

# When Goals Are Counterproductive: The Effects of Violation of a Behavioral Goal on Subsequent Performance

DILIP SOMAN  
AMAR CHEEMA\*

A considerable body of research supports the idea that individuals who set behavioral goals perform better than others who set no goals. In this article, we propose that in addition to the positive effects, goals may also have a counterproductive effect. Specifically, we propose that violating one's goal may cause a deterioration of subsequent performance as compared to individuals who have no goals. When the violation of one's goal is coded as a failure, it can result in demotivation, negative emotion, and consequently a poorer performance. We report two experiments that demonstrate the counterproductive effects of goals and discuss potential moderators of this effect along with several possible process explanations.

A broad literature (cf. Brendl, Markman, and Messner 2003; Gollwitzer 1999; Heath, Larrick, and Wu 1999; Locke and Latham 1990) suggests that goals motivate individuals and make people strive harder to accomplish a task and that individuals who set goals perform better than others who set no goals. In this article, we extend this literature by studying potential counterproductive consequences of goals. In particular, we study situations in which individuals who are trying to attain a particular goal fail to do so. We propose that the violation of a goal can be demotivating to continuing efforts, resulting in a deterioration of performance. As a result, it might be better not to have a goal than have a goal that one fails to achieve.

Goals play a central role in understanding a wide array of consumer behaviors. Indeed, as Bagozzi and Dholakia (1999, p. 19) write, "Much of consumer behavior is goal-directed." For instance, consumers' spending decisions are affected by their saving and investment goals (e.g., Shefrin

and Thaler 1988), which are often not attained (e.g., Baumeister 2002). Similarly, individuals make specific consumption decisions on the basis of their health goals and are not always successful in achieving these goals (e.g., dieting to lose weight; Bagozzi and Edwards 2000; Cochran and Tesser 1996). This article addresses the question, How does the failure to achieve a goal affect consumers' subsequent behavior?

We restrict our focus to behavioral goals that are concerned with the completion of a certain task or a specific behavior. Such goals are operationalized as a measurable target for performance and anything short of this target might be construed as a failure. We do not study more complicated, yet vaguely defined goals that have been previously been termed as the "do your best" type of goals (Locke and Latham 1990). Further, we study behavioral goals in two specific domains. First, we study consumer spending behavior and study the effects of a savings goal. Prior research—and popular wisdom—suggests that savings goals and target budgets can curb unnecessary expenditure (cf. Heath and Soll 1996). Second, we study situations in which individuals are called on to complete a task in the future. Without a completion goal (i.e., a deadline), people have been shown to procrastinate on an onerous task (Ariely and Wertenbroch 2002).

Our results show that goals may not always be beneficial in either of these domains. In the consumer spending domain, we find that consumers who have violated their savings goal will be more likely to incur additional expenses as compared to consumers who are just approaching their goal. And in situations where individuals are given a task

---

\*Dilip Soman is professor of marketing at the Rotman School of Management, University of Toronto, 105 St. George Street, Toronto, ON M5S 3E6, Canada (dilip.soman@rotman.utoronto.ca). Amar Cheema is assistant professor of marketing at the John M. Olin School of Business, Washington University, St. Louis, MO 63130-4899 (cheema@olin.wustl.edu). The authors thank Meigi Chan, Emily Chow, Vivian Lam, and Mandy Li for excellent research assistance. The authors also thank Claudia Gonzalez-Vallejo, Chris Hsee, Teesta Soman, the editor, associate editor, and the referees for comments on previous drafts. The second author acknowledges the support of the Leeds School of Business, University of Colorado at Boulder, where the second author was a doctoral candidate while working on this research. This research was conducted when the first author was at the Hong Kong University of Science and Technology, and the support of that university is gratefully acknowledged.

to complete in the future, we find that the violation of the goal (deadline) causes further delays and a poorer performance on the task as compared to participants who had set no goals.

The rest of this article is divided in three sections. We first briefly review literature on goal setting and its impact on performance and outline our conceptual framework. We then describe the results of two experiments that demonstrate the counterproductive effects of goals. Finally, we conclude with a discussion on the implications and limitations of our research, identify possible process explanations for this phenomenon, and propose avenues for future research.

## BEHAVIORAL GOALS

An extensive literature in psychology and consumer behavior has documented the beneficial effects of behavioral goals in accomplishing tasks, improving motivation and enhancing the quality of the outcome. An exhaustive review of the literature is beyond the scope of the present article, and we refer interested readers to Gollwitzer (1999) for an excellent review.

In the context of this article we refer to goals about specific levels of performance, established by an individual, as behavioral goals. Such goals have also been referred to as “mere” goals in the literature (see Heath et al. 1999), especially in situations in which there are no external consequences of meeting or violating these goals. For example, a prudent consumer might want to constrain spending by setting a monthly monetary saving goal (e.g., “I will save 15% of my monthly income”). And salespersons might set themselves a personal goal of completing 15% of the annual sales quota in the first month of the year. Using tasks as diverse as problem solving, writing term papers, solving family problems, riding a bicycle, consuming vitamins, and resuming physical activity after surgery, researchers have shown that behavioral goals improve performance (cf. Locke and Latham 1990; Orbell and Sheeran 2000). Specifically, two key findings emerge:

- 1) The specificity of the goal matters: In general, specific, measurable goals are more effective at enhancing performance than more vaguely stated “do your best” goals. However, goals that are too specific (e.g., at the level of small subtasks) may obscure the big picture and hence detract from performance.
- 2) The difficulty of the goal matters: Performance improves as the difficulty of the goal increases. However, there is also a suggestion that goals that are extremely difficult, to the point of being infeasible, do not help.

Why do goals help? Early researchers have looked at goals merely as behavioral reinforcers and have ignored any effects of goals on mental processes. For example, Hull (1932) suggested that goals were reinforcers that influenced learning efforts and behavior through conditioning. Subsequently, other researchers have advocated an expectancy-value approach in which organisms anticipate goals and

strive to achieve them (cf. Lewin 1951; see Klein 1991 for a review). Recently, Soman and Shi (2003) showed that consumers derive value from making progress toward goals, and this value enhances motivation and performance. These researchers suggest that goals directly influence the motivation and drive of the individual to achieve them.

Cochran and Tesser (1996) found similar results in a study where participants were asked to participate in a series of attention tasks in return for extra course credit. They demonstrated the effect of framing of the goal on performance: participants who were given a goal of achieving a certain number of points (by getting the task right) performed better than those given a goal of minimizing errors. Also, among participants with a goal of scoring points (an acquisition goal), those with a goal of scoring a certain number of points in each trial performed better than those with a goal of scoring the points across all the trials. They also measured participants’ self-reported goals and found a positive correlation between the difficulty of the self-stated goal and the actual number of points scored. The authors do not report the number of participants who actually achieved their goals, and how this affected behavior in subsequent trials.

