The Effect of Primed Goals on Employee Performance: Implications for Human Resource Management

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Abstract

There is overwhelming evidence in the behavioral sciences that consciously set goals can increase an employee's performance. Thus HR professionals have had little, if any reason to become interested in subconscious processes. In the past decade, however, laboratory experiments by social psychologists have shown that goals can be primed. That is, behavior is affected by goals that people are unaware of. Because a conscious goal consumes cognitive resources, this finding has implications for employee efficiency in the workplace. The present paper describes the results of priming a performance goal in two organizational settings. Call center employees who were primed through a photograph of a woman winning a race raised significantly more money from donors than those who were randomly assigned to a control group. A meta-analysis of three field experiments revealed an average d-statistic of .56 ($p < .05$).

Goal setting theory (Locke & Latham, 1990; Locke & Latham, 2002) states that conscious goals are the immediate regulators of behavior. This is because the choice of a goal focuses attention on goal relevant – and away from goal irrelevant, activity. Given goal commitment, employees exert effort and persist in goal pursuit until the goal is attained (Latham, 2007).

Goal setting has a long history in the management of an organization's human resources (Latham, 1983). This is due to goal setting being a core variable in effective performance appraisals, coaching, training, transfer of training, and self-management. For example, Latham, Mitchell and Dossett (1978) found that the performance appraisals of engineers and scientists had no effect on behavior unless a specific goal was set based on the feedback these employees received. This finding is consistent with research on management by objectives (Odiorne, 1965). With regard to coaching, setting specific performance goals resulted in twice as much improvement in an employee's performance than did a discussion of general goals, or criticism without reference to a specific goal (Burke, Weitzel, & Weir, 1978). Wexley and Nemeroff (1975) found that setting distal as well as proximal goals led to an increase in the interpersonal skills of department heads of a large urban hospital and a reduction in the absenteeism of their subordinates. Training in self-management skills that involved goal setting for number of days to come to work, writing a behavioral contract with one-self so as to increase goal commitment, and self-monitoring behavior on goal progress led to the transfer of this training to the job so as to significantly increase the job attendance of unionized hourly workers (Frayne & Latham, 1987; Latham & Frayne, 1989).

A drawback of a consciously set goal is that it consumes cognitive resources (Anderson, 1983, 1985). Given that cognitive resources are limited, this can be problematic.

Beginning in the 1990s, social psychologists have been investigating a methodology that circumvents this problem, namely, by priming a goal. Priming is defined as the temporary non-conscious activation of behavior (Bargh & Chartrand, 1997). During the time the primed goal remains active in the subconscious, it has been shown to exert a passive effect on an individual's behavior even though the person is unaware of its existence (Bargh, 1994, 2005).

To date there is no accepted theory that explains the effect of a primed goal on behavior. This is not necessarily a criticism as numerous researchers have argued that proper theory building is inductive rather than deductive (e.g., Locke, 2007; Mischel, 2009; Tversky cited by Mischel, 2009; Roe, 2009). Nevertheless, in an attempt to explain this phenomenon, Chartrand, Dalton, and Cheng (2007) argued that (a) environmental features can trigger automatic goal activation which then (b) directly affects goal directed cognition and behavior without an individual being aware of this process. In short, an unconscious goal affects behavior in the absence of attention or awareness of goal pursuit. This explanation is similar to Gollwitzer's (1999) theory of implementation intentions.

An implementation intention, the theory states, is a mental link that is created unconsciously between a specific future situation and the intended goal response. Thus an individual becomes committed to goal directed behavior once an appropriate setting for doing so is encountered. The theory further states that this occurs automatically in that there is no conscious effortful control. Rather, an individual switches to being controlled by a pre-selected contextual cue of which the person is unaware. The sight of a person, group or setting is sufficient to trigger this intention without the individual realizing it. A primed goal or implementation intention, however, only affects subsequent behavior to the extent that it pre-exists in an individual's mind as a desired state associated with positive affect (Custers & Aarts, 2007).

