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Unfulfilled Goals Interfere with Other, Unrelated Pursuits

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UNFULFILLED GOALS INTERFERE WITH OTHER, UNRELATED
PURSUITS

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ABSTRACT

Evidence of an automatic tendency to think about and attend to one's unfulfilled goals led us to examine whether unfulfilled goals can distract from other, unrelated pursuits. In three studies, we manipulated goal frustration or goal failure in an initial task and then measured pursuit of an ostensibly unrelated goal during a second task. A goal to achieve, when frustrated, interfered with the unrelated goal to diet (Study 1). Failure to fulfill an honesty goal led to decrements in intellectual performance (Study 2). Furthermore, results from Study 2 suggest that unfulfilled goals remain active through later tasks and that this activation causes decrements in task performance. While goal frustration interfered with other pursuits, fulfilling a goal after an initial period of frustration eliminated this interference effect (Study 3). These studies show that the ability to pursue a goal may be hampered when one's prior goals have been left unfulfilled.

INTRODUCTION

Everyone has a multitude of goals to which he or she aspires, but the efficient management of those goals is difficult to achieve. A dieter may give in to an unhealthy snack after an especially trying day at the office, and a student may perform poorly on a final exam when she is distracted by thoughts of plans for the weekend. Successful goal management requires not only the ability to commit to and focus on one's current pursuits but also the capacity to move past and ignore unwelcome distractions.

The present work examined the effects of goal frustration and goal failure on the crucial ability to shift from one goal to the next. We expected that an inability to fulfill one goal can reduce an individual's capacity to pursue other, unrelated goals. This hypothesis is based on the observation that people automatically think about and attend to their goals when those goals have not been fulfilled (e.g., Förster, Liberman, & Higgins, 2005; Martin & Tesser, 1989; 2006). We reasoned that if unfulfilled goals tend to occupy people's thoughts and attention, then these unfulfilled goals can serve as a distraction from other, unrelated pursuits. Therefore we hypothesized that a failed or frustrated goal in one domain can interfere with the pursuit of goals in other, unrelated domains.

Goal Shielding and Goal Interference

Goals can conflict and compete for one's attention. Consider a writer who is hard at work in a crowded coffee shop and whose goal is to finish typing an essay. If the goal to socialize and maintain positive relationships with others were active, then the writer might begin to notice the other people in the coffee shop and she might even strike up conversations with those around her. The goal to socialize would compete and conflict with the goal to write and so would interfere with the writer's ability to finish her essay. Thus, in order to achieve a goal, one must be able both to focus on one's current pursuits and to minimize distractions from conflicting alternatives.

People are equipped with cognitive tools that help to minimize distractions during goal pursuit. When in pursuit of a goal, people automatically suppress thoughts about conflicting objectives (Mayr & Keele, 2000; Shah, Friedman, & Kruglanski, 2002). As a result, individuals who are pursuing a goal are much less receptive to information

related to their alternative goals than they are to other types of information. Presumably, this cognitive strategy, termed *goal shielding*, allows people to focus their attention and resources on present tasks by ignoring competing motivations.

When cues in the environment remind people of alternative motivations, the ability to focus on and achieve a current goal is compromised. Shah and Kruglanski (2002) found that progress toward a current goal can be thwarted by subliminally priming people with words related to some unrelated, alternative task. They employed a paradigm in which the experimenters required participants to perform two tasks in sequence. Results indicated that priming the second task while participants were still working on the first task led to an increase in intrusive thoughts during the first task and hindered task performance. In line with this work, we expected that the tendency for failed and frustrated goals to occupy one's thoughts and attention may disrupt the goal shielding process and interfere with other, unrelated pursuits.

A Cognitive Bias Toward Unfulfilled Goals

People naturally attend to the tasks and goals they have not fulfilled (e.g., Moskowitz, 2002). Individuals cannot help but replay in their heads how they wish they had acted in some prior social situation, and most people have experienced the state of constant worry that occurs when one has a long list of obligations to fulfill in the coming days. Indeed, a large body of work has grown in support of the idea that goals are most active in people's minds when they have gone unfulfilled. People have better memories (Goschke & Kuhl, 1993; Zeigarnik, 1927), more accessible thoughts (Förster et al., 2005), and more ruminative thought patterns (Martin & Tesser, 1989; 2006) for goals when they have been left unfulfilled relative to when they have been achieved. Furthermore, situations that threaten a goal can lead to spontaneous thoughts both of the goal (Bongers & Dijksterhuis, in press) and of goal-relevant behaviors (Custers & Aarts, 2007). Thus, people are equipped with faculties that cause them think about and remember their goals, particularly when those goals require one's attention in order to be fulfilled.

Based on the observation that people attend to and think about their unfulfilled goals, we hypothesized that unfulfilled goals can distract from other pursuits. We

expected that people would be especially distracted by goals that had been frustrated or that they had failed to fulfill. Previous work has indicated that simple reminders of a goal (in the absence of goal frustration or failure feedback) do not interrupt one's conscious pursuits (Macrae & Johnston, 1998) and that goals cease to be mentally active once they have been fulfilled (Förster et al., 2005; Marsh, Hicks, & Bink, 1998; Marsh, Hicks, & Bryan, 1999). Therefore, we hypothesized that a goal, if left unfulfilled, would occupy one's mental resources and so interfere with the pursuit of other, unrelated goals.

THE PRESENT RESEARCH

The present work examined whether an unfulfilled goal in one domain can interfere with goal striving in other, unrelated domains. We defined an unfulfilled goal as a goal that was frustrated (i.e. the ability to pursue the goal had been interrupted) or that was subjected to failure. First, we primed participants with an achievement goal and then tested the hypothesis that the frustration of that goal would interfere with the pursuit of a chronically active goal to diet (Study 1). We then primed participants with an honesty goal and examined whether a failure to fulfill that goal would interfere with an intellectual performance goal that was assigned in the lab (Study 2). We also tested whether the failed honesty goal became and remained mentally active and whether this sustained mental activation was related to poor performance on the intellectual task (Study 2). Last, we reasoned that a previously unfulfilled goal, if fulfilled, would no longer require one's mental resources and so should no longer interfere with other tasks. Therefore, we tested the hypothesis that, while the frustration of a goal can lead to goal interference, the subsequent fulfillment of that goal can then eliminate the interference effect (Study 3).