More recently, Heath et al. (1999) advocated a reference point approach to explain the effectiveness of goals. They argue that a behavioral goal sets a reference point by dividing the space of outcomes into positive (i.e., successful achievement of goal) and negative (i.e., violation of goal) regions. In a series of experiments, they presented participants with descriptions of two hypothetical individuals and asked them to predict the behaviors and feelings of these individuals. For example, if two men performed 34 sit-ups and felt tired, participants thought that the man who had a goal of 40 sit-ups would be more likely to try and continue. Further, if a fitness enthusiast had a goal of 39 sit-ups but could not continue beyond 35, participants expected the enthusiast to experience negative emotions. In a similar vein, a test taker who scored 87 (but had a goal of 90) would be more disappointed than another who scored 83 and had no goals. Collectively, these results suggest that (a) individuals who approach their goal try very hard to try and accomplish it, but (b) if they fail to accomplish their goal, they experience negative emotion. While these results support the idea of goals setting a reference point and the prospect theory value function explaining the effectiveness of goals, they still leave unanswered the question, What is the effect of failure to accomplish a goal on subsequent performance?

## THE CONSEQUENCES OF FAILING TO ACCOMPLISH GOALS

In the present research, we study situations in which individuals attempt, but fail, to achieve a particular behavioral goal. Relying on four separate streams of research, we propose that the failure to achieve a goal will ultimately result in a detrimental effect on subsequent performance.

We propose that goals set a reference point, and that decision makers incorporate this reference point as an expected

outcome. Consider an individual who wants to save money. One goal this person might set is to save \$500 each month. This unambiguous specification of a reference point sets a target that must be met for the effort to be considered a success, and anything short of this target would be coded as a failure. We refer to such goals as “all-or-nothing” goals. In contrast, the individual may specify that their goal is to improve their monthly savings rate over time. In this case, there is no prespecified target, and the number of dollars put aside each month can measure success. In this case, success is not a binary attain/violate distinction, but is more graded. We refer to such goals as “graded” goals.<sup>1</sup>

This perspective is consistent with prior research (cf. Cochran and Tesser 1996; Heath et al. 1999) that distinguishes between goals for the elimination of an undesirable behavior (e.g., quitting smoking) that are typically of an all-or-nothing nature, and goals for attaining desirable behaviors (e.g., learning) that are typically graded. We focus on all-or-nothing goals and investigate why failure to attain these goals results in poorer subsequent performance.

First, we consider research in social psychology, which shows that activities coded as failures (rather than partial successes) are likely to result in lower perceived self-efficacy, which in turn has been shown to result in demotivation, lower goal commitment and consequently lower performance (Bandura and Simon 1977). The easier it is to code an outcome as a failure (given all-or-nothing goals), the more likely it is that an individual will be demotivated to continue striving, and hence their subsequent performance may suffer.

A second stream of research offering a similar conclusion is that in the area of self-monitoring. Researchers have shown that in assessing the effectiveness of goals, individuals compare established standards of performance (i.e., the goal) with feedback about actual performance typically obtained through self-monitoring procedures in which they observe and evaluate their behavior (Locke and Latham 1990). In the case of all-or-nothing goals, this self-monitoring will result in the tracking of behaviors that are inconsistent with the goal, which has been shown to be detrimental to performance (Bandura 1986). For instance, research has shown that tracking of goal-inconsistent behavior actually increased the incidence of smoking in individuals who were attempting to decrease it (see Cochran and Tesser 1996). However, in the case of graded goals, the effect of self-monitoring will be positive and hence is not likely to result in a deterioration of performance.

Third, the violation of an all-or-nothing goal results in the generation of strong negative emotions (Heath et al. 1999). Prior research suggests that individuals who experience negative emotions engage in emotional repair through distraction and by diverting attention to activities that can generate positive emotion (cf. Connolly, Ordóñez, and Coughlan 1997; Garbarino and Edell 1997). Individuals who violate a goal in one particular domain may therefore be motivated to shift resources to an alternate task or goal,

hurting performance on the original task. In the real world where consumers have multiple goals, violation of one goal may cause them to shift attention to other, more achievable goals.

A fourth stream of research focuses on the so-called rebound effect. It has been shown in various domains (e.g., thoughts in adults, obedience in children) that after a period of artificial suppression of a thought or behavior (as might be expected in goals to eliminate undesirable behaviors), the suppressed thought or activity is engaged in more frequently than if there were no attempt to suppress it (Wegner et al. 1987). During the period of suppression individuals resort to distracters and impose psychic costs on themselves to keep the unwanted activity at bay. However, as these psychic costs require effort, individuals might plan to impose them only for a limited period of time. Once this period is over, these psychic constraints are suddenly released and this facilitates the recurrence of the forbidden activity (Wegner et al. 1987). The violation of an all-or-nothing goal might signal the completion of a period of suppression, and the ensuing rebound would result in poor subsequent performance.

Thus, four independent streams of research lead us to hypothesize that

- H1:** The violation of a behavioral goal that constrains an undesirable activity will result in an ultimate deterioration of performance. Once the goal is violated, the previously constrained activity will be engaged in with a greater likelihood than if the goal was yet to be violated.

Consistent with this prediction, Cochran and Tesser (1996) offer the example of a student who was striving to reduce weight using a daily caloric goal. One day, the student realized that the daily quota of calories had accidentally been exceeded and proceeded to consume apple pie. The reasoning was “What-the-hell. Since I’m already over my goal, it doesn’t matter.” Cochran and Tesser (1996) refer to this response as a “what the hell” effect.

Recent research by Dhar and Simonson (1999) is also consistent with hypothesis 1 and the what the hell effect. These authors show that when consumers trade off a goal (like the presence or absence of pleasure) with a resource (like money), they prefer a highlighting strategy in which all goal-consistent consumption occurs in one episode. For example, in selecting an appetizer and entrée, a consumer will select a tasty appetizer and a tasty entrée on one day and a tasteless yet healthy appetizer and entrée on another day. Our framework will make a similar highlighting prediction for a consumer whose goal is to avoid eating tasty and unhealthy food. If this consumer has already violated a goal by consuming a rich appetizer, our framework predicts that they might go ahead and consume the tasty entrée anyway.

