Multiple Goals As Reference Points

Evan Weingarten, University of Pennsylvania, USA
Sudeep Bhatia, University of Pennsylvania, USA
Barbara Mellers, University of Pennsylvania, USA

How do people feel about successes or failures relative to multiple goals? We investigate whether theories of goals as reference points generalize to multiple goals. Four studies support loss aversion and diminishing sensitivity, but we find violations of additivity: peoples’ feelings are not the sum of each outcome.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/1024874/volumes/v45/NA-45

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
New Perspectives on Reference Points and Consumer Motivation
Chair: Scott Wallace, Duke University, USA

Paper #1: Goal Specificity and the Dynamics of Consumer Motivation: The Role of Reference Point Focus
Scott Wallace, Duke University, USA
Jordan Etkin, Duke University, USA

Paper #2: Multiple Goals as Reference Points
Evan Weingarten, University of Pennsylvania, USA
Sudeep Bhatia, University of Pennsylvania, USA
Barbara Mellers, University of Pennsylvania, USA

Paper #3: Why Do Goals Cause Cheating? Unpacking the Confounding Effects of Mere Goals, Social Comparisons, and Pay
Matthew Chao, Williams College, USA
Ian Larkin, University of California, Los Angeles, USA

Paper #4: Anchors or Targets? An Examination of Credit Card Statements
Daniel M. Bartels, The University of Chicago, USA
Abigail B. Sussman, The University of Chicago, USA

SESSION OVERVIEW

Goals and motivation have a tremendous influence on consumer behavior. Each dollar spent is linked to consumers’ financial goals, each meal consumed is linked to people’s health goals, and effort on a given task is likely to be shaped by whichever goals that task serves or competes with.

One way of understanding the influence of goals is through their effect on judgments and decision-making, particularly in the role of reference points (Heath, Larrick, and Wu 1999; Kahneman and Tversky 1979). Goals often serve as reference points, and reference-based judgments about outcomes, progress, and the impact of goal-related actions are central to motivation (Bonezzi, Brenzl, and De Angelis 2011; Koo and Fishbach 2008; Soman and Cheema 2004). This perspective has provided valuable insights for consumer behavior and related fields, offering a unified explanation for many key findings in goals research including the goal gradient (Kivetz, Urmsinsky, and Zheng 2006), the performance benefits of high specific goals (Locke and Latham 1990; Ülkümen and Cheema 2011), and the motivational advantages of breaking long-term goals into smaller subgoals (Amir and Ariely 2008; Fishbach, Dhar, and Zhang 2006). At the same time, many important questions remain regarding the role of reference points in other key goal-related phenomena and the relationships (and distinctions) between goals-as-reference points and associated constructs.

The work presented in this session serves to address two broad questions, thereby expanding and clarifying understanding of how reference points influence motivation. First, what can we learn about consumer motivation and goal pursuit by extending and refining the concept of goals as reference points? Papers 1 and 2 explore the role of reference points in the effects of goal specificity (Wallace and Etkin) and in the simultaneous pursuit of multiple goals (Weingarten, Bhatia, and Mellers). Both papers’ findings make valuable contributions to the theory of goals-as-reference points and shed new light on its implications for long-standing questions in goals research. Second, how can we conceptually and empirically disentangle the “reference point” aspect of goals from their other features and from related non-motivational cues? Papers 3 and 4 disentangle the reference-point effects of goals from the often-confounded effects of incentives and social norms (Chao and Larkin) and highlight the important conceptual distinction between motivational reference points and cognitive anchors in consumer financial decisions (Bartels and Sussman). These papers illustrate key applications of the theory of goals-as-reference points in consumers’ lives, and their findings resolve important conceptual questions that arise from such applications.

Our research explores novel implications for pursuing specific versus non-specific goals, identifies how outcomes on multiple goals jointly shape satisfaction, and disentangles the motivational effects of reference points from related motivational factors (incentives, social comparisons) and non-motivational processes (anchoring). Together, this research offers valuable new insight into consumer motivation and goal pursuit. The session should have broad appeal to scholars interested in reference points, goal pursuit and motivation, financial decision-making, and judgment and decision-making.