STUDY 1

In Study 1, we examined two ostensibly unrelated goals in order to test whether the frustration of one of those goals can lead to decrements in the pursuit of the other. We hypothesized that a goal to achieve, when frustrated, can interfere with the pursuit of a seemingly unrelated and irrelevant goal to diet. We first activated the goal to achieve by employing a method for goal priming that was used previously by Bargh, Gollwitzer, Lee-Chai, Barndollar, and Trötschel (2001). Some participants were

instructed to solve a word-search that contained words related to achievement while control participants received a word-search that contained neutral words. Bargh and colleagues have shown that supraliminal exposure to achievement words causes participants to engage in achievement striving, despite the participants being unaware of any effect that the word-search has had on their behavior.

To manipulate frustration of the achievement goal, we applied a procedure used in previous work by Chartrand (1999) in which participants were allowed to work on one of two sets of anagrams for a 5-min period. An easy set of anagrams was designed such that all participants were expected to solve the 10 anagrams in the time allotted. A second, difficult set of anagrams was designed such that no participants were expected to solve the 10 anagrams in the time allotted. All participants who received the difficult, unsolvable anagrams were interrupted at the end of the 5-min period, thereby frustrating the goal to succeed on the anagram task.

The goal frustration group was comprised of those receiving both the achievement prime and the difficult anagrams. Although participants in the neutral priming condition can be seen as automatically adopting the goal to succeed when instructed to work on the anagram task, we did not expect that these participants would experience goal frustration when the anagram task was interrupted. Previous work has shown that achievement primes increase both effort and performance on word puzzles relative to neutral controls (Bargh et al., 2001). Furthermore, other work using the same anagram manipulation that we used in the current study found that the effects on mood and self-efficacy that typically follow from goal success and goal failure were exhibited only by those participants who were first primed with achievement (Chartrand, 1999). Therefore, we expected that the participants in the achievement prime condition, relative to those in the neutral prime condition, would be more motivated to succeed on the anagram task. Furthermore, we expected that only these participants would experience a sense of frustration when the anagram task was interrupted.

We then tested whether frustration of an achievement goal can interfere with the goal to maintain a healthy diet. We operationalized fulfillment of the dieting goal as the extent to which participants were able to override the impulse to eat a delicious but

unhealthy snack. Eating behavior was measured with a taste test paradigm adapted from previous work (Herman & Polivy, 1975; Tice, Bratslavsky, & Baumeister, 2001) in which participants were asked to sample chocolate chip cookies, ostensibly for the purpose of providing the experimenters with data on taste preferences. We hypothesized that participants who did not fulfill the achievement goal would be less able than control participants to pursue the goal to diet, and so we expected that these participants would consume more of the unhealthy food than participants in the other conditions.

We hypothesized that goal frustration in one domain can interfere with goal pursuit in another domain, and so we expected that the goal interference effect in the current study would occur only for those participants with the chronically active goal to diet. For participants without a chronically active goal to diet, we expected that there would be no goal with which to interfere. Thus, we hypothesized that for non-dieting participants there would be no increase in cookie consumption as a result of goal frustration. To account for individual differences in dieting motivations, we administered the Eating Restraint Scale (Herman & Polivy, 1975). We hypothesized that only participants high in eating restraint (i.e. dieters) would exhibit an increase in unhealthy food intake after failing to fulfill the achievement goal.

Method

Participants

Participants were 83 undergraduates enrolled in introductory psychology courses who received partial course credit for taking part in the study.

Procedure

Participants arrived at the laboratory individually for an experiment that dealt ostensibly with examining the relationship between taste preferences and personality traits. After obtaining informed consent, we told participants that they would first work on a series of word exercises that we were piloting for another line of work. The first word exercise was a goal priming procedure that we adapted from previous work by Bargh and colleagues (2001). Participants worked on a word-search puzzle containing a matrix of letters in which they located 13 words. We randomly assigned participants to

receive a word-search containing either words related to achievement (achievement goal condition) or neutral words (no goal condition). In the achievement goal condition, 7 of the 13 words were related to achievement (e.g., *achieve, strive, master*). In the no goal condition, achievement words were replaced with neutral words with no relation to a specific goal (e.g., *carpet, river, hat*). Both the experimenters and the participants were blind to the priming condition.

After the word-search, we asked participants to work on a set of 10 anagrams. Each anagram consisted of a 5-letter English word with its letters out of sequence. Furthermore, we randomly assigned participants to receive either a set of difficult anagrams (difficult anagram condition) or a set of easy anagrams (easy anagram condition). Participants in the achievement goal and difficult anagram conditions comprised the unfulfilled goal group.

When describing the anagram task, we were careful not to introduce additional incentives for achievement beyond the goal priming manipulation administered in the first part of the study. For each participant, we described the anagram task as a “fun and simple word unscrambling game” that he or she would work on for a few minutes, rather than a difficult or diagnostic test of intelligence. We instructed participants to inform us once they had solved all of the anagrams, and participants who did not solve all of the anagrams were allowed to work for a maximum of 5 min. Participants taking the full 5 min period were told, “That is about how long it takes most participants to solve those word scrambles. If you’re not done that’s fine, we can just stop here and move on.” To test for mood differences, we then had participants complete the Brief Mood Introspection Scale (BMIS; Mayer & Gaschke, 1988).

Upon completion of the BMIS, we explained to participants that they would be moving on to the main portion of the study that was designed to assess people’s taste preferences. We gave participants a bowl containing 25 chocolate chip cookies and a taste preferences sheet on which the participants rated the taste of the cookies on a number of dimensions. Participants were allowed 5 min to work on this portion of the study. We weighed the bowl of cookies both before and after the taste preferences task.