In a typical laboratory experiment involving priming, Bargh, Chen and Burrows (1996) primed participants by asking them to circle words having to do with elderly people (e.g.,

sentimental, wrinkle). Those in the experimental group subsequently left the laboratory and walked significantly more slowly down a hallway than did those who had been randomly assigned to the control group. Fishbach, Friedman and Kruglanski (2003) primed participants with the word diet by having them sit in a room where there were magazines on dieting and exercise. Subsequently, those people were offered food. Those in the experimental group chose an apple significantly more frequently than a chocolate relative to those in the control group.

Aarts and Dijksterhuis (2003) investigated the effect of a photograph to activate situational norms. Undergraduate students were randomly assigned to one of three conditions. In the first condition, participants were exposed to a picture of a library for 30 seconds, and were informed that they would, at a later date, go to the library. In the second condition, the participants were shown a picture of a railway station. Finally, in the third condition, the participants were asked to view the library picture, but were not instigated with the goal to visit the library. Next the participants were asked to read aloud10 words that were presented on a computer screen into a device that measured sound pressure. The results showed that participants who viewed the picture of the library and were instigated with the goal to visit it at a later date spoke more quietly than those in the other two conditions. The sound pressure did not differ between the participants who viewed the picture of the library alone and those who viewed the picture of the railway station.

In the above three experiments, the primed goal was presented supraliminally. That is, the prime was presented in ways that the person was aware of its existence, but saw no relationship between it and the experimental task that followed (Chartrand & Bargh, 2002). This is in stark contrast to subliminal priming that typically involves presenting primed material on a computer below the field of focal vision so that an individual does not report any awareness of it. Bargh and Marsella (2008) have criticized the use of subliminal priming because of its lack of ecological validity. They argued that subliminal stimuli do not naturally occur, and further that they are too weak or brief in natural settings to have an enduring effect on behavior.

A limitation of social psychology experiments on priming is the short time lag for measuring a change in behavior following a primed goal. Typically task performance is assessed within minutes, if not seconds, following the prime. If the effect of a prime is short-lived, the significance of these findings for human resource management would be inconsequential. Moreover, the tasks used by social psychologists in their priming experiments are typically of questionable relevance for work settings (e.g., length of time to walk through a hallway; choice of food).

Despite the shortcomings of the extant research in social psychology on primed goals, Latham, Stajkovic and Locke (2010) have argued that these findings may have practical significance for human resource professionals for the following reasons. First, a primed goal has been found to have motivational effects similar to a conscious goal on performance. Both goals influence choice, effort and persistence (e.g., Bargh, Gollowitzer, Lee-Chai, Barndollar, & Troetschel, 2001). Second, given the limits of an employee's focal awareness, it is obvious that a person relies on the subconscious continually (Locke & Latham, 2004). Thus, a subconscious goal, relative to a conscious goal, consumes fewer cognitive resources (Anderson, 1985; Dijksterhuis & Nordgren, 2006). Hence a goal that is in the subconscious can increase an employee's efficiency. Finally, there is evidence that a conscious and a subconscious goal are not necessarily correlated. Their effect on job performance has been found to be additive (Shantz & Latham, 2009).

To date, only one field experiment on the effect of a primed goal has been published. The dependent variable, money, was highly relevant for work settings. The time length of the experiment was an entire work shift. Specifically, Shantz and Latham (2009) studied employees

in a call center who were raising money for a university. Using a 2x2 factorial design, those randomly assigned to one experimental group were assigned a specific monetary goal to attain. They were given printed directions, as is normally done in that call center, on how to solicit donations from alumni. The employees in the control group were given the same directions. However, consistent with Aarts and Dijksterhuis' (2003) laboratory experiment where a photograph was used as the prime, the directions given to the experimental groups were printed over a color backdrop photograph of a woman who was winning a race. At the end of the work shift, there was a significant increase in performance for those who were assigned a goal. This finding is consistent with the voluminous findings on the motivational benefit of consciously setting a goal (Mitchell & Daniels, 2003). In addition, the employees who were primed with a goal for achievement had raised significantly more money from donors than their colleagues in the control group. There was no interaction effect. This was the first time such findings had been reported from an organizational setting.