Goal Specificity and the Dynamics of Consumer Motivation: The Role of Reference Point Focus

EXTENDED ABSTRACT

Consumers often pursue goals that lack specific end-states, such as goals to lose as much weight as possible or to pay off as much debt as possible. Yet despite considerable interest in the consequences of adopting non-specific (vs. specific) goals, how goal specificity impacts motivation during goal pursuit is less well understood. The current research explores the role of reference points in shaping goal specificity’s effects. We propose that goal specificity alters what reference point consumers spontaneously adopt during goal pursuit: for specific goals, the end-state tends to be more salient, but for non-specific goals, the initial-state should be more salient.

The value function’s features of diminishing sensitivity and loss aversion (Kahneman and Tversky 1979) offer a foundation for two key hypotheses that describe how this difference in focal reference points will impact the relationship between goal progress and motivation. First, we hypothesize that accumulating goal progress will decrease motivation for non-specific goal pursuers because they are moving away from their salient reference point (i.e., the initial-state), whereas it increases motivation for specific goal pursuers as they move toward their salient reference point (i.e., the end-state). Thus, due to diminishing sensitivity, there should be a crossover pattern of motivation depending on goal specificity. Second, we hypothesize that this crossover will be asymmetric because specific goal pursuers are in a loss frame (i.e., below their reference point) during goal pursuit, whereas non-specific goal pursuers are in a gain frame (i.e., above their reference point). Since the value function is steeper for losses, this difference should exaggerate the crossover effect when specific goal pursuers are more motivated (i.e., at high progress) and attenuate it when they are less motivated (i.e., at low progress). Five studies test these predictions.

Study 1 tests our predictions by assigning participants a specific or non-specific goal on an effortful proofreading task and measuring motivation at low, intermediate, and high levels of progress. Participants with a specific goal persisted significantly longer on an unsolvable task (i.e., finding nonexistent errors) as their accumulated goal progress increased, but those with a non-specific goal showed the opposite effect. Comparing across the two goal types, the effect of goal specificity emerged primarily at high progress, where motivation was significantly higher for specific versus non-specific goal pursuers. At
low progress, non-specific goal pursuers were directionally more motivated but the difference was non-significant. These findings support our predictions about the asymmetric crossover interaction between specificity and goal progress in determining motivation, produced by the effects of diminishing sensitivity and loss aversion.

Studies 2 and 3 replicate these findings in the domains of weight loss (Study 2) and debt repayment (Study 3). In both cases, motivation increases (decreases) with progress for specific (non-specific) goal pursuers, with the greatest effect of specificity at high progress and a smaller effect (in the opposite direction) at low progress. Furthermore, these studies measure the subjective impact of the next step of progress (e.g., the next pound of weight loss) for participants in each condition and find that differences in subjective impact mediate the observed effects on motivation. These studies also help to rule out alternative explanations by (1) testing our predictions in the absence of resource depletion, and (2) using specific goal levels that are calibrated from pretest data to be similar to participants’ self-set aspirations (Study 2) or substantially lower (Study 3), minimizing any potential differences in goal difficulty.

Studies 4 and 5 provide a deeper test of our proposed mechanism by manipulating which reference point goal pursuers focus on, again in the contexts of weight loss (Study 4) and debt repayment (Study 5). As predicted, results show that specific goal pursuers “look like” their non-specific counterparts when both groups focus on the same reference point (i.e., the initial-state). Specific goal pursuers who focus on the initial-state (vs. end-state) reference point are significantly less motivated at high levels of progress and directionally more motivated at low levels of progress, and they are virtually indistinguishable from participants with a non-specific goal in both cases. Again, we find evidence of mediation by differences in the subjective impact of marginal goal progress. The findings of Studies 4 and 5 support the notion that a difference in reference point focus is central to understanding the dynamic effects of goal specificity on motivation.

This research advances understanding of the relationship between goal specificity, goal progress, and motivation, and in doing so, underscores the critical role that reference points play. Conversely, this work extends understanding of the motivational influence of reference points to the context of non-specific goals, an important but understudied aspect of consumer behavior. Our findings offer practical insight into how consumers can set important financial, health, and other personal goals to enhance their motivation.