We then asked participants to complete the Eating Restraint Scale (Herman & Polivy, 1975). The scale consists of 10 items (e.g., “How often are you dieting”) that are rated on 4- or 5-point Likert scales, with high scores representing a high degree of eating restraint. The reliability of the scale in the present sample was moderately high (Cronbach’s alpha = .73), and scores ranged from 2 to 24 with a mean value of 12.76 ($SD = 5.30$).

Last, we gave participants a demographics questionnaire, probed participants for suspicion, and dismissed them from the lab.

Results

Manipulation Check

A one-way analysis of variance (ANOVA) yielded a significant effect of the anagram condition on number of anagrams solved, $F(1,82) = 172.40$, $p < .001$, such that individuals in the difficult anagram condition solved fewer anagrams ($M = 5.49$, $SD = 2.04$) than individuals in the easy anagram condition ($M = 9.83$, $SD = 0.66$). No participants were able to solve all 10 of the difficult anagrams, whereas all but three participants were able to solve all 10 of the easy anagrams. These three participants were excluded from the final analyses¹.

Main Results

Study 1 was composed of a 2 (goal prime: achievement goal vs. no goal) x 2 (anagram: difficult vs. easy) x continuous (Eating Restraint Scale) between-subjects design with total g of cookies eaten serving as our primary dependent measure. We hypothesized an increase in cookie consumption for participants who worked on difficult rather than easy anagrams, but only for those participants who had been primed with an achievement goal and who had the chronically active goal to diet.

A multiple regression assessing g of cookies eaten as a function of priming condition, anagram condition, and eating restraint scores yielded the hypothesized three-way interaction, $\beta = 2.68$, $t = 2.10$, $p < .05$, and a significant two-way prime by eating restraint interaction, $\beta = 1.26$, $t = 1.96$, $p = .05$. No other effects were significant, $ts < 1$, *ns*.

Planned regression analyses clarified the nature of the hypothesized three-way interaction. We expected that cookie intake would be unaffected in participants who received the easy anagram task, and so we analyzed the two-way goal prime by eating restraint interaction among participants in this condition. This multiple regression analysis yielded no significant two-way interaction and no significant main effects of the priming manipulation or of eating restraint on g of cookies eaten, all t s $\ll 1$, *ns*. Thus the three-way interaction between the anagram condition, priming condition, and eating restraint appeared to be driven by effects within the difficult anagram condition.

The two-way goal prime by eating restraint interaction among participants in the difficult anagram condition was significant, $\beta = 2.61$, $t = 3.50$, $p < .001$. We analyzed this two-way interaction at high (one SD above the mean) and low (one SD below the mean) levels of eating restraint. Participants at high levels of eating restraint consumed more cookies when the goal to achieve was primed than when it wasn't, $\beta = 13.63$, $t = -2.23$, $p < .05$. Thus dieters ate significantly more cookies when in the goal frustration (achievement/difficult) group than when in a control (no-goal/difficult) group. Participants at low levels of eating restraint showed an opposite effect such that those in the goal frustration (achievement/difficult) group ate significantly fewer cookies than those in the control (no-goal/difficult) group, $\beta = -14.03$, $t = -2.38$, $p < .05$. As we hypothesized, an unfulfilled goal (an achievement prime paired with the inability to solve anagrams) caused an increase in cookie consumption, but only for participants high in eating restraint (see Fig. 1).

Mood

A multiple regression assessing valence (as measured by the BMIS) as a function of goal prime, anagram condition, and eating restraint scores yielded a non-significant three-way interaction, $\beta = -.76$, $t < 1$, *ns*. The analysis yielded a significant main effect of the anagram manipulation, $\beta = -4.73$, $t = -2.38$, $p < .05$, such that participants in the difficult anagram condition reported a more negative valence than participants in the easy anagram condition, though the anagram manipulation did not interact with the priming manipulation to predict valence, $t \ll 1$, *ns*. Valence also did not predict g of cookies eaten, nor did it interact with any of the independent variables to

predict g of cookies eaten, all t s $\ll 1$, ns . When controlling for valence, the three-way interaction between the priming manipulation, the anagram manipulation, and eating restraint on g of cookies eaten remained significant, $\beta = 2.49$, $t = 1.95$, $p = .055$.

A multiple regression assessing arousal (as measured by the BMIS) as a function of goal prime, anagram condition, and eating restraint yielded no significant interactions or main effects, t s $\ll 1$, ns . Thus, neither valence nor arousal mediated the relationship between our manipulations and the dependent measure of cookie consumption.

Discussion

We found that a frustrated achievement goal interfered with the goal to diet. Participants who were given a difficult set of anagrams (and so were unable to succeed at solving them) went on to eat more cookies than participants who worked on a relatively easy set of anagrams. This effect occurred only for participants who were first primed with an achievement goal and who also reported having the chronically active goal to diet (i.e. participants high in eating restraint). Thus the increase in cookie intake did not occur for participants who had no achievement goal to frustrate (no goal participants) or no dieting goal with which to interfere (participants low in eating restraint).

The present findings suggest that the frustration of a goal can interfere with the ability to pursue another, unrelated goal. Not surprisingly, dieters ate fewer cookies than non-dieters in each of the control conditions (no goal condition and easy anagram condition). Yet this trend was not obtained in the goal frustration condition. Despite no obvious connection between the goal to achieve and the goal to diet, frustration of an achievement goal caused dieters to eat significantly more cookies than their non-dieting counterparts. Thus a frustrated achievement goal interfered with the goal to exercise dietary restraint.

The effect of the unfulfilled goal on dieters was reversed in non-dieters, such that non-dieters ate *fewer* cookies when the achievement goal was frustrated than they did when there was no such frustration. We did not anticipate this effect and it was not central to our hypothesis. However, this finding is consistent with previous work showing

that the conditions that increase eating in dieters tend also to decrease eating in non-dieters (Herman & Polivy, 1975). If a shift in regulatory resources away from the eating task caused dieters to eat more, then it is consistent that this same shift in resources caused non-dieters to eat less.