Based on the earlier discussion, we expect hypothesis 1 to hold under the following conditions:

- 1) The goal is an all-or-nothing type of goal: We expect the deterioration of performance to occur for all-or-

<sup>1</sup>All-or-nothing goals may be considered more specific than graded goals, holding people to a stricter standard.

nothing goals, but not necessarily for graded goals.

- 2) The goal cannot be broadened in scope after it has been violated: We make a distinction between goals that are defined with respect to one activity and others that may be part of a larger goal. For example, a monthly savings goal may be part of a larger goal of being able to retire early. In such a case, a monthly violation could be converted to a potential success by broadening the goal (e.g., “I violated this month’s savings goal, but will save more next month to make up for it”).

In the present research, we only study situations of all-or-nothing type of goals that are defined with respect to one activity. Specifically, in our experiments, participants had a target behavior (defined in monetary terms for experiment 1 and in temporal terms for experiment 2) that was applicable only in the one episode enacted in the experiment. The participants thus had no opportunities to broaden the goal and correct the behavior in another instance. While we expected to find support for hypothesis 1, we also believe that our effect would be moderated by changing the nature of the goal, and by giving participants the opportunity to broaden the scope of the goal.

## EXPERIMENT 1

In this hypothetical decision-making task, participants were given a spending history and a savings goal, and were then faced a purchase opportunity. We wanted to measure their willingness to deviate from the savings goal as a function of their current distance from the goal. The savings goal was operationalized as a “target discretionary spending.”

### Participants, Design, and Procedure

Seventy-eight staff members of a large university in Hong Kong participated in this experiment. They were recruited to participate in several unrelated studies, for which they were paid HK\$200 and given a souvenir gift (HK\$1.00 = US\$0.13). The present study was the first study that all participants completed. All participants received a three-page questionnaire entitled “What would you do?” On the first page, participants were first asked to read a paragraph describing different kinds of expenses that consumers routinely incur. All participants were then asked to imagine that they had a job that paid HK\$20,000 a month after taxes (i.e., take-home income). Further, they were told “Your monthly non-discretionary expenses like rent, bills, groceries, transportation, and insurance add up to HK\$10,000. This leaves HK\$10,000 each month that you can spend on discretionary items.” All participants were told that they had finished paying a loan and had HK\$5,000 in savings. Participants then read the following: “A few months ago, you decided to start saving some money for the future. Taking a tip from a popular money management book, you decided to set a personal savings goal for yourself. In particular, you decide that of the HK\$10,000 that remain after your non-

discretionary expenditures, you would like to save HK\$2000. In other words, you would like to spend no more than HK\$8000 on discretionary expenses. Over the past months, you have been fairly successful in meeting this goal, and have achieved it in over 75% of the months.”

Within this basic description, we manipulated the target discretionary spending of the consumer. Participants in the HK\$8,000 target condition read the above paragraph verbatim. Participants in the HK\$7,000 target condition, however, were told that they would like to save HK\$3,000, that is, spend no more than HK\$7,000 on discretionary expenses.

All participants were then told that it was the twenty-eighth of March and that they had been looking over their discretionary monthly expenses on a personal accounting program. A list of these discretionary expenses was provided in a tabular form on the second page of the questionnaire, along with a total of the expenses up to that date in March. Although the list of expenses was identical for all participants, the amounts were varied between subjects to be one of three levels of the Previous Discretionary Spending factor. The total spending was either set to be HK\$6,500, HK\$7,500, or HK\$8,500.<sup>2</sup> The experiment thus involved a 2 (Target Discretionary Spending) × 3 (Previous Discretionary Spending) between-subjects design.

After reading the information about their income and expenses, participants were instructed to turn to the last page of the questionnaire where they were presented with an expense opportunity. All participants read the following:

A friend calls to tell you that a local theater is selling a special package for HK\$1500. The package includes three music performances over the next three evenings by three artistes that you really like. In addition, the package also includes dinner and drinks on the last day, as well as a CD boxed-set compilation of the music of these artistes. Your friend plans to go, and says that some tickets are still available. You would really like to go, but at the back of your mind you are thinking about your expenses this month. You promise your friend that you will call back soon. You have a few minutes to think about this, and then make a decision.

Participants were asked to indicate the likelihood of their incurring this expense (on a nine-point scale: 1 = Definitely Not Spend, 9 = Definitely Spend). We refer to this variable as SPEND, with larger values indicating a greater likelihood of spending.

### Results and Analysis

We note that all participants had HK\$10,000 of their monthly income available for discretionary expenses, and for all participants, at least HK\$1,500 of this amount was presently unspent. Thus, incurring the expense on the theater package would not result in exceeding the monthly income. Prior research on mental budgeting and spending behavior

<sup>2</sup>The list of expenses was kept constant across conditions. However, the magnitude of each expense was adjusted to result in one of the three totals.

(e.g., Heath and Soll 1996) predicts that the likelihood of incurring an expense depends on the extent to which the budget has already been depleted. In the context of the present design, therefore, the prediction from prior research would be that participants whose previous discretionary spending was HK\$6,500 would be the most likely to spend, followed by participants who had spent HK\$7,500, and finally by those who had spent HK\$8,500.

However, participants in some of the conditions had already violated their spending targets while others had not. Further, the scenario implicitly led participants to the understanding that the personal spending goal would be desirable. Hence, in addition to studying the main and interaction effects of the two design factors, we were particularly interested in contrasting the responses of participants who had already violated their goal, with the responses of those who had not yet violated their goal.

The mean SPEND (likelihood of spending) for each of the experimental conditions is shown in table 1 and was analyzed in a 2 (Target Discretionary Spending)  $\times$  3 (Previous Discretionary Spending) ANOVA. Results indicated a significant two-way interaction of Target Discretionary Spending with Previous Discretionary Spending ( $F(2, 72) = 12.56, p < .001$ ), as well as a significant main effect of Previous Discretionary Spending ( $F(2, 72) = 11.39, p < .001$ ). Contrary to previous research, the main effect of Previous Discretionary Spending suggested that the willingness to spend was the highest when previous spending was HK\$8,500, lower when previous spending was HK\$7,500, and the lowest when it was HK\$6,500. Spending more money in the past actually resulted in a larger willingness to spend the additional HK\$1,500. Why did this counterintuitive result occur?

We categorize the six experimental conditions into three groups as follows (see table 1):

**Group 1: (Just Sufficient Surplus)** This group includes participants who had not violated their savings goal. If they spend the extra HK\$1,500, they will have spent up to their target but not exceeded it. Participants in condition 1 (Previous Spending = HK\$6,500, Target =

HK\$8,000) are in this group.