**Multiple Goals as Reference Points**

**EXTENDED ABSTRACT**

Daily life pushes us up against multiple different goals across different domains: academic, health, finance, and social. While we would enjoy meeting all of these goals, it is not always possible. Sometimes people may hit their goals targets, while in other cases they may struggle and remain distant from reaching any of their goals.

How do people feel about success and failures relative to their goals? A prior literature on goals (target performance, or “mere goals,” Heath et al. 1999) as reference points demonstrates that people’s happiness compared to their goals follows the prospect theory value function. In one case, Markle et al. (2015) asked marathon runners’ to predict their satisfaction with their performance relative to their time goal based on scoring above or below it. The results were consistent with the prospect theory value function’s loss aversion (failing to hit the goal time had a greater impact on satisfaction than beating it) and diminishing sensitivity (changes in satisfaction were larger based on changes close to the reference goal than further away from it) tenets.

We address how people feel about gains and losses with multiple goals. In addition to testing for loss aversion and diminishing sensitivity, we also examine whether additivity across the goal dimensions are met. That is, when making judgments of how they feel about outcomes on multiple goals, do people simply sum up how they feel about each outcome (additivity met), or are there interactions (additivity violated)? Dimensional additivity cannot be assumed given violations elsewhere in the literature (Birnbaum and Stegner 1979; Einhorn 1970).

Four studies present evidence in favor of loss aversion and diminishing sensitivity, but they find evidence of violations of additivity. Study 1a presents straightforward evidence of loss aversion. Participants were randomly assigned one set of two goals: 90 in English and 60 in Math, or 60 in English and 90 in Math. Participants then rated how they would feel (-50 = Extremely Unhappy, 50 = Extremely Happy) about three outcomes presented in a random order: achieving both goals, having a small loss (15 points) on one goal and a small gain (15 points) on another, and having a large loss and gain (30 points). Loss aversion predicts that losses should loom larger than gains, which suggests people will feel best about goal achievement and worst about the large loss (despite the equal-magnitude gain). Results supported loss aversion ($F(2, 168) = 89.17, p < .001$): participants were happiest with goal achievement ($M = 25.54$), then small losses ($M = 6.06$), and least happy with large losses ($M = 4.27$).

Study 1b supports a violation of additivity across dimensions. Participants read about a woman named Alice who had scored outcomes of a 60 in English and a 60 in Math. Participants rated how Alice would feel (-50 = Extremely Unhappy, 50 = Extremely Happy) about this outcome under four different pairs of goals: 90 in English and Math (two losses), 30 in English and Math (two gains), 30 in English and 90 in Math (one gain, one loss), and 90 in English and 30 in Math (one gain, one loss). Additivity predicts that the difference in happiness between having two gains and one loss and one gain should be similar to the difference in happiness between having one gain and one loss and two losses. A conjunctive interaction would predict a steeper drop in happiness between one gain and one loss and two losses. A disjunctive interaction would predict a steeper drop in happiness between two gains and one gain and one loss (Einhorn 1970). The results violated additivity and supported a disjunctive interaction: there was a steeper drop between two gains and one gain and one loss compared to the latter and two losses ($M = 11.57$; $F(1, 93) = 17.58, p < .001$). 63% of participants showed this pattern ($\chi^2(1) = 6.13, p = .013$).

Studies 2 and 3 use a larger design with model fitting to simultaneously test for loss aversion, diminishing sensitivity, and additivity. Participants read about Alice, but this time between-subjects we manipulated whether Alice’s outcomes were 60 in English, 60 in Math, 70 in English and 50 in Math, or 50 in English and 70 in Math. We had participants make 49 judgments of how Alice would feel about these outcomes relative to a combination of goals built on 7 levels of Math (30, 40, 50, 60, 70, 80, 90) by 7 levels of English (30, 40, 50, 60, 70, 80, 90) that varied across 49 pages within-subject. These judgments enabled group-level and individual-level tests of our predictions through model fits.