The observed effects appear not to be attributable to differences in mood. We found no evidence that goal frustration caused negative affect or that differences in affect influenced the goal to diet.

STUDY 2

Our assumption in Study 1 was that frustration of the goal to achieve caused that goal to remain cognitively active and that this sustained activation distracted from the goal to diet. Study 2 tested for direct evidence of this distraction effect. We sought both to provide converging evidence for the hypothesis that an unfulfilled goal can cause goal interference and to examine whether this goal interference effect would be marked by a sustained activation of the unfulfilled goal. We expected that participants would continue to think about an unfulfilled goal even after they had been instructed to move on to another task.

We hypothesized that an honesty goal, when unfulfilled, can interfere with the assigned goal to perform well on an intellectual task. In this study we adapted another supraliminal priming procedure from previous work by Bargh and colleagues (2001). We primed the goal to be honest with a sentence construction task in which we instructed participants to form sentences out of groups of 5 words. We gave participants in the honesty prime condition a sentence construction task embedded with honesty-related words. Control participants, in contrast, received a sentence construction task embedded with neutral words unrelated to a goal. To manipulate goal failure, we adapted a goal-incompleteness procedure used previously by Moskowitz (2002) in which participants wrote about a recent time when they were dishonest toward another person. Participants who were primed with an honesty goal and then wrote about being dishonest formed the goal failure group.

We included an additional control group to eliminate one alternative explanation for our hypothesized findings. We predicted that goal failure participants would exhibit

both decrements in performance on a subsequent task and an increase in thoughts about the honesty goal. One possible explanation for this effect could be that our method for creating the unfulfilled goal combines two cognitive exercises related to honesty, and this reiteration of honesty thoughts may be distracting. Therefore, we included an additional group that received instructions to think of a recent dishonest act committed by someone they knew (rather than oneself). This allowed us to distinguish between redundant activation of the honesty construct and a type of goal failure that is self-specific.

We selected a measure of intellectual performance to test for goal interference. We hypothesized that participants who failed to fulfill an honesty goal would be less able than control participants to fulfill the ostensibly unrelated goal to solve anagrams.

We also administered a word-completion task as our measure of activation of the honesty goal. The task consisted of a list of 15 incomplete words (e.g., *DR _ _ _*). We instructed participants to fill in the blank spaces in each item to create 15 complete words. Each of the words had multiple solutions, and we manipulated seven of them such that one could answer the item with either a word related to honesty or a neutral word (e.g., *_ RUST* could be solved either as *TRUST* or *CRUST*). Previous research has demonstrated that active goals are marked by an increase in accessibility of goal-related words (Förster et al., 2005). Thus, we hypothesized that goal failure participants would exhibit more honesty-related responses on the word-completion task than control participants.

We also tested for a relationship between the accessibility of honesty words and performance on the anagram task. The ability to pursue a current goal often hinges on one's capacity to ignore alternative motivations. In their work on goal shielding, Shah and colleagues (2002) found that people who performed well on a current task, relative to those who performed poorly, were slower to process information that was related to alternative tasks. Thus participants who performed well appeared to inhibit thoughts about competing tasks and goals. In the current study, we examined whether attending to (rather than inhibiting) an alternative goal to be honest would be related to poor performance on the anagram task. That is, while the inhibition of alternative goals has

been found to relate to goal success, we examined whether the accessibility of an alternative goal was related to goal failure.

Method

Participants

Eighty-seven undergraduates enrolled in an introductory psychology course participated in exchange for partial course credit.

Procedure

Individuals arrived at the laboratory for a study dealing ostensibly with language processes and personality. After giving informed consent, all participants worked on a sentence construction task that consisted of a series of 25 word lists comprised of 5 words apiece. The participants' task was to create a complete sentence using four out of the five words in each list. We designed the sentence construction task such that there were multiple solutions for each list; however, we instructed participants to respond with the first sentence that came to mind and to work through the task as quickly as possible. We randomly assigned some of the participants to receive a sentence construction task that contained words related to honesty (honesty goal condition). Other participants worked on a task that contained neutral words unrelated to a goal (no goal condition). Participants in the honesty goal condition received 13 words related to honesty (e.g., *sincere*, *honest*, *genuine*) while no goal participants received 13 neutral alternatives.

After the sentence construction task, we randomly assigned participants to one of two groups. We required some participants to write about an experience from their own lives (dishonest memory condition) while another group of participants received no such task (no memory condition). For participants in the dishonest memory condition, we explained that we were interested in gathering anecdotal life data for another line of work. These participants wrote about a time they were dishonest toward another person. An additional group comprised only of participants in the honesty goal condition (rather than the no goal condition) received instructions similar to those given in the dishonest memory condition, however, we instructed this group to think of a time when

someone they knew was dishonest toward another person (dishonest-other memory condition).

All participants then worked on a set of 25 anagrams. We asked participants to solve as many anagrams as they could in a 5 min period, with number of anagrams solved serving as our primary dependent measure.

Participants worked on the word-completion task and filled out a demographics questionnaire. We then debriefed participants and probed them for suspicion. We awarded participants with course credit and dismissed them from the lab.

Results

We used a 2 (goal prime: honesty goal vs. no goal) x 2 (memory: dishonest memory vs. no memory) + 1 (honesty goal and dishonest-other memory) between-subjects design, producing a total of 5 conditions. Participants receiving a combination of the honesty goal and dishonest memory manipulations comprised the goal failure group. Performance on the anagram task served as the primary dependent measure, with lower numbers of anagrams solved indicating greater goal interference.

Anagrams Solved by Condition

A one-way ANOVA yielded a significant effect of the experimental manipulations on anagrams solved $F(4, 82) = 2.66, p < .05$. Planned comparisons yielded a significant difference between the goal failure condition and the other four conditions, $F(1, 82) = 9.677, p < .01$. Participants in the goal failure group solved significantly fewer anagrams ($M = 4.00, SD = 3.01$) than other participants ($M = 7.41, SD = 3.88$; see Fig. 2), thus supporting the hypothesis that an unfulfilled honesty goal can interfere with later anagram performance.

