Goal Distance and Consumer Choice

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GOAL Distance and consumer choice Temporal Construal and Value-Consistent Choice Yaacov Trope (New York University) Based on Construal Level Theory (Trope & Liberman 2003), it is proposed that central goals, attitudes, and values, because of their relatively abstract and decontextualized nature, more readily guide choice for psychologically distant situations. As one gets closer to a situation, choices are increasingly more likely to be based on secondary, low level considerations. Consistent with this proposal, a series of studies demonstrate that people’s central goals, attitudes, and values have greater influence on their choices for the distant future, whereas their more peripheral goals, attitudes, and values have greater influence on their choices for the near future.

The Goal-Gradient Hypothesis Resurrected: Purchase Acceleration, Illusionary Goal Progress, and Customer Retention Ran Kivetz, Oleg Urminsky and Yuhuang Zheng (Columbia University) Building on the behaviorist goal-gradient hypothesis (Hull 1934), we demonstrate that: (a) participants in real incentive programs accelerate their purchases and exhibit higher frequency, quantity, and persistence of effort as they approach reward goals; (b) the illusion of goal-progress likewise induces effort acceleration; e.g., customers given a “12-stamp” coffee card with two pre-existing “bonus” stamps complete the 10 required purchases faster than customers given a “regular” 10-stamp card; and (c) stronger goal-acceleration predicts greater customer retention and faster reengagement in the program. Our conceptualization and empirical findings are captured by a parsimonious goal-distance model, in which effort investment is a function of the proportion of original (perceived) distance remaining to the goal.

Mindset over Matter: The Interplay between Goals and Preferences Anastasiya Pocheptsova and Ravi Dhar (Yale University) Research on goals demonstrates that people evaluate options based on current active goals, whereas choice research ignores the goals that people bring to the choice situation. Our paper looks at the interplay of mindset and goal focus on subsequent preferences. An option can be seen facilitative or interfering to the focal goal and this determines the preference for an option. In a series of studies we demonstrate the effect and processes by which different mindsets influence preferences in a subsequent task. We show that distinct mindsets have different levels of goal commitment, which affects how option is evaluated relative to the focal goal pursuit.

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SESSION OVERVIEW

A large body of literature has underscored the notion that goals play a central role in consumers’ decision processes and ultimate behavior. Dynamic models of motivation (e.g., Atkinson 1957; Lewin 1951; Miller 1944) propose that people possess a strong achievement drive, which is heavily influenced by goals. The degree to which goals then affect behavior is determined by multiple factors. In addition to the valence and magnitude of goal outcomes, the degree of distance or remoteness from a goal or outcome has been recognized as an important determinant of how goals impact behavior. For example, the goal-gradient hypothesis, originally proposed by the behaviorist Clark Hull in 1932, states that the tendency to approach a goal increases with proximity to that goal.

More broadly, the notion that different forms of distance from a goal can affect consumer motivation is supported by a variety of theories of social-cognition and human decision-making. Researchers have investigated the impact on decision-making and behavior of individuals’ psychological distance from their outcomes and goals (Kivetz and Kivetz 2004; Lewin 1951; Trope and Liberman 2003). Gollwitzer and Bayer (1999) identified two sequential stages of goal pursuit (and their associated mindsets) that exhibit increasing degrees of goal activation. Carver and Scheier’s (1990) cybernetic control model further suggests that comparisons of the rate of progress toward the goal with a relevant criterion induces negative or positive affect and can therefore impact choices and behavior.

Building on the existing literature, the proposed session will contribute to a better understanding of the impact of goal proximity on consumer decision-making and behavior. The research papers in this session investigate the notion of distance from a goal or outcome based on multiple, yet related, theoretical perspectives and different conceptualizations of psychological goal-distance, including temporal, conceptual, and perceptual distance. The papers employ a variety of methods and data (lab and field experiments, paper-and-pencil problems, and secondary consumer data), and the session will offer a broad perspective on the ways in which the degree of goal proximity plays a role in the behavior of consumers.