Study 2 finds convergent evidence with Study 1a and 1b. Quantitative model fits on the group and individual levels suggest values of loss aversion >1 (consistent with the literature), sensitivity < 1 (consistent with diminishing sensitivity), and violations of additivity consistent with a disjunctive interaction. When there was at least one loss, participants’ faced a displeasure approximately the size...
of a moderate-sized loss on one goal. Models with parameters for loss aversion, diminishing sensitivity, and interactions fit better than models without them.

Study 3 replicates study 2 using a different context: exercises. Participants read about a character named Charles who had made progress on his goals for Pushups and Lunges at the gym. Just as in Study 2, participants rated Charles’ happiness over 49 judgments with varying goals given a constant outcome. Study 3 again found evidence in favor of loss aversion, diminishing sensitivity, and violations of additivity. Specifically, there was again evidence of a disjunctive interaction in which the presence of one loss added an additional displeasure to Charles’ rated feelings.

Ultimately, while we find evidence in favor of loss aversion and diminishing sensitivity, we do not find evidence for additivity across multiple goals. That is, how people felt about their outcomes relative to multiple goals was not the simple sum of how they felt about each goal. We observe a disjunctive interaction: the presence of a loss added an additional displeasure to how people felt.

**Why Do Goals Cause Cheating?**

**Unpacking the Confounding Effects of Mere Goals, Social Comparisons, and Pay**

EXTENDED ABSTRACT

Goal-based incentives are used by many firms to motivate their employees. A wide range of studies have estimated that specific and difficult goals consistently lead to higher performance than do-your-best alternatives in many tasks across the lab and field (Locke and Latham 1990, 2002).

However, scholars have warned that the use of goals can carry unintended consequences (Ordonez et al. 2009a, 2009b). Two studies claim that goals can increase worker cheating on a task (Schweitzer et al. 2004; Cadby, Song, and Tapon 2010). These studies used laboratory experiments to show that subjects were more likely to cheat on a simple task when they were incentivized using a goal-based structure versus a do-your-best structure.

Advocates of goal-setting counter that these criticisms falsely ascribe some of the downsides of financial incentives to goals (Locke and Latham 2009). In particular, none of the aforementioned studies equated financial returns to cheating across conditions. The increased cheating in these studies could therefore be simply due to the differences in marginal or absolute pay, or to experimental subjects feeling that they would not be adequately paid if they did not cheat.

Additionally, studies on goals often confounded their results by using peer performance information to justify the assigned goal. Goal commitment is a key modulator for any effect of goals on performance, especially when tasks are difficult (Seijts and Latham 2001). To increase commitment, experimental studies on goals often inform subjects that many of their peers were able to attain the goal (e.g., Schweitzer et al. 2004). Importantly, subjects in non-goal conditions are not given information on peer performance, since there was no goal to justify. Increased cheating in the goal condition may therefore come from unfavorable social comparisons, and not from the use of goals.

In this study, we use a carefully-designed experiment that isolated the causal effects on cheating of the individual elements of goal-based incentive systems: mere goal use, social comparison use, and increased pay. Consistent with previous literature, we asked subjects to complete a word unscrambling task. Subjects were paid based on self-reported performance, although they did not know this when performing the task. To measure the effect of goals per se, we varied whether subjects were assigned a goal – to solve three or more questions in the allotted time. For peer comparisons, we varied whether subjects were told that “many previous subjects were able to solve three or more questions in the allotted time.” For pay, we varied whether subjects were paid via a fixed rate or according to their performance. For each of these three factors, we measured the impact of changes to a single factor while equalizing the remaining two.

Subjects were not aware of our ability to detect cheating on the task. Subjects were instructed to throw away all of their worksheets after each step of the experiment in order to keep their desk clear for the next set of worksheets; trash bins were placed around the room such that subjects could do so without standing up. However, seat numbers and trash bins were strategically placed so that each trash bin served at most two subjects; for each pair of subjects, one had only blue pens at their desk while the other had only black pens. The pen colors allowed us to connect the contents of each trash bin to a seat number (but not to a subject name), allowing us to match the worksheets to the self-reported score from that seat number. We devised this method in order to avoid experimenter demand effects.