A planned contrast indicated that the two-way goal prime (honesty goal vs. no goal) by memory (dishonest memory vs. no memory) interaction was significant, $F(1, 82) = 4.270, p < .05$, such that participants primed with an honesty goal solved fewer anagrams than participants who were primed with neutral words, but only when required to write about a recent dishonest act.

Within the honesty prime condition, participants in the dishonest memory condition solved significantly fewer words than participants in the dishonest-other

memory condition ($M = 8.07$, $SD = 4.80$), $F(1, 82) = 8.301$, $p < .01$. There was no difference in anagram performance between the dishonest-other memory and the other control conditions (those in the no goal or no memory conditions), $F(1, 82) < 1$, *ns*. Thus the detrimental effect of a dishonest memory on the anagram task was specific to the self and did not generalize to memories about the dishonest behaviors of others.

Accessibility of Honesty-Related Words

A one-way ANOVA yielded a significant effect of the experimental manipulations on the number of honesty words produced in the word-completion task, $F(4, 82) = 2.780$, $p < .05$. Contrasts also yielded a significant effect of the priming manipulation on honesty words, $F(1, 82) = 6.44$, $p < .05$, such that participants receiving an honesty prime produced more honesty words ($M = 3.35$, $SD = 1.42$) than participants receiving a neutral prime ($M = 2.64$, $SD = 1.28$).

As hypothesized, planned contrasts indicated a significant difference between the goal failure condition and the other four conditions, $F(1, 82) = 7.29$, $p < .01$, such that participants in the goal failure condition produced more honesty words ($M = 3.93$, $SD = 1.64$) than all other participants ($M = 2.86$, $SD = 1.29$; see Fig. 3). Within the honesty prime condition, participants required to think of a time they were dishonest thought of more honesty words ($M = 3.93$, $SD = 1.64$) than participants in the no memory and dishonest-other memory conditions ($M = 3.12$, $SD = 1.27$), $F(1, 82) = 3.75$, $p = .056$, indicating that honesty accessibility due to a lack of goal fulfillment was greater than honesty accessibility due to spreading activation alone.

Accessibility as a Predictor of Anagram Performance

Accessibility of honesty words did not predict the number of anagrams solved, $\beta = -.35$, $t = -1.17$, $p = .25$, and did not interact with the manipulation of goal failure to predict anagrams solved, $t = -1.38$, $p = .12$. However, accessibility of honesty words did interact with the goal prime manipulation to predict anagrams solved, $\beta = -1.59$, $t = -2.55$, $p < .05$. We assessed the simple slopes for both the no goal condition and the honesty goal condition. For the neutral prime participants, we found a non-significant positive relationship between honesty accessibility and anagrams solved, $\beta = .52$, $t = 1.13$, $p = .25$. In the honesty goal condition, we found a significant negative relationship

between honesty accessibility and anagrams solved, $\beta = -1.07$, $t = -2.59$, $p < .05$. Thus the two-way interaction between accessibility of honesty words and goal prime appears to be driven by the effect within the honesty goal condition. For participants who were primed with honest, greater accessibility of honesty words was significantly related to poor performance on the anagram task (See Fig. 4).

Discussion

Participants who wrote about being dishonest went on to solve significantly fewer anagrams than participants who did not write about being dishonest. This effect occurred only in participants who were exposed to honesty words first and thus were primed with the goal to be honest. For these participants, a recent dishonest memory served presumably to create a sense of goal failure, and this interfered with the ability to pursue the later goal to perform well on the anagram task.

The goal interference effect was specific to those participants who thought about a time that they themselves were dishonest. Decrements in the ability to solve anagrams did not occur in those participants who wrote about a time when someone else was dishonest. Therefore, the goal interference effect was due not to thoughts about dishonesty per se, but to thoughts about dishonesty that were self-specific and so were indicative of one's own goal failure.

These data provide converging evidence for the hypothesis that an unfulfilled goal can interfere with the subsequent pursuit of other, unrelated goals. On the surface, the goal to be honest and the goal to perform well on intellectual task appear to be irrelevant and unrelated to one another. Yet, when the goal to be honest was active, reflecting on a recent dishonest act led to a significant reduction in later intellectual performance.

Goal failure led not only to a decrease in intellectual performance but an increase in accessibility of the failed goal. Thus our data provide support for the hypothesis the goal interference effect may be due to an inability to ignore the failed goal. For goal failure participants, the goal to be honest remained active through the anagram task, and so the two tasks may have been competing for people's limited regulatory resources.

We also found evidence of a direct relationship between level of accessibility of the failed goal and degree of goal interference. For participants primed with an honesty goal, high accessibility of the goal was related to poor performance when trying to solve anagrams. This finding is consistent with the goal shielding framework that indicates that performance on a focal goal will be directly related to the inhibition of alternative goals (Shah et al., 2002). Shah and colleagues showed that goal *performance* was related to the *inhibition* of alternative goals; our data indicated that goal *interference* was related to the *accessibility* of alternative goals. Presumably, the more active the alternative goal, the more regulatory resources it drew away from the focal goal of solving anagrams.

STUDY 3

Study 3 tested the hypothesis that, while goal frustration can lead to goal interference, fulfilling the frustrated goal can eliminate the effect. Participants were given a goal, and the pursuit of that goal was then frustrated. We later allowed some of these participants to fulfill the frustrated goal. We sought to replicate the finding that frustration of a goal can lead to decrements in the ability to pursue other goals. Furthermore, we hypothesized that fulfillment after a period of frustration would reduce this goal interference effect.

To manipulate goal frustration, we asked some participants to engage in thought suppression. Previous work has shown that asking people to suppress thoughts of a topic activates the motivation to think about that topic (Lieberman & Förster, 2000). Partly, people assume that, if they are being asked to suppress certain thoughts, they must be motivated to indulge in those thoughts. Furthermore, post-suppression rebound, the tendency for a suppressed topic to become highly accessible following a period of suppression, results from an active motivation to think about the topic. Therefore we instructed participants to suppress thoughts of a topic under the assumption that this would frustrate their motivation to indulge in such thoughts. We hypothesized that this frustration would interfere with the subsequent pursuit of an unrelated goal.