In the first paper, Trope investigates the differential impact of central goals on choices concerning temporally near or distant outcomes. Building on Construal Level Theory he proposes that central goals, attitudes, and values, because of their relatively abstract and decontextualized nature, more readily guide choice for psychologically distant outcomes. In a series of studies, he demonstrates that temporal distance moderates the effect of central goals on consumers’ choices, such that their central goals have greater influence on choices for the distant future, whereas their more peripheral goals and values have greater influence on choices for the near future.

Kivetz, Urminsky and Zheng build on the classic goal-gradient hypothesis to investigate the impact of progress towards a goal on consumer behavior. Using real reward programs, they demonstrate that participants purchase more frequently the closer they are to the reward goal and demonstrate higher frequency, effort and persistence as they approach that goal. They find that a stronger tendency to accelerate toward the reward, indicative of a higher degree of goal motivation, predicts greater retention and faster reengagement. They further demonstrate that the mere illusion of progress toward the goal likewise induces effort acceleration. Their conceptualization and findings are captured in a parsimonious goal-distance model, in which effort investment is a function of the proportion of original (psychological) distance remaining to the goal.

Pocheptsova and Dhar investigate the interplay of mindset (deliberative or implemental) and goal focus (whether goals are activated) on subsequent preferences. They argue that for focal goals, whether an option is seen as facilitative or interfering with that goal determines preference for the option. In a series of studies, they demonstrate the effect and processes by which different mindsets influence preferences in a subsequent task. The paper shows that distinct mindsets have different levels of goal commitment, which affects how options are evaluated relative to the focal goal pursuit.

“Temporal Construal and Self-Consistent Choice”

Yaacov Trope, New York University

According to Construal Level Theory, people rely on more abstract representations, or high-level construals, of future situations when making decisions for the distant future than the near future. High-level construals consist of general, decontextualized features that convey the essence of information about future events, whereas low-level construals include more specific, contextual, and incidental details. Therefore, decisions regarding more distant future situations are more likely to be based on one’s central, superordinate self-guides than on one’s secondary, subordinate self-guides.

Initial evidence for this proposal came from studies on temporal changes in the effects of goals on choice. Depending on people’s goals, some aspects of future options are primary and essential whereas others are secondary and incidental. Consider an activity consisting of two parts: A main task, which is the goal of the activity, and an unrelated filler task to be performed during a break in the main task. Because the main task is the primary goal of the activity, it is part of a high-level construal of the activity, and because the filler task is a secondary aspect of the activity, it is part of a low-level construal of the activity. CLT therefore predicts that temporal distance will increase the weight of the valence of the main task relative to the weight of the valence of the filler task in determining the overall attractiveness of the activity. Trope and Liberman (2000) presented participants with a choice between activities consisting of an interesting main task and a boring filler and activities consisting of a boring main task and an interesting filler. The activities were said to take place either on the same day or a few weeks later. The results showed that temporal distance increased interest of the activity with an interesting main task and boring filler, but decreased the interest in the activity with a boring main task and interesting filler. These studies show that people’s primary goals are more influential in guiding distant future decisions, whereas their secondary goals are more influential in guiding near future decisions.

Subsequent research examined temporal changes in forming value-consistent intentions. All of these studies used Schwartz’s (1992) value questionnaire to assess the importance participants assign to a wide range of values (e.g., power, benevolence, hedo-
The first study asked participants to imagine 30 behaviors (e.g., rest as much as I can) and to indicate the likelihood of performing each behavior either in the near future or in the distant future. We correlated the rated importance of each value and the mean likelihood for performing the behaviors corresponding to that value. As predicted, these correlations were higher when the behaviors were planned for the distant future than when they were planned for the near future.

In another study, participants read vignettes of hypothetical situations taking place in either the near future or the distant future. They were then asked to think about the importance and meaning of the event (high-level construal), about the concrete details of the event (low-level construal), or received no specific instructions (the control group). Participants indicated their intention to engage in the behavior described in each vignette. As expected, regression analyses showed that both greater temporal distance and higher level construal led to higher value-intention correspondence. Moreover, the effect of temporal distance on value-intention correspondence was mediated by changes in level of construal of the events.