**Group 2: (Insufficient Surplus)** These participants have not violated their savings goal but would do so on spending the HK\$1,500. Participants in condition 2 (Previous Spending = HK\$7,500, Target = HK\$8,000) and condition 4 (Previous Spending = HK\$6,500, Target = HK\$7,000) are in this group.

**Group 3: (Overspent)** This group includes participants who have already violated their savings goal. The extra HK\$1,500 expense will not violate the HK\$10,000 available income constraint. Participants in condition 3 (Previous Spending = HK\$8,500, Target = HK\$8,000), condition 5 (Previous Spending = HK\$6,500, Target = HK\$7,000) and condition 6 (Previous Spending = HK\$8,500, Target = HK\$7,000) are all part of this group.

Contrasts revealed that the willingness to spend (SPEND) for group 3 (Overspent) ( $M = 6.15$ ) was significantly higher than SPEND for group 1 (Just Sufficient Surplus) ( $M = 4.31; p < .005$ ). SPEND for group 1 (Just Sufficient Surplus) ( $M = 4.31$ ) was in turn significantly greater than SPEND for group 2 (Insufficient Surplus) ( $M = 2.73; p < .02$ ). The willingness to spend was highest when the personal goal had already been violated, second when the extra spending would move cumulative spending up to the personal goal (but not violate it) and the lowest when the extra expense would directly result in a violation of the personal goal.

## Discussion

Results from the first experiment supported hypothesis 1. Specifically, we saw participants display the greatest willingness to spend when the savings goal had already been violated. Conversely, in a situation in which they were approaching the goal and could attain it by avoiding the expense, participants showed the lowest willingness to spend. Note that participants who had just sufficient surplus in their account were less likely to spend as compared to those who had already overspent. It is possible that the former were somewhat constrained by the budget ceiling; the latter had

TABLE 1

EFFECT OF TARGET DISCRETIONARY SPENDING AND PREVIOUS DISCRETIONARY SPENDING ON WILLINGNESS TO SPEND: EXPERIMENT 1

Target discretionary spending	Previous discretionary spending		
	HK\$6,500	HK\$7,500	HK\$8,500
HK\$8,000	Condition 1 (Group 1) <sup>a</sup> SPEND = 4.31 (2.28) <sup>d</sup>	Condition 2 (Group 2) <sup>b</sup> SPEND = 2.69 (1.70)	Condition 3 (Group 3) <sup>c</sup> SPEND = 6.23 (1.74)
HK\$7,000	Condition 4 (Group 2) <sup>b</sup> SPEND = 2.77 (1.92)	Condition 5 (Group 3) <sup>c</sup> SPEND = 6.31 (2.14)	Condition 6 (Group 3) <sup>c</sup> SPEND = 5.92 (1.75)

<sup>a</sup>Group 1 represents the condition in which the goal will not be violated by the additional expense (Just Sufficient Surplus).

<sup>b</sup>Group 2 represents conditions where the goal has not been violated so far but will be violated if the additional expense is incurred (Insufficient Surplus).

<sup>c</sup>Group 3 represents conditions in which the savings goal has already been violated (Overspent).

<sup>d</sup>The SD of the participants' reported likelihood of spending (SPEND) is reported in parentheses. There were 13 participants in each experimental condition.

already violated it and therefore paid no further attention to it. Clearly, once they moved into the “failure” part of the outcome space—a partitioning that is artificially created by the presence of the goal—there was a discontinuity in the effect of prior spending on future expense (Heath and Soll 1996). We note that although the goal in this experiment was presented as part of an ongoing goal, participants did not have the opportunity to broaden its scope as they explicitly knew that the experiment was only about the present month. Participants therefore had no opportunity to recover the present failure by improving behavior on future occasions.

While these results support hypothesis 1, some concerns remain. First, experiment 1 used a hypothetical task. Therefore, we can safely only say that our results captured what participants thought they would do and not what they actually did. Further, we wanted to increase the generalizability of our findings by studying another resource (time) and by letting participants set their own goals. In addition, we also wanted to create a greater variation in the levels of the assigned goals to test for the generalizability of the effects. Experiment 2 was conducted to address these issues.

## EXPERIMENT 2

The second experiment differed from the first one in a number of important ways. First, the experiment was in the temporal (rather than monetary) domain. Second, it required participants to undertake real investments in time (rather than hypothetical choices) to complete an assigned task. Third, rather than being given a goal, participants were asked to set their own goals in a guided fashion. Fourth, we created one control condition in which participants did not generate a goal at all (unlike experiment 1, where all participants had a goal).

### Participants, Design, and Procedure

One hundred and six students at a university in Hong Kong participated in this experiment. All participants were recruited by signs posted throughout the campus and were promised at least HK\$80 (and a maximum of HK\$120) for completing a proofreading task within a 30-day period. Participants were asked to register with an experimenter in a laboratory office and pick up an experimental booklet on a given day. They were then told to return the completed booklet to the experimenter at the same location during office hours on any day in a 29-day period starting the day after picking up. Participants were promised payment on returning the completed booklet.

Each experimental booklet had a unique identifying number on the cover page and contained 12 pages of articles. We planted a total of 120 grammatical or spelling errors within these 12 pages, with exactly 10 mistakes per page. The cover page of the booklet read, “Thank you for participating in this study called Business Journalism. In this study, you will read a number of paragraphs from articles that are being considered for publication in a business mag-

azine or the business section of a newspaper. Your task will be to read these articles and identify any typographic or grammatical mistakes that you may find in them. Circle any mistakes that you find using a pencil or pen.”

Participants were given an example of what their responses needed to look like and were reminded that their task was to merely identify the mistakes and not to correct them. In order to ensure that participants did not treat the task lightly, we provided an incentive for accuracy. Specifically, participants were told that everyone completing the study would receive HK\$80 but that “we would like to reward those of you who correctly identify mistakes with an additional HK\$40.” The bonus would be given to participants who had correctly identified at least 75% of the mistakes on a randomly selected page of the booklet.

Participants were randomly assigned to one of three experimental conditions. In the “proximal goal” condition ( $n = 35$ ), participants were told, “previous participants have found it useful to set a personal deadline or a goal by which to complete the task. Consider setting a challenging deadline; say sometime within the next 15 days. The deadline you set is for your own reference only, and we will accept completed booklets anytime over the next 30 days.” These participants were then asked to write down a personal deadline on the cover of the booklet. The experimenter recorded the deadline against each booklet identifying number.