If frustrating the goal to think about a suppressed topic causes goal interference, then allowing participants to indulge in thoughts of the topic should reduce or eliminate this effect. Thus, we also hypothesized that, while thought suppression alone would cause decrements in later pursuits, fulfilling the goal to think about the topic (after an initial period of suppression) would restore the capacity to pursue other goals.

We used a thought suppression task adapted from Wegner, Schneider, Carter, and White (1987) that required participants to suppress thoughts of a white bear. In a control condition, we had participants engage in a thought task that did not require them to suppress any thoughts. In a third condition, we instructed participants to first suppress thoughts of a white bear and then to indulge briefly in thoughts of a white bear, thereby fulfilling the goal to think about the suppressed topic. Following the experimental manipulation, participants worked on the same anagram task used in Study 2, which served as our measure of goal interference.

One impetus behind the decision to use this particular procedure was that competing hypotheses could be derived from the design. Our first hypothesis for study 3 was that thought suppression would cause later decrements in intellectual performance. The limited resource model of self-control makes this same prediction. According to the limited resource model, active guidance by the self relies on a limited energy source (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven, Tice, & Baumeister, 1998). Therefore, acts of self-regulation (including thought suppression) consume this energy source so that later attempts to self-regulate or perform executive functions are compromised. According to this model, thought suppression should consume the self's limited resources and so interfere with later performance on intellectual tasks. Where the limited resource model's predictions diverge from our own is for those participants who were allowed to indulge in thoughts of the topic after having initially suppressed them. Our second hypothesis for Study 3 was that allowing participants to indulge in thoughts about the suppressed topic would fulfill the previously frustrated goal to think about the topic and so restore performance on the intellectual task. However, the limited resource model assumes that thought suppression depletes the self's resources and that this resource reduction is driving later performance decrements. Furthermore,

indulging in thoughts of the suppressed topic should not restore those resources once they are spent nor should it restore intellectual performance. Therefore, Study 3 allowed us to test a novel prediction concerning intellectual performance for which the limited resource model cannot account.

Method

Participants

Fifty-four undergraduates enrolled in an introductory psychology course participated in exchange for partial course credit. Three participants who experienced technical difficulties with instructions and with the recording equipment during the thought suppression task were excluded, thus there were a total of fifty-one participants in the final analyses.

Procedure

Individuals arrived at the lab for a study dealing ostensibly with measuring different aspects of people's stream of thought. After giving informed consent, participants began the study by performing a stream of thought warm-up exercise that required them think aloud into a tape recorder for 3 min. We then randomly assigned participants to one of three conditions. We told participants in the control condition to perform a second stream of thought session where they would think aloud for 6 min, and we told these participants to use as their starting point the topic of a white bear. We told participants in the frustrated goal condition to think aloud for 6 min but to suppress all thoughts of a white bear for the entire session. Finally, participants in the fulfilled goal condition were given the same instructions as participants in the frustrated goal condition. However, fulfilled goal participants were assigned the extra task of indulging in thoughts of a white bear during a final 2 min session, thereby fulfilling the goal to think of the initially suppressed construct.

After the stream of thought portion of the study, participants first completed the BMIS and then worked on the set of 25 anagrams used in Study 2. We instructed participants that they would have a total of 5 min to solve as many of the anagrams as possible. The primary dependent measure was number of anagrams solved.

Following completion of the anagrams, participants completed a demographics questionnaire. Participants were then debriefed, probed for suspicion, and dismissed.

Results

A one-way ANOVA yielded a significant effect of the experimental manipulation on anagrams solved, $F(2, 48) = 3.25, p < .05$. Planned comparisons indicated that participants who suppressed thoughts of a white bear (those in the frustrated goal condition) solved fewer anagrams than participants in the control condition, $F(1, 48) = 3.97, p = .052$. More importantly, participants in the fulfilled goal condition solved more anagrams than participants in the frustrated goal condition, $F(1, 48) = 5.63, p < .05$, and a comparison of the fulfilled goal condition with the control condition yielded no significant difference, $F < 1, ns$. Thus, fulfilling the previously frustrated goal to think of a white bear restored performance on the anagram task to a level comparable to that of controls (See Fig. 5).

Participants' scores on the BMIS yielded no differences in arousal, $F < 1, ns$, or valence, $F < 1, ns$, as a result of the manipulations. Thus the effects of the experimental manipulation on anagrams solved do not appear to be caused by differences in mood.

Discussion

Participants who suppressed thoughts of a white bear went on to perform significantly worse than control participants on a measure of intellectual performance. However, those participants who first suppressed thoughts of a white bear but were then allowed to indulge in the topic for a brief 2-min period showed no such decrements in intellectual performance. These participants performed just as well on an anagram solving task as participants who were never required to suppress thoughts in the first place.

The current data provide converging evidence for the hypothesis that one unfulfilled goal can interfere with the pursuit of other, unrelated goals. Frustration of the goal to think about a topic interfered with the goal to do well on an intellectual task. Furthermore, fulfilling the goal after period of initial frustration eliminated this goal interference effect.

The current patterns of results cannot be accounted for by at least one extant model of self-regulation and intellectual performance. The limited resource model (e.g., Baumeister et al., 1998) proposes that self-regulation and executive functioning rely on a limited resource. According to this model, thought suppression depletes the self's resources. Therefore, participants who suppressed thoughts of a white bear in the current study had fewer resources to draw from when moving on to the intellectual task and thus they should have performed worse than control participants (e.g., Schmeichel, Vohs, & Baumeister, 2003). However, the current data indicate that participants who first suppressed thoughts of a white bear but then indulged briefly in thoughts of a white bear showed no decrements in anagram performance relative to controls. These participants should have depleted just as many resources as other thought suppression participants, and so according to the limited resource model they should have exhibited the same decrements in performance. That these participants were able to perform just as well as controls is consistent with the current hypothesis that goal frustration caused decrements in anagram performance. Presumably, the motivation to think about white bears served as a distraction during the anagram task. Furthermore, allowing participants to indulge in thoughts of a white bear fulfilled this motivation and eliminated the goal interference effect.