Values differ in their centrality, with some values being central to an individual, and others being more peripheral and secondary. When a situation is related to different values, the individual’s central values are more likely to guide choice from a psychologically distant than proximal perspective, whereas the individual’s secondary values are more likely to guide their choice from the psychologically proximal than distant perspective. To test this prediction, Eyal, Liberman, Sagristano and Trope (2004) manipulated the centrality of values and examined how they predict behavioral intentions. In the first of these studies, participants were presented with both hypothetical and realistic situations in which two values were relevant to a particular behavioral intention. The framing of the scenario was varied to render one value primary and the other secondary. For example, one scenario involved carrying trash down a mountain, and this behavior was described either in terms of self-discipline or in terms of preserving the environment. Participants estimated their likelihood of undertaking the described behavior. The results showed that intentions regarding the more distant behaviors were better predicted by the primary values but not the secondary ones.

The second study used priming to manipulate centrality of values. Based on a procedure applied by Bargh et al., (2001), scrambled sentences were used to prime either cooperation or competition, after which participants had to decide between cooperation and competition in a resource-management fishing game, in which they had to decide on the number of fish they fish for themselves vs. the number of fish they return to the pool for common good. Results indicated that participants intended to keep more fish (i.e., exhibited more selfish behavior) when primed with competition in the distant future but not in the near future. That is, the value that was made primary or high level by priming affected distant future intentions more than near future intentions. Together these studies suggest that central values are more likely to be revealed in choices for the distant future, whereas peripheral values are more likely to be revealed in choices for the more immediate future.

**“The Goal-Gradient Hypothesis Resurrected: Purchase Acceleration, Illusionary Goal Progress, and Customer Retention”**

Ran Kivetz, Columbia University  
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The goal-gradient hypothesis, originally proposed by the behaviorist Clark Hull in 1932, states that the tendency to approach a goal increases with proximity to the goal. In a classic experiment testing this hypothesis, Hull (1934) found that rats in an alley ran progressively faster as they proceeded from the starting box to the food. While the goal-gradient hypothesis has been investigated extensively with animals (for a review, see Heilizer 1977), its implications for human behavior and decision-making are understudied. In this article, we build on the behaviorist goal-gradient hypothesis and generate new propositions in the context of two real reward programs. We investigate these propositions using a variety of methods, data, and modeling approaches (e.g., field and laboratory experiments, secondary data).

The notion that goal progress affects consumer motivation is supported by theories of social-cognition and human decision-making. Dynamic models of motivation (e.g., Atkinson 1957; Lewin 1951) propose that people possess a strong achievement drive, which is heavily influenced by goals. Carver and Scheier’s (1990) cybernetic control model suggests that comparisons of the rate of progress toward the goal with a relevant criterion generate affect. Researchers have also highlighted the impact of individuals’ psychological distance from their outcomes and goals (Trope and Liberman 2003). Thus, prior theorizing regarding human motivation, affect, and cognition supports the relevance of the goal-gradient hypothesis for the human psychology of rewards. More specifically, as originally proposed by Kivetz (2000), the idea that achievement motivation increases with smaller goal-distance suggests that customers will accelerate and persist in their efforts as they near a reward program’s incentive threshold.

To account for the hypothesized effort acceleration, we build on research in psychophysics and decision-making that has highlighted the sensitivity to relative rather than to absolute dimensions (e.g. Kahneman and Tversky 1979; Stevens 1957). We argue that consumers will spontaneously consider their distance to a goal incorporating the total distance as a reference point, leading to an evaluation of relative goal-distance. Accordingly, we propose a parsimonious goal-distance model, in which effort investment is a function of psychological goal-distance, defined as the proportion of the total (original) distance remaining to the goal. Algebraically, we denote this psychological distance as $d = (r - n_t)/r$, where $r$ is the perceived total effort requirement of the reward (i.e., the starting distance to the goal), and $n_t$ is the amount of the requirements already fulfilled by the individual at time $t$. The goal-gradient hypothesis implies that the latent motivation at time $t$ to achieve the goal is a decreasing function of $d$. Because the underlying achievement motivation is unobserved, we model consumers’ observed effort behavior.