No social psychology experiment, to Shantz and Latham's (2009) knowledge, had been conducted to determine whether a primed goal actually affects the subconscious. Consequently, they conducted a second experiment whereby people responded to a projective test, namely, the Thematic Apperception Test, or TAT. The TAT was used because both theory and empirical data suggest that implicit motives are optimally measured by a projective test (Schultheiss & Brunstein, 2001). Again, there was random assignment of participants to conditions. Those who had been shown the photograph of the woman winning the race scored higher on need for achievement, as measured by the TAT, than those in the control group.

Despite these results, data from only one organizational setting do not provide a basis for evidence based management (Latham, 2009; Rousseau, 2006). Before results can be interpreted with confidence, Campbell and Stanley (1966) argued that replication is required at other times in different settings. A major threat to external validity, they said, is sampling bias. While acknowledging that sampling representativeness is impossible of perfect achievement, and using research on teaching as an example, Campbell and Stanley argued that: "One way to increase it is to reduce the number of students or classrooms participating from a given school or grade and to increase the number of schools and grades in which the experiment is carried on" (p. 19). Consequently, two field experiments, involving call center employees in two different geographical areas from the call center Shantz and Latham (2009) studied, were conducted. Both work shifts lasted four hours in contrast to the work shift in the Shantz and Latham field experiment which lasted three hours.

A meta-analysis was then conducted on the results from these three field experiments. The hypothesis tested in the present two field experiments was that employees who are primed with a photograph showing personal achievement raise significantly more money from donors than do those in a control group. This hypothesis was based on both Gollwitzer's (1999) and Chartrand et al.'s (2007) mini theory, discussed earlier, that the environment, in this case, instructions on ways to get monetary donations overlaying a photograph of a person winning a race, triggers/primes a nonconscious goal to excel on this task.

Study 1

Participants

This study took place in a call center in a different organizational setting from where the

Shantz and Latham field experiment had been conducted. The contract employees (n=20) were hired to raise money for a university. The mean age of the employees was 20.95 (SD=2.12); 40% of them were male.

Procedure

The employees were randomly assigned to either the experimental (n=10) or the control group (n=10). All of them were informed that they would be asked to assess the information packet that was given to them by their supervisor for soliciting money from donors (e.g., information regarding scholarships needed for students). Thus the employees were not aware that they were in a field experiment. The employees worked independently in cubicles. They wore headphones so as to minimize disturbing one another when telephoning potential donors.

In the experimental condition, the achievement goal was primed following the procedure by Shantz and Latham (2009). The ideas provided for soliciting funds was printed on a backdrop of a photograph of a woman who was winning a race. As noted earlier, the information packet for those in the control group was identical with the exception that there was no backdrop photograph.

In summary, all the employees had the same instructions. Their shift lasted four hours, and they were paid by the hour regardless of how much money they raised.

At the end of each shift, the employees were administered a four item questionnaire to determine whether any of them were aware of the hypothesis: (1) What do you think was the purpose of the information packet? (2) Did you notice anything unusual about the information packet (3) Was anything in the information packet an (a) enabler of your performance (b) a distractor to your performance, or (c) neither? (4) Do you have any comments?

Results

Manipulation Check

No one in the experimental group indicated that the photograph might have influenced their performance. Therefore no one was dropped from the analysis. No one in either the experimental or control groups wrote additional comments to the last question. Since no one asked a question or made a comment suggesting knowledge of the purpose of the experiment, it appears that no diffusion between conditions took place. A chi-square test showed that employees in the experimental condition did not differ from those in the control condition on whether they felt that the information packet influenced their performance [$X^2(1, N = 20) = .31, p > .05$].