In total we had 8 treatment arms to our study, with each combination of goal use, social comparison framing, and financial incentives. This allowed us to measure the individual effects of all three incentive system elements on cheating, as well as all possible interaction effects.

We find that all cheating in this goal-based incentive system was driven by financial incentives and the use of social comparisons. Goals themselves did not increase cheating. Moreover, adding a goal to social comparison framing or to pay-for-performance still did not increase cheating. Simply put, our results suggest that goals in and of themselves do not impact cheating, although elements often used in conjunction with goals do increase unethical behavior.

**Anchors or Targets?**

An Examination of Credit Card Statements

EXTENDED ABSTRACT

Anchors and targets differ in important ways. Notably, targets have motivational properties, whereas anchors act as neutral starting points for subsequent judgments. Research designs are often unable to disambiguate whether values are anchors or targets, and researchers have frequently been agnostic regarding this distinction. However, these differences may be critical in determining how people respond to them. For example, targets that are too high may backfire and lead people to pay less than they otherwise would, while targets that are too low may be demotivating once people have passed them. We would not anticipate parallel reactions to anchors. One area where this difference is particularly important is in the domain of personal finance and specifically, choices of credit card payment amounts in response to values appearing on credit card statements. Literature on this topic often refers to minimum values as anchors despite the fact that they appear to have many properties of targets (e.g., Stewart, 2009). This distinction may be important for understanding which values can effectively be used to increase chosen payments.

In this paper, we aim to better understand how people rely on cues in their environments. Specifically, we put forth methods for distinguishing anchors from targets based on distributional properties. This methodology is based on the premise that people will be motivated to exert additional effort to meet or exceed a target value when they are close to that target value, leading them to be more likely to end at a point just above the target value than just below it. However, people will have no parallel motivation with regard to an
anchor value. Therefore, they will be equally likely to end at a point just above or just below an anchor value. This leads to “piling up” in a distribution of people’s responses to target values, but a smooth distribution of people’s responses to anchor values. We highlight the importance of this distinction, examining how people use external cues as goals to motivate themselves, and formalize methodology for identifying differences in the distributions. From a practical perspective, we investigate how information provided on credit card statements influences subsequent payments.

After introducing a new methodology for distinguishing between anchors and targets, we validate this analytical approach by applying it to existing datasets with explicit anchors or target values, across a range of domains.

Next, we move to an investigation of how borrowers respond to values on their credit card statements. We begin by examining how participants select payments as a function of suggested values proposed to them on credit card statements, and find that people’s hypothetical payments align with distributions of responses to target values (Study 1). In Studies 2 and 3, we investigate whether suggested values take on other motivational properties consistent with targets as goals, namely loss aversion and diminishing sensitivity. We test for loss aversion by examining whether people feel different amounts of satisfaction if an identical payment is above or below the suggested amount and find that people are happier paying the same amount on a bill with the same overall value when then amount paid is above (vs. below) the suggested amount. We test for diminishing sensitivity by examining whether people have higher motivation to pay when they are close to (vs. far away from) their goal, and find support for this conclusion.

To test for the ecological validity of these findings, we turn to a large data-set of Chase cardholder payments. We examine distributions of payments around values that have been explicitly selected by cardholders as goals, and examine how inclusion of these values alters payments. Here, we find that consumer debt repayment patterns change when suggested values are introduced. Specifically, we observe large discontinuities in payment values around suggested amounts, with people being more likely to pay just above than just below these values. This pattern is again consistent with responses to targets. People are much more likely to pay just above the suggested amount than to pay just below it. Application of our newly introduced methodology to this data provides a similar result. Although this data provides an excellent context for examining whether backfiring occurs, we do not find evidence of backfiring within this self-selected group. Furthermore, rather than finding that low goals are demotivating, we show that a subset of people who select low values themselves are motivated to pay more than that amount, and will pay multiples of the initial value. We describe how our more nuanced understanding of values on credit card statements can be used to encourage debt reduction.

**REFERENCES**