In a large-scale field study, we recorded inter-purchase times for nearly 10,000 coffee purchases of members of a real café reward program (“buy ten coffees, get one free”). We found that as members approached the reward goal, the average length of time before their next coffee purchase decreased. On average, inter-purchase times decrease by 20%, or 0.7 days throughout the program. Using a hazard rate model, we found a significant linear effect of perceived goal-distance $d$, demonstrating purchase acceleration as a function of goal proximity.

In a series of tests, we demonstrate that the observed purchase acceleration cannot be explained by habituation, expiration concerns, other time-trend effects, or heterogeneity bias. For example, goal-motivated acceleration is observed after accounting for weekly sales and other time-varying covariates, and a majority of significant accelerators are found after accounting for unobserved heterogeneity in base purchase rates and the tendency to accelerate. Furthermore, using a sub-sample of members who completed at least two cards, we find that inter-purchase times reset (to a lower level) after the first reward is earned, and then re-accelerate toward
the second reward goal. Such “post-reward resetting” is consistent with our conceptualization but is inconsistent with the habituation rival account. In addition, we find deceleration among two groups of café customers who have low goal motivation: (1) “defectors,” who do not complete their card and (2) holders of “transparent” cards, who are paid a flat-fee to record their purchases irrespective of their purchase frequency.

Consistent with the notion that a steeper goal-gradient is generated by an increased drive to attain the reward (Hull 1934), we argue that members who exhibit stronger acceleration toward their first reward have greater goal motivation. Indeed, we find that members who accelerated more strongly toward their first reward exhibited greater retention and faster reengagement in the program. Importantly, these results were obtained after controlling for the duration and completion date of the first card, and for customers’ base purchase rate (a proxy for their coffee preference).

Next, we support the proposition that the psychological, rather than absolute, goal-distance drives motivation. We note that “illusionary progress” toward the goal can be induced by increasing the total original distance to the reward while simultaneously increasing the perception of the requirements already completed (by giving bogus “head start” credits). Such a manipulation reduces the psychological (proportional) distance to the reward, \( d_p \), while holding constant the real, absolute remaining distance. In a field experiment, we find that the mere illusion of progress toward the goal induces purchase acceleration. Specifically, customers who (through random assignment) received a “12-stamp” coffee card with two pre-existing “bonus” stamps completed the 10 required purchases significantly faster than customers who received a “regular” 10-stamp card. Separate process experiments show that the illusionary goal progress effect cannot be explained by rival accounts like idiosyncratic fit and sunk cost.

In the last study, we analyze secondary data obtained from another real incentive program, akin to a freelance employment contract, in which participants earned a reward after rating 51 songs over the Internet. First, we replicated the finding of goal-motivated acceleration in inter-visit times (in the context of website rather than café visits). Second, we extended the goal-gradient effect to the domain of quantity decisions, demonstrating that the quantity of ratings per visit increases as a function of goal proximity. Third, we generalized the goal-gradient effect to the domain of effort persistence, showing that the probability of effort termination and program defection decreases with lower goal-distance. Finally, we again observed the phenomenon of post-reward resetting. In the general discussion, we explore the theoretical and practical implications of the findings.

“Mindset over Matter: The Interplay between Goals and Preferences”

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A major focus of choice research is on studying how consumers make tradeoff comparisons among the options provided. A major finding is that the manner in which people make tradeoffs is not consistent but changes with task and context (cf. Simonson et al. 2001). In much of this research, the manner in which consumer goals might influence preferences is relatively ignored as people are told to assume a goal (e.g., “Imagine you want to buy a VCR”). In contrast, a major finding in goals research suggests that most consumer behavior is goal driven and options that are consistent with active goals are relatively more valued. For example, Brendl et al. (2003) show a higher willingness to pay for a raffle ticket for a waiver on the university bill for students that were approached in the bursar’s office (with a high bill paying goal) compared to students in the cafeteria.