Participants in the “distant goal” condition ( $n = 36$ ) received instructions that were identical in all respects to the instructions for participants in the proximal goal condition, except that they were asked to “consider setting a deadline that is achievable, say sometime after 15 days but before 30 days from today.” Participants in the “no goal” condition ( $n = 37$ ) did not receive these instructions and left after collecting their experimental booklets. In the context of previous research on goals, we expected the effects of goals on performance to differ with the level of difficulty of goals. Proximal goals were expected to be more challenging as compared to distant ones. This may cause the participants to perform better with the former; on the other hand, they may be discouraged more easily, leading to poorer performance.<sup>3</sup>

When participants returned with their completed booklets, the experimenter first scanned each booklet to ensure that participants had completed the task and had not left it blank. The date of finishing the task was entered against the appropriate booklet identification number. The experimenter randomly selected one page and checked for accuracy to determine if the HK\$40 bonus should be paid. While the experimenter completed this task and prepared payment, participants were given a single sheet of paper on which they indicated their agreement to a few statements and an-

<sup>3</sup>Cochran and Tesser (1996) demonstrate that the scope of the goal affects behavior: individuals who try to achieve a specific behavior (or skill) with a focus on short periods perform better than those who focus on longer time periods. The current scenario, however, uses goal proximity as a manipulation of goal difficulty, with differing predictions.

swered an open-ended question. Participants were then thanked for their participation, paid, and dismissed.

## Results and Analysis

First, as a manipulation check, we looked at the actual deadlines set by participants in the two goal conditions. In the proximal goal condition, the average deadline was set at 8.6 days from the time of picking up the booklet, while in the distant goal condition the average deadline was 17.17 days away ( $t(67) = 9.55, p < .001$ ). The instruction to set a proximal goal therefore did indeed result in shorter self-generated personal deadlines as compared to the instruction to set a distant goal.

We next consider performance across the three experimental conditions. We use three measures of performance. First, we looked at the percentage of participants who successfully finished the task (i.e., got paid) within the entire 30-day period (we hereafter refer to this percentage as FINISH). For each of the two goal conditions, we also computed FINISH-GOAL, the number of participants who finished before their self-imposed goal as a fraction of all participants in that condition who finished. Second, we looked at the total number of days it took for the participant to finish the task (DAYS). Third, we counted the number of mistakes that had been correctly identified by the participant. As the total number of mistakes was held constant at 120 for all participants, this number gave us an index of the accuracy of each participant (ACCURACY).

The number of participants who finished the task at various stages of the 30-day period in each of the three experimental conditions is shown in table 2. Not surprisingly, the percentage of participants who finished the task within 30 days and claimed their payment was higher in the distant goal condition ( $\text{FINISH}_{\text{dist.}} = 30/36 = 83.33\%$ ) than in the no goal condition ( $\text{FINISH}_{\text{no}} = 23/37 = 62.16\%$ ;  $\chi^2(1) = 3.93, p < .05$ ). However, the participants in the proximal goal

condition fared no better than the participants who had no goal ( $\text{FINISH}_{\text{prox.}} = 22/35 = 62.86\%$ ;  $\chi^2(1) = 0.06, p > .80$ ). Setting a goal increased the finishing rate, but only when the goal was distant and hence easy and not when it was proximal and challenging. The performance for proximal (i.e., challenging) goals was actually poorer, providing support for previous suggestions that very difficult goals may actually not be beneficial.

Next, within the two conditions in which participants set a personal goal, we examined the percentage of participants who finished before their personal goal (measured as a percent of all those who finished in the 30-day period). This percent was significantly greater for the distant goal condition ( $\text{FINISH GOAL}_{\text{dist.}} = 23/30 = 76.67\%$ ) than the proximal goal condition ( $\text{FINISH GOAL}_{\text{prox.}} = 10/22 = 45.45\%$ ;  $\chi^2(1) = 5.09, p < .05$ ). This finding is not surprising—participants in the distant goal condition on an average had set for themselves a deadline that gave them an additional 8.57 (17.17 – 8.60) days to finish the task as compared to participants in the proximal goal condition.

For the purpose of further analysis, we categorized participants in the goal conditions into one of two subgroups—those who completed the task before their personal deadlines (we refer to these as achievers) and those who did not (violators). The violators group was further comprised of two parts—those who eventually went on to finish within the 30-day period (violators—finished) and those who never finished (violators—did not finish). We compared the following five groups of participants:

- Group 1: No goal participants ( $n = 37$ , of which 23 finished)
- Group 2: Proximal goal achievers ( $n = 10$ )
- Group 3: Proximal goal violators ( $n = 25$ , of which 12 finished)
- Group 4: Distant goal achievers ( $n = 23$ )
- Group 5: Distant goal violators ( $n = 13$ , of which seven

**TABLE 2**  
NUMBER OF PARTICIPANTS WHO FINISH THE ASSIGNED TASK: EXPERIMENT 2

	Proximal goal	Distant goal	Proximal + Distant	No goal
A. Participants completing by personal goal (Achievers) <sup>a</sup>	10 (29%)	23 (64%)	33 (46%)	. . .
B. Participants completing after personal goal (Violators—finished) <sup>b</sup>	12 (34%)	7 (19%)	19 (27%)	. . .
C. Participants not completing in 30 days (Violators—did not finish)	13 (37%)	6 (17%)	19 (27%)	14 (38%)
Total participants completing in 30 days (A + B)	22 (63%)	30 (83%)	52 (73%)	23 (62%)
Total number of participants in condition (A + B + C)	35 (100%)	36 (100%)	71(100%)	37(100%)

<sup>a</sup>Participants completing by personal goal: The number of participants in each condition who completed the task within the self-reported duration.

<sup>b</sup>Participants completing after personal goal: The number of participants in each condition who completed the task after the self-reported duration, but in the 30 days time period.

TABLE 3

DISTRIBUTION OF NUMBER OF DAYS TAKEN TO FINISH ACROSS EXPERIMENTAL CONDITIONS AND NUMBER OF PARTICIPANTS WHO FINISH THE ASSIGNED TASK: EXPERIMENT 2

Participants completing task in	No goal					Proximal goal					Distant goal				
	Count	% of completers <sup>a</sup>		% of participants <sup>b</sup>		Count	% of completers <sup>a</sup>		% of participants <sup>b</sup>		Count	% of completers <sup>a</sup>		% of participants <sup>b</sup>	
		%	Cum. %	%	Cum. %		%	Cum. %	%	Cum. %		%	Cum. %	%	Cum. %
1–5 days	1	4	4	3	3	3	14	14	9	9	2	7	7	6	6
6–10 days	5	22	26	14	16	6	27	41	17	26	9	30	37	25	31
11–15 days	4	17	43	11	27	1	5	45	3	29	2	7	43	6	36
16–20 days	4	17	61	11	38	2	9	55	6	34	5	17	60	14	50
21–25 days	2	9	70	5	43	3	14	68	9	43	9	30	90	25	75
26–30 days	7	30	100	19	62	7	32	100	20	63	3	10	100	8	83
Total: 1–30 days	23	100		62		22	100		63		30	100		83	

<sup>a</sup>% of completers is the following percentage: Number of finishers in the specified time/Number of finishers in 30 days.