GENERAL DISCUSSION

The pursuit of any goal occurs not in isolation but rather in the context of the myriad goals that people pursue from moment to moment. Often, these goals conflict and compete for one's attention. Thus the ability to prioritize one's goals, to focus on current tasks, and to avoid distractions from alternative motivations is crucial for the successful achievement of one's pursuits. The present research examined how instances of goal failure and goal frustration can affect the ability to manage and pursue one's many goals.

Three studies suggested that an unfulfilled goal can interfere with the subsequent pursuit of an alternative and ostensibly unrelated goal. We found that frustration of an achievement goal interfered with the goal to diet (Study 1), and failure of an honesty interfered with the goal to perform well on an intellectual task (Study 2). We also found

that the goal to think about a topic, if unfulfilled, interfered with later intellectual performance. However, fulfilling that goal eliminated this interference effect (Study 3).

Unfulfilled goals place a higher demand on one's cognitive resources than goals that have been fulfilled, and so unfulfilled goals are more likely to draw important regulatory resources away from current tasks. In Study 2, we found evidence of a positive relationship between accessibility of an unfulfilled goal and interference on a later, unrelated task. That is, for participants who were primed with a goal, thoughts of that goal were significantly related to an inability to engage in another, unrelated pursuit.

Alternative Explanations and Limitations

To the extent that goal failure and goal success are likely to induce negative and positive affect, respectively (e.g., Chartrand, 1999), it was possible that differences in mood caused the observed decrements in goal pursuit among those whose goals had gone unfulfilled. However, the current data indicated that neither mood valence nor arousal had any significant impact on the observed decrements in self-regulation (Study 1) and intellectual performance (Study 3). Therefore, our results do not appear to be mediated by any differences in mood.

Work on the limited resource model of self-regulation has shown that the active self relies on a limited energy source, such that prior acts of self-regulation consume this energy source and can cause decrements on later executive functions (e.g., Baumeister et al., 1998). Consequently, the observed decrements in the pursuit of a dieting goal (Study 1) and intellectual performance (Studies 2 and 3) in the current work may have been the result of greater self-regulatory exertion among participants in the unfulfilled goal conditions. For instance, participants who received an honesty prime in Study 2 may have found it more difficult to recall and describe events that are inconsistent with that trait. The results from Study 3, however, are not consistent with this explanation. We found that participants who suppressed thoughts of a white bear exhibited decrements in later anagram performance, but that participants who indulged in thoughts of a white bear after the same suppression task exhibited no such decrements. The self-regulatory resources expended by these two groups should have been comparable, but only the goal frustration group exhibited later interference in

anagram performance. Thus the current results point to a different mechanism than the one outlined by the limited resource model of self-regulation.

One limitation of the current work is that it focused only on goals that require active guidance by the self. In Study 1, an unfulfilled goal interfered with a dieting goal, the pursuit of which required overriding impulsive eating habits. In Studies 2 and 3, unfulfilled goals interfered with the ability to perform well on an anagram task. Thus, the observed goal interference effects involved decrements in impulse control (Study 1) and intellectual functioning (Studies 2 and 3). Both of these processes require active guidance by the self and are hampered when the self's resources are reduced (e.g., by prior acts of self-regulation; Baumeister et al., 1998; Schmeichel et al., 2003). Therefore, the goal interference effects that unfulfilled goals cause may occur due to interferences in the ability to engage in executive processes. Other goals that do not require the active self may not be susceptible to these interference effects, and so they may remain unimpaired after other goals have been left unfulfilled.

Implications

The Distraction of Unfulfilled Goals

The current results replicate and extend a general pattern in the literature whereby people show a cognitive bias in favor of tasks that have not been fulfilled. Unfulfilled goals are more easily remembered (Goschke & Kuhl, 1993; Zeigarnik, 1927) and more consciously accessible (Förster et al., 2005) than fulfilled goals, and unfulfilled goals are said to be the target of ruminative thinking patterns (Martin & Tesser, 2006). While these lines of work have focused on the cognitive consequences of unfulfilled goals, the current work suggests that unfulfilled goals can have important behavioral consequences as well. We found that when one goal had gone unfulfilled, the pursuit of other, unrelated goals suffered.

The automatic tendency to think about and remember one's unfinished tasks can, by itself, be seen as a very helpful and desirable tool. This cognitive bias may have been especially helpful in humans' evolutionary past when a person's daily objectives were limited to a few social- and survival-related pursuits. In these simpler times, a helpful strategy may have been to pursue one goal at a time, delaying the engagement

of any novel pursuit until the previous one had been fulfilled. However, the complexity of modern culture has allowed for (and perhaps even required) the pursuit of a large variety of goals, such that individuals have been found to pursue an average of 15 goals and personal projects at any given time (Little, 1988). Unfortunately, the cognitive tools that enable individuals to maintain focus on one task at a time may not be easily adapted to the simultaneous pursuit of multiple goals. According to the current data, this tendency to focus on unfulfilled goals may cause goals to conflict and compete for one's attention.

Future work may examine the tools and strategies that help people to combat the distraction that unfulfilled goals pose. Despite the goal interference effects observed in the current work, individuals do seem capable of achieving a large number of goals throughout their lives. Therefore, there may be many mechanisms that help people to combat the distraction that their unfulfilled goals can provide. Cognitive strategies (e.g., forming plans to fulfill one's goals at a later time), external tools (e.g., to do lists, calendars, schedules) and close others (e.g., via transactive memory; Wegner, Giuliano, & Hertel, 1985) may each play a role in helping to minimize distractions from unfulfilled goals so that other goals may be pursued without disruption.

