort) (effort3)
- How satisfied or dissatisfied are you with your experience of deciding which stocks to choose? (1-extremely dissatisfied; 9-extremely satisfied) (process)

- How satisfied are you with the performance target you had set in picking the stocks you chose? (1-extremely dissatisfied; 9-extremely satisfied) (exp2)
- How do you describe the performance target you had set for your stock portfolio? (exp1)
- I would be happy to choose the same set of stocks on my next purchase occasion (1-strongly disagree; 9-strongly agree) (repeat)
- Would you recommend the same stocks to your friends who may consider investing in the market? (1-definitely not; 9-definitely) (recommend)

[MANIPULATION CHECKS]

- How hard do you think you worked on the stock picking task: (manip1)
1-Less than average respondent ····3-same as average resp·····5-higher than avg resp.

- I believe that there is a relationship between goal and effort; that is, increasing my effort in picking the stocks would improve the performance of the stock. (1-strongly disagree; 9-strongly agree) (manip2)

- I feel that the performance of outcome depended on my own actions (1-strongly disagree; 9-strongly agree) (attrib1-self attribution)

- I feel that the performance of outcome depended on the situation and factors beyond my own actions (1-strongly disagree; 9-strongly agree) (attrib2-others attribution)

We are interested in how you set your goal for the performance of the stock portfolio. Please indicate the extent to which you agree/disagree with the following statements.

- I wanted to set a goal that I felt I could achieve given my knowledge of stocks. (goal1)

- I chose a performance goal that reduce my future disappointment. (goal2)

- Choosing a low goal is better than choosing a high goal when the outcome is uncertain. (goal3)

- I chose a performance goal that reduce my future regret. (goal4)

- Setting a low goal or expectation is a good way to prepare for an uncertain outcome. (goal5)

- I kept in mind that not achieving the target goal might put me in a bad mood. (goal6)

- By choosing a low goal or expectation I can minimize my chance of being disappointed with an unexpected outcome. (goal7)
- I tried to manage my expectation in setting my target since not achieving the target would be embarrassing. (goal8)

Now we would like you to think back and recall the range of monthly return that was provided to you earlier. What was the range of monthly return? Please write the two percent figures. The range of the stock performance was approximately between: _______ (please write the two percent figures). (recall1)

What was the goal or target performance you chose for your portfolio in percent? _______% (recall2)

We are interested in how you evaluate the outcome of the stock performance in general, and in your satisfaction with the performance. Please indicate the extent to which you agree/disagree with the following statements.

I compared the performance of my portfolio to my initial expectation. (eval1).

I thought about how much better I could have done. (eval2)

I thought about how much worse I could have done. (eval3)

My evaluation of the stocks' performance is based on how it compares to the range of outcomes that are typical. (eval4)

I am very familiar with the stock market and making financial investments. (familiarity)

I consider myself as knowledgeable about investing in the financial market. (knowledge)

I am interested in investing in the stock market or the financial market. (involve)

[COVARIATES]

RFQ questions
Optimism-Pessimism
Perfectionism
Disconfirmation Sensitivity

THANK YOU FOR PARTICIPATING IN THIS STUDY!
APPENDIX 9A:

STUDY 5 READING TASK—CORRECTIVE CONDITION

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Here is an excerpt from a popular psychology magazine which summarizes the research findings:

*The things we expect will bring us lasting joy or happiness rarely do.*

Expectations mislead us: We never learn to predict what will make us happy, or how to anticipate the impact of major life experiences. Yet the quest for happiness isn't futile. Psychologists now believe that many of us can turn the well-being thermostat up or down a few notches by changing our belief about “managing expectations” for our performance or life satisfaction. Our sense of well-being is intimately tied to our sense of what could have been achieved, and whether we did our best to achieve our maximum potential.

*Likewise, the things that we expect will be unbearable and painful tend to be exaggerated. Whether it's running the New York City marathon, going for the bronze medal in the Olympics, or choosing your spouse, the peril lies in setting too low an expectation and settling for the “lower than average” outcome.*
APPENDIX 9B:

STUDY 5 READING TASK – DISAPPOINTMENT CONDITION

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