<sup>b</sup>% of participants is the following percentage: Number of finishers in the specified time/Number of participants in each condition.

finished)

The question we seek to answer is the following: In terms of performance, is it better to have no goal at all (group 1), or to have a goal and fail to achieve it (groups 3 and 5)? We first compare the percent of participants who finished the task before the 30-day period. For group 1, this percent was 62.16% (23/37). For groups 3 and 5, the percent was only 50% ((12 + 7)/(25 + 13)). In terms of eventually finishing the task, it was apparently better to have no goal at all than to have had a goal and have failed to attain it, although this difference was statistically not significant ( $\chi^2(1) = 1.12, p = .29$ ). However, achieving (or failing to achieve) an all-or-nothing goal may also affect subsequent performance in a graded manner. This was analyzed next, by focusing on the number of days taken to complete the task (DAYS) and the number of errors correctly identified (ACCURACY).

We considered all participants who finished the task and compared the number of days it took them to complete the task (as measured from the day they picked up the booklet). Not surprisingly, participants who set and achieved the proximal goal took the shortest period of time to complete the task (DAYS<sub>gr. 2</sub> = 6.40) and participants who set and achieved the distant goal took significantly longer (DAYS<sub>gr. 4</sub> = 14.04;  $t(30) = 4.09, p < .001$ ). Participants who had set no personal goals took even longer to finish the task (DAYS<sub>gr. 1 fin.</sub> = 18.13;  $t(43) = 1.75, p < .05$ ). Of specific relevance to our point, however, participants who set goals but failed to achieve them took much longer to finish the task than participants who had set no goals. In particular, participants who set and violated a proximal goal took significantly longer than those who had no goals (DAYS<sub>gr. 3 fin.</sub> = 25.50, DAYS<sub>gr. 1 fin.</sub> = 18.13;  $t(33) = 3.32, p < .001$ ). And participants who set and violated a distant goal also took significantly longer than those who had no goals (DAYS<sub>gr. 5 fin.</sub> = 25.14, DAYS<sub>gr. 1 fin.</sub> = 18.13;  $t(23) = 3.04, p < .005$ ). There was no difference in the number of days taken by proximal (DAYS<sub>gr. 3 fin.</sub> =

25.50) versus distant goal violators (DAYS<sub>gr. 5 fin.</sub> = 25.14;  $p > .90$ ). Overall, participants who set a goal and violated it (group 3 and group 5) took longer (DAYS = 25.37) than those who had no goals (DAYS<sub>gr. 1 fin.</sub> = 18.13;  $t(39) = 3.22, p = .003$ ). Table 3 shows the frequency distribution of the number of days taken to finish the task in each of the experimental conditions.

We further compared the accuracy levels of participants who successfully completed the task in each of these five groups by studying the number of mistakes correctly identified. The results follow a pattern similar to the number of days taken. Participants who set and achieved a goal—either difficult or easy—showed the highest accuracy (ACCURACY<sub>gr. 2</sub> = 106.90, ACCURACY<sub>gr. 4</sub> = 106.95;  $p > .50$ ). Participants who had set no personal goals were less accurate (ACCURACY<sub>gr. 1 fin.</sub> = 98.47;  $p < .05$ ) than the previous two groups. Of specific relevance to our point, however, participants who had set goals but failed to achieve them were the least accurate. In particular, participants who had set and violated a proximal goal were less accurate than those who had no goals (ACCURACY<sub>gr. 3 fin.</sub> = 91.42, ACCURACY<sub>gr. 1 fin.</sub> = 98.47;  $t(21) = 1.77, p < .05$ ). And participants who had set and violated a distant goal were also less accurate than those who had no goals (ACCURACY<sub>gr. 5 fin.</sub> = 90.29, ACCURACY<sub>gr. 1 fin.</sub> = 98.47;  $t(13) = 2.15, p < .05$ ). There was no difference in the accuracy of proximal (ACCURACY<sub>gr. 3 fin.</sub> = 91.42) versus distant goal violators (ACCURACY<sub>gr. 5 fin.</sub> = 90.29;  $p > .80$ ). Overall, participants who set a goal and violated it (group 3 and group 5) were less accurate (ACCURACY = 91.00) than those who had no goals (ACCURACY<sub>gr. 1 fin.</sub> = 98.47;  $t(39) = 2.26, p < .05$ ).

As table 2 and the preceding analyses show, goals—especially difficult ones—can be counterproductive. Failure to achieve these goals can result in subsequent performance that is worse than that of participants who had set no goals at all.

Why did the violation of goals result in poorer perfor-

mance? Although we had no direct measures that allowed us to analyze the underlying process, we turn to the description of the statements that participants saw in the final questionnaire (which they filled in just before being paid) and their responses for an exploratory analysis. All responses were on a nine-point scale (1 = Strongly Disagree, 5 = Neither Agree nor Disagree, 9 = Strongly Agree). All participants were initially asked to indicate agreement with the statement "This task was difficult," and we found no differences in response across either the three experimental conditions or the five behavioral groups described earlier ( $M = 7.4$ ;  $p > .67$ ). Participants in the goal conditions were asked to agree with the statement "Asking me to set a goal helped me in performing this task." Not surprisingly, the goal achievers (groups 2 and 4) agreed with this statement ( $M = 7.13$ ), while the goal violators who eventually finished (groups 3 and 5) strongly disagreed ( $M = 2.56$ ;  $p < .001$ ). Goal violators were also asked to agree with the statements "Once I could not meet my self-imposed goal, I felt no pressure until the final deadline," and "Once my self-imposed deadline passed and I had not finished, I decided to focus my efforts on other activities and to return to the proofreading task later." Agreement was high for both statements ( $M$ 's = 7.86 and 7.28, respectively) and significantly different from the midpoint of the scale ( $p < .01$ ). The pattern of agreement with this statement was also reflected in the distribution of the number of days participants took to complete the task. As is evident from table 3, after the goal had passed, the rate of finishing reduced until toward the very end of the period. All participants were also asked to write an open-ended response to the statement "Please think about the number of days you took to finish and whether you could have finished sooner." While we did not collect a sufficient quantity of responses to allow a meaningful statistical analysis, the response from a subject whose personal goal was to finish in 10 days but who eventually finished on the last day is particularly instructive: "I tried hard to finish in 10 days and most (of the work) was done by (the ninth day). Then something came up and once I got late, there was no point in rushing since I was late for myself (*sic*). There were still 20 days left and I had other things to do."