The Limited Resource Model

We have shown that goal interference effects may contribute to the tendency for thought suppression to cause later decrements in intellectual performance, and this goal interference effect may help explain other findings as well. The limited resource model posits that initial acts of self-regulation will lead to impairments in later executive functions (e.g., Baumeister et al., 1998), and this mechanism has been attributed to the depletion of a limited resource on which the self's executive functions rely. However, many self-regulatory acts require an individual to frustrate some goal or to leave some motivation unfulfilled. In order to work, one must resist the motivation to hang out with friends, and in order to adhere to a healthy diet, one must override intermittent desires to eat delicious but fatty snacks. Work on the limited resource model suggests that a reduction in the self's resources accounts for the decrements in self-regulation that occur when engaging in subsequent self-regulatory tasks. According to the current

work, when self-regulatory exertion requires the frustration of some active motivation, then goal interference effects may also contribute to these observed decrements.

Concluding Remarks

Traditionally, goal performance has been examined within the domain of the goal itself. However, the ability for an individual to succeed at a goal can have important implications for the capacity to engage other, ostensibly unrelated pursuits. Indeed, the various goals that people pursue cannot be understood in isolation. Goals often complement each other, as when the goal to diet and the goal to exercise both serve the more long-term goal to maintain one's health. But goals may conflict and compete for an individual's attention as well, as when one is caught between the tug-of-war between the need to work and the desire to socialize. A current goal is constantly susceptible to interference from conflicting alternatives, and the current work suggests that this is especially likely when one's other goals have not been unfulfilled. Thus, the capacity to achieve a goal hinges not only on one's abilities in that particular area, but on one's abilities in unrelated areas as well.

FOOTNOTES

1. We intended for these three participants to experience fulfillment of the achievement goal. They were excluded because they were unable to solve the easy set of anagrams on which they worked and thus they experienced goal frustration. Treating these participants as if they were a part of the difficult (i.e. unsolvable) anagram condition did not significantly affect our results and the three-way interaction remained significant. However, because these participants did not receive the same manipulation as participants in the difficult anagram condition we decided to exclude them from the analyses.

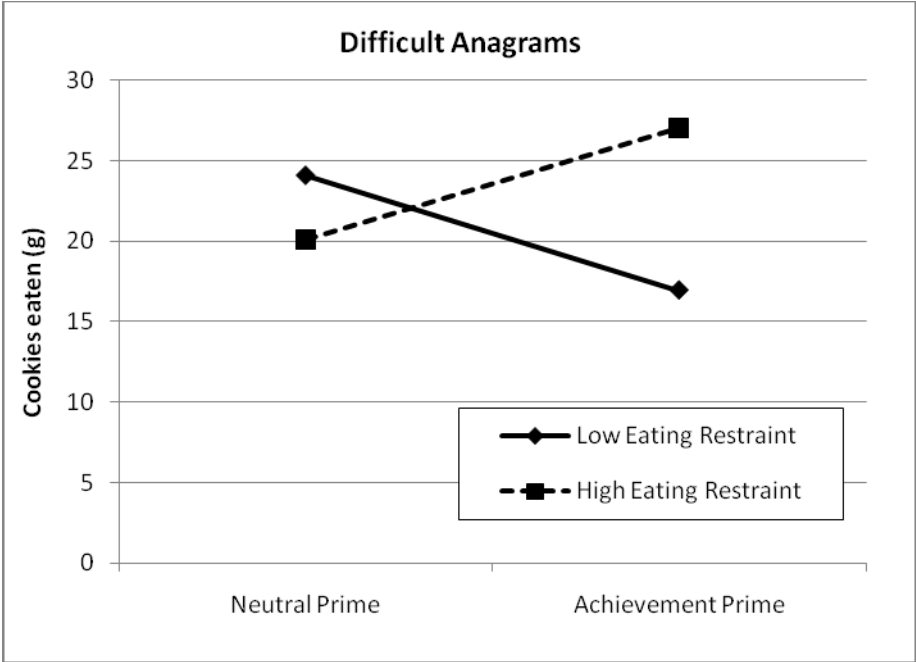
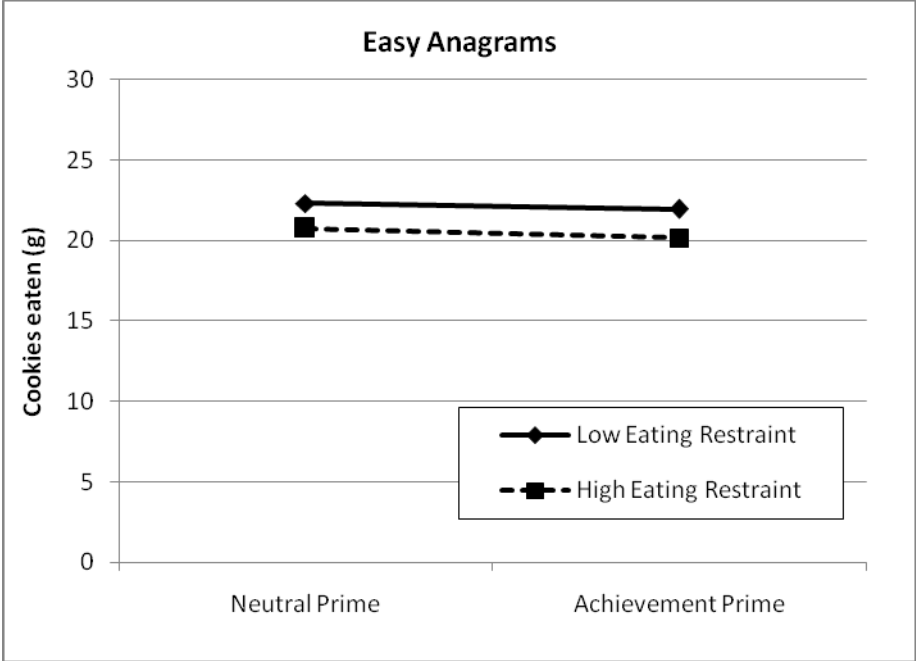


Figure 1. Two graphs illustrate the three-way interaction between the goal prime manipulation, the anagram manipulation, and eating restraint scores on g of cookies eaten.