Our paper looks at the interplay of mindset and goal focus on subsequent preferences. Past goals research has identified two distinct stages of goal pursuit, each of which is associated with different mindsets (Gollwitzer and Bayer 1999). The deliberation stage, for instance, consists of choosing between competing desires to form a goal. In contrast, the implementation stage is focused on when, how and where to act in order to achieve a chosen goal. These two stages give rise to different cognitive orientations or mindsets (i.e., deliberative and implemental mindsets) that extend to subsequent unrelated tasks. The purpose of this paper is to show that the mindset that participants bring to a choice task influences their preferences. Our key proposition is that an implemental mindset generates stronger commitment to the background goal than a deliberative mindset, and therefore one is less likely to purchase an item that might interfere with the background goal. Conversely, if the item in a subsequent task help pursue the background goal pursuit (for example, excelling in classes and purchasing a daily planner), implemental mindset participants are more likely to purchase this item.

Three studies are conducted to demonstrate the effect and processes by which the two mindsets influences preferences in a subsequent task. In each study, deliberative or implemental mindset was induced by asking respondents to either list pros and cons of a personal decision or plan an execution of an intended goal. The first study was designed to test the proposition that participants in an implemental mindset exhibit goal shielding (Shah et al. 2002) and are less likely to purchase items that are likely to interfere with the pursuit of their focal goal. In this study, after completing mindset manipulation, the participants were presented with a cell phone with hedonic features (e.g., a digital camera). Participants in the implemental mindset were less likely to purchase the hedonic item than participants in the deliberative mindset. Further, a content analysis of goals revealed that the goals generated by the respondents were of serious nature (for example, doing well in classes) supporting the proposition that a purchase of a hedonic item would interfere with the pursuit of a background goal.

The next study examines differences between mindsets when a subsequent item is facilitative to current focal goal and therefore we predict that implemental mindset would lead to increased purchase preference. At the same time, if an item is unrelated to the focal goal (meaning it is neither facilitative nor interfering) the two mindsets should lead to similar preference for this item. In Study 2a and the participants were asked to focus on either serious academic or fun travel-related goal. Following the mindset manipulation, participants were asked to rate their preference for either an alarm clock and a water filter (Study 2a) or travel guide and a water filter (Study 2b). Pretests have shown that an alarm clock was seen as highly facilitative product for academic goal pursuit, whereas a travel guide was highly facilitative item for fun travel-related goal. At the same time a water filter was judged as unrelated to both goals.

Consistent with our predictions, we found a complete reversal of the choice pattern obtained in Study 1. Participants in the implemental mindset were more likely to purchase an item, which was seen as facilitative to their current goal pursuit compared to the participants in the deliberative mindset. At the same time, when an item is not related to the current goal pursuit, no differences were observed between the two mindsets.

As a further test of our theory, in Study 3 we show that the participants in the implemental mindset exhibit significantly higher commitment and determination to pursue the focal goal than those in the deliberative mindset. This difference in their commitment to
the goal that people bring to the next task, we stipulate, moderates goal shielding by implemental mindset participants. In particular implemental participants, due to higher goal commitment, inhibit preferences for items that are inconsistent with their background goal. At the same time, deliberative participants, whose commitment to the focal goal is weaker, do not engage in such goal shielding.

Research on goals demonstrates that people evaluate options based on active goals whereas choice research ignores the goals that people bring to the study. An option can be seen as facilitative or interfering to the active goal and this determines the preference for an option. Two distinct mindsets (created by successive stages of goal pursuit) have different levels of goal commitment, which affects a degree to which an option is evaluated relative to the focal goal pursuit. Our paper examines the extended effect of mindsets on preferences for goal-consistent and inconsistent alternatives.

REFERENCES