## Discussion

In the present experiment, we used three indices of performance. First, we measured the finishing rate, that is, the fraction of participants who successfully finished. Second, we measured the time it took for them to finish. And third, we investigated the accuracy in detecting mistakes. Results of the present experiment were consistent with prior literature, yet supported our prediction from hypothesis 1. In particular, we found that the setting of goals—particularly achievable ones—improved the probability of finishing the assigned task. Goal setting also improved the performance for those participants who achieved their goal. However, the participants who could not achieve their personal goals did not do well. Although the difference in finishing rate be-

tween these participants and those who set no goals was not significant, goal violators who eventually finished took significantly longer and were less accurate than participants who set no goals.

## GENERAL DISCUSSION AND CONCLUSIONS

### Summary of Research and Discussion

A large body of literature has documented the beneficial effects of goals on performance. In two experiments, however, we found support for the potential counterproductive effects of goals. In our first experiment, we found that participants who had already violated a savings goal (i.e., their target discretionary spending) were the most likely to spend on an additional discretionary expense. And in the second experiment, participants who set and accomplished their goal (i.e., a deadline) for completing an assigned task performed very well. However, those who set a goal but failed to achieve it performed poorly as compared to those who set no goals at all. Clearly, although behavioral goals help in a number of instances, they also have the potential to hurt the quality and timeliness of the subsequent output.

We note that we were simultaneously able to find support for both the beneficial and the counterproductive effects of goals, in hypothetical choice situations as well as by using a real task with goals. Further, we obtained these results in two separate domains of consumer behavior (saving money and meeting a deadline), and both in situations where participants were either supplied with a goal or they generated a goal of their own.

One obvious and immediate implication of our research relates to the important practical question, How difficult a goal should an individual set for oneself? At one extreme, very easy goals may not help significantly (e.g., if a subject in experiment 2 had set a goal of completing the task in 30 days). On the other extreme, our research suggests that very difficult goals might also not help because they might result in a deterioration of performance. Thus, moderately difficult goals may result in the best performance.

### Limitations, Future Experiments, and Potential Extensions

We restricted ourselves to all-or-nothing type of goals in making our predictions, and expected deterioration in performance to occur for all-or-nothing goals because the violation of such a goal is coded as a failure. In both our experiments, we described our goals as concrete targets, rather than as "do your best" type of objectives. Participants not meeting the savings goal in experiment 1 or not meeting the deadline in experiment 2 were therefore expected to code the outcome as a failure. Indeed, we did hear from participants about their perceived failure during debriefing. Failure to attain an all-or-nothing goal results in demotivation, frustration, negative affect, and hence a poorer performance. We also restricted ourselves to goals that could be achieved by

action in one period only. Unlike many real world goals that are set to accomplish a component of a larger objective, the participants did not have the opportunity to broaden the scope of the goal to convert a failure into a potential success because they made decisions for the present period only. Given the opportunity to make multiple decisions, we expect that participants will be able to counter some of the negative effects of failure by broadening the goal, and hence performance may not deteriorate greatly.

In order to test for the moderating effect of the above variables we would need to conduct an experiment in which the current experiments' design is embedded in each of the four conditions created by fully crossing two levels of the Nature of the Goal (all-or-nothing vs. graded) with two levels of Opportunity to Broaden the Scope of the Goal (no opportunity vs. opportunity). As a replication of the present research, we would expect to see the counterproductive effects of goals for all-or-nothing goals when there was no opportunity to broaden its scope. We would further expect to see a weakening of this effect when the goal was either converted to be of a graded nature, or its scope could be broadened. Finally, we might expect a further weakening—or perhaps not see the negative effects of goals at all—when goals are graded and they could be broadened. We plan to investigate these moderating effects in future research.

In this article we demonstrated the possible counterproductive nature of goals—specifically, failure to achieve a goal leads to poorer subsequent performance. On the basis of prior research on goal achievement we also speculated about mechanisms that could explain this effect. As discussed previously, poor performance on a goal may lead to one (or more) of four possible processes. Consumers who are unable to achieve a goal may: reduce the perception of how likely they are to achieve a goal (i.e., decrease self-efficacy); focus too much on the things they did wrong (i.e., negative self-monitoring); be unhappy as a result of the failure (i.e., negative emotion); or engage in more of the forbidden (and less of the desirable) activity after trying to focus on the desirable activity for some time (i.e., rebound effect). These four possible processes result in decreased motivation to try to achieve a goal, and subsequent poorer performance. We now address future work that could tease apart these possible explanations.

First, failing to achieve the preassigned goal may result in decreased self-efficacy (Bandura and Simon 1977). There are two possible ways to test for the existence of this process. One, consumers' perceived self-efficacy could be measured before they begin the first task, and then after they achieve (fail to achieve) their goal. Measures of self-efficacy could include a set of statements such as "In general, I achieve the goals I set for myself" or "Once I set my mind to it, I usually accomplish what I set out to do." If goal performance affects self-efficacy, consumers who succeed in achieving (fail to achieve) the goal would report higher (lower) scores. Moreover, this measure would mediate the effect of goal achievement on subsequent performance (Baron and Kenny

1986; Kenny, Kashy, and Bolger 1998). Two, self-efficacy could be manipulated by giving experiment participants scenarios including descriptions portraying the target individuals as more (less) efficacious. This process explanation would predict that individuals in the low (high) self-efficacy condition would perform poorly (better).

Second, negative self-monitoring may cause consumers to continue doing poorly from their first performance to their second one (Cochran and Tesser 1996). If this is the mechanism through which antecedent failure affects subsequent performance, a manipulation that causes participants to focus more on instances where they actually did well (poorly) will improve (worsen) subsequent performance. Such an elaboration manipulation may also be used to separate this explanation from the fourth one, as explained below.

Third, negative emotion from failure (Heath et al. 1999) may affect motivation to follow subsequent similar goals (Connolly et al. 1997). In this context, goal-seeking is considered to be a resource that is depleted by negative emotion. One manipulation that would test this prediction would involve introducing a windfall gain after the first task is completed. Similar to the manipulation by Arkes et al. (1994), half the participants could be told that they just won \$100 at a random drawing at their local radio station. This manipulation would moderate the effect of goal success/failure on subsequent performance (Kenny et al. 1998), by providing participants some positive emotion to offset the negative emotion experienced as a result of failing to attain a goal. Specifically, for participants who receive the windfall, there will be no difference in subsequent performance irrespective of whether or not they attained their goal. However, participants who do not receive a windfall will perform better (worse) after achieving (failing to achieve) a goal.