Hypothesis

Because the data were positively skewed (Kolmogorov-Smirnov significance was less than .05), consistent with Tabachnik and Fidell's (1996) recommendation, the dependent variable, namely, the amount of money pledged from university alumni, was transformed to its logarithm. An independent sample two-tailed t-test revealed a significant difference in performance between the primed (M=2.55, SD=.33) and control group (M=2.10, SD=.55) conditions [$t(18) = 2.23, p < .05, d = .99$].

Study 2

Because of the small sample size in the first field experiment, a second study was conducted. This study took place in a different organizational setting in a different Province in Canada, namely, Quebec.

Method

Participants

The participants were 44 contract employees who were hired by a call center to raise money for a university. Their mean age was 20.14 years (SD=1.38); 34.1% were male. In contrast to the previous experiment where the employees were Anglophone, the employees in this experiment were Francophone.

Procedure

The employees were randomly assigned to either the experimental or the control group. The procedure followed in this field experiment was identical to that used in Study 1. The dependent variable was the amount of money raised by each employee. As was the case in the first experiment, all of the employees remained in the same condition. Data were collected from four different shifts, with different employees working on these different shifts.

Results

Manipulation Check

The results of the manipulation check were the same as those obtained in the previous experiment. None of the employees indicated any awareness of the hypothesis that the photograph was presented to increase their job performance. No one in the experimental condition wrote comments regarding the photograph. Further, no one in the control group indicated an awareness that there were employees who received an information packet that contained a photograph. A chi-square test indicated that there was no significant difference between the experimental and control group on whether the participants thought that anything in the information packet was an enabler or distractor of performance, or neither $X^2(1, N = 44) = 1.46, p > .05$.

Hypothesis

The data were positively skewed (Kolmogorov-Smirnov significance was less than .05), therefore the dependent variable, namely, the amount of money pledged from university alumni, was transformed into its logarithm (Tabachnik & Fidell, 1996). A two-tailed independent t-test revealed a significant difference in performance between the employees in the prime (M = 2.03, SD = .89) versus the control group (M = 1.32, SD = 1.39; t(42)=2.04, p < .05, d = .61). Hence, the hypothesis was supported.

To determine whether the effect of the backdrop photograph on the amount of money raised was due to performance on any one of the four days when the data were collected, a regression was conducted to determine whether the day of the week interacted with the primed goal. The only variable that had a significant (p < .05) zero-order correlation with performance was the primed goal. The interaction between week day/work shift and performance was not significant [F(3, 40)=2.06, p = .12].

Study 3: Meta-Analysis

A meta-analysis was conducted on the results of these three field experiments conducted in three different organizations at three different points in time in two different provinces in Canada. Following the meta-analytic procedures of Hunter and Schmidt (1990), we calculated a sample-weighted point estimate of the effect size of the manipulation (d-statistic) from the data collected in the Shantz and Latham (2009) experiment and the two field experiments reported here. Doing so allowed us to report a relatively stable estimate of the effect as well as a confidence interval. The average d-statistic across the three field experiments is .56 ($p < .05$), combined sample size is 145, and the confidence interval is .35-.78.

Discussion

Evidence that results that are replicable are as critical for the advancement of the science of HRM as it is for informing practice (Eden, 2007; Hubbard, Vetter, & Little, 1998; Tsang & Kwawn, 1999). The present two field experiments replicated the results obtained by Shantz and Latham (2009). The meta-analysis of the data obtained from three call centers at three different points in time in three geographical areas provide strong support for the effectiveness of priming a goal to increase the job performance of call center employees.