Fourth, the rebound effect explanation that consumers will "let themselves go" after trying to achieve a goal for a while, could be tested by the elaboration manipulation mentioned earlier for the negative self-monitoring proposition. If the rebound effect actually occurs, however, participants who believe they have been doing well (positive elaboration condition) will be more likely to perform poorly in a subsequent task as compared to participants in the negative elaboration condition, who believe that they have performed poorly in the first task. Note that the effect of the elaboration manipulation given a rebound effect will be opposite to that predicted for negative self-monitoring.

As mentioned earlier, these effects are not all mutually exclusive and may possibly coexist. For instance, we believe that failure to achieve a goal will result in negative emotions and decreased self-efficacy. A study that measures self-efficacy while simultaneously manipulating emotion (e.g., through a windfall gain) and elaboration (positive/negative) will allow us to further study exactly which of these factors are crucial antecedents of poor performance and thus contribute to the counterproductive effect of goals.

In summary, the current program of research studies the effect of goal achievement performance on subsequent tasks, thus extending previous research on goal achievement. We

believe that goals are desirable and that they help enhance performance on a number of different tasks. However, in addition to all the benefits of goal setting on performance, we demonstrate that under certain conditions, goals can also have counterproductive effects. This research therefore highlights the counterproductive effects of goals in a consumer behavior context and also provides an opportunity to tease apart competing explanations for counterproductive effects of goals.

[Dawn Iacobucci served as editor and Stephen M. Nowlis served as associate editor for this article.]

## REFERENCES

- Ariely, Dan and Klaus Wertenbroch (2002), "Procrastination, Deadlines and Performance: Self-Control by Precommitment," *Psychological Science*, 13 (May), 219–24.
- Arkes, Hal. R., Cynthia A. Joyner, Mark V. Pezzo, Jane G. Nash, Karen Siegel-Jacobs, and Eric Stone (1994), "The Psychology of Windfall Gains," *Organizational Behavior and Human Decision Processes*, 59, 331–47.
- Bagozzi, Richard P. and Utpal Dholakia (1999), "Goal Setting and Goal Striving in Consumer Behavior," *Journal of Marketing*, 63 (Special Issue), 19–32.
- Bagozzi, Richard P. and Elizabeth A. Edwards (2000), "Goal-Striving and the Implementation of Goal Intentions in the Regulation of Body Weight," *Psychology and Health*, 15 (March), 255–70.
- Bandura, Albert (1986), *Social Foundations of Thought and Action: A Social Cognitive Theory*, Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, Albert and Karen M. Simon (1977), "The Role of Proximal Intentions in Self-Regulation of Refractory Behavior," *Cognitive Therapy and Research*, 1, 177–93.
- Baron, Reuben M. and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (6), 1173–82.
- Baumeister, Roy F. (2002), "Yielding to Temptation: Self-Control Failure, Impulsive Purchasing, and Consumer Behavior," *Journal of Consumer Research*, 28 (March), 670–76.
- Brendl, C. Miguel, Arthur B. Markman, and Claude Messner (2003), "Devaluation of Goal-Unrelated Choice Options," *Journal of Consumer Research*, 29 (March), 463–73.
- Cochran, Winona and Abraham Tesser (1996), "The 'What the Hell' Effect: Some Effects of Goal Proximity and Goal Framing on Performance," in *Striving and Feeling: Interactions among Goals, Affect, and Self-Regulation*, ed. Leonard L. Martin and Abraham Tesser, Mahwah, NJ: Erlbaum, 99–120.
- Connolly, Terry, Lisa D. Ordonez, and Richard Coughlan (1997), "Regret and Responsibility in the Evaluation of Decision Outcomes," *Organizational Behavior and Human Decision Processes*, 70 (April), 73–85.
- Dhar, Ravi and Itamar Simonson (1999), "Making Complementary Choices in Consumption Episodes: Highlighting versus Balancing," *Journal of Marketing Research*, 36 (February), 29–44.
- Garbarino, Ellen C. and Julie A. Edell (1997), "Cognitive Effort, Affect, and Choice," *Journal of Consumer Research*, 24 (September), 147–58.
- Gollwitzer, Peter M. (1999), "Implementation Intentions, Strong Effects of Simple Plans," *American Psychologist*, 54 (July), 493–503.
- Heath, Chip, Richard P. Larrick, and George Wu (1999), "Goals as Reference Points," *Cognitive Psychology*, 38 (February), 79–109.
- Heath, Chip and Jack B. Soll (1996), "Mental Budgeting and Consumer Decisions," *Journal of Consumer Research*, 23 (June), 40–52.
- Hull, Clark L. (1932), "The Goal Gradient Hypothesis and Maze Learning," *Psychological Review*, 39, 25–43.
- Kenny, David A., Deborah A. Kashy, and Niall Bolger (1998), "Data Analysis in Social Psychology," in *The Handbook of Social Psychology*, Vol. 1, 4th ed., ed. Daniel T. Gilbert, Susan T. Fiske, and Gardner Lindzey, New York: Oxford, 233–65.
- Klein, Howard J. (1991), "Further Evidence on the Relationship between Goal Setting and Expectancy Theory," *Organizational Behavior and Human Decision Processes*, 49 (August), 230–57.
- Lewin, Kurt (1951), *Field Theory in the Social Sciences*, New York: Harper & Brothers.
- Locke, Edwin A. and Gary P. Latham (1990), *A Theory of Goal Setting and Task Performance*, Englewood Cliffs, NJ: Prentice-Hall.
- Orbell, Sheina and Paschal Sheeran (2000), "Motivational and Volitional Processes in Action Initiation: A Field Study of the Role of Implementation Intentions," *Journal of Applied Social Psychology*, 30 (April), 780–97.
- Shefrin, Hersch M. and Richard H. Thaler (1988), "The Behavioral Life Cycle Hypothesis," *Economic Inquiry*, 26 (October), 609–43.
- Soman, Dilip and Mengze Shi (2003), "Virtual Progress: The Effect of Path Characteristics on Perceptions of Progress and Choice Behavior," *Management Science*, 49 (September), 1229–50.
- Wegner, Daniel M., David J. Schneider, Samuel R. Carter, and Teri L. White (1987), "Paradoxical Effects of Thought Suppression," *Journal of Personality and Social Psychology*, 53 (July), 237–52.