The theoretical and practical importance of the present findings is at least three-fold. First, the data revealed that the beneficial effect of a primed goal on job performance endures beyond a few seconds or minutes, as has been found in social psychology experiments (e.g., Moskowitz & Grant, 2009), to a work shift (i.e., four hours) as was found in both field experiments reported in this paper and by Shantz and Latham (2009). This finding is important because, as noted in the introduction, a conscious goal consumes cognitive resources that are limited (Kanfer & Ackerman, 1989). The present findings suggest that the subconscious can be harnessed to an employee's advantage. Previous research suggests that a primed goal increases efficiency in that it is akin to a "pattern detector" in that it automatically matches-up the environment to stored knowledge structures in memory which in turn leads to goal directed behavior (George, 2009; Loftus & Klinger, 1992; Wilson, 2002). Making decisions consciously means relying on mental connections made through a relatively slow and effortful process in contrast to the associative qualities of a subconscious system (Epstein, 1990, 1994; Kihlstrom, 1987).

Second, and arguably most importantly, these findings suggest the need for a change in the way we view behavior in the workplace. Most human resource researchers and managers adhere to a view that behavior is explainable on the basis of conscious processes. The present study provides empirical support for the recent call by a small number of researchers to expand this view of organizational behavior to include the role of the subconscious. For example, Dane and Pratt (2007) have argued the necessity for studying decision-making on the basis of intuition where the defining characteristic is nonconscious. In their review of the literature, they found that decisions ranging from choosing art posters, predicting the length of a relationship, or deciding on college courses, people make better decisions when told to rely on their intuition rather than to consciously reflect on the reasons for their decisions.

Similarly, George (2009) presented a cogent argument for believing that employees respond to their jobs automatically based on environmental cues and the nonconscious activation of knowledge structures in memory. Thus a third contribution of the present study to the HRM literature is that it suggests that environmental cues in the workplace, such as photographs relevant to appraising, coaching and training employees, applying what has been learned during

training to the job and working diligently in the absence of direct supervision (i.e., self management) may significantly increase employee efficiency performance. To date the primes used in the published literature have been general in nature (e.g., a photograph of a woman winning a race) rather than specific to the task. Goal setting theory (Locke & Latham, 1990) argues that a goal should be specific to the task. Primes that an employee reports no awareness of, yet depict work related tasks may have a greater effect on job performance than a primed goal that is general in nature. A qualitative study by Cohen (2006) has shown that photographs in organizations have mimetic capacity in that they propel employees to behave in concert with them.

Limitations and Directions for Future Research

A major limitation of the present two field experiments is that the results are limited to the job performance of call center employees. These employees were studied because of the availability of a hard criterion measure relevant to most organizational settings, namely, money, for assessing effect of the independent variable, a primed goal. Research is now needed to examine the external validity of these findings for employees from different populations using different performance criteria.

Although the present findings show that the effect of a primed goal on job performance lasts for more than a few minutes, knowledge is currently lacking as to if, or when, people become desensitized to it. Adaptation theory (Helson, 1964a,b) states that a stimulus typically has only a temporary effect on behavior. If a person encounters stimuli (e.g., photographs) that are similar to the individual's adaptation level, that person will likely be indifferent to those stimuli. The stimuli will have little or no effect on behavior. Thus, knowledge is needed as to when a prime loses its effect on behavior, and the type of prime that should replace it.

Care may also be necessary in choosing primes such as photographs that will not de-motivate job performance. To date, there is no research on whether a prime can have a deleterious effect on behavior in an organizational setting. Evidence that this is a possibility can be inferred from the laboratory experiment conducted by Bargh et al. (1996) where students who were primed with words having to do with the elderly subsequently walked significantly more slowly than those in the control group.

In summary, research on organizational behavior in the 20th century focused largely on cognitive processes to study motivation in the workplace (e.g., Vroom, 1964). The findings from that research stream have been reassuring to HRM professionals in that they showed that employees act rationally. Conscious intentions and goals predict, explain, and influence employee behavior (Locke & Latham, 1990). Expanding this research to include subconscious processes may disturb, provoke and challenge conventional thinking regarding human resource management. Those who disagree with doing so may try to dismiss such work as meretricious and sensationalist. Nevertheless, the present findings suggest that the study of subconscious processes appears to be a research stream in the present century worthy of exploration in the management of an organization's human resources.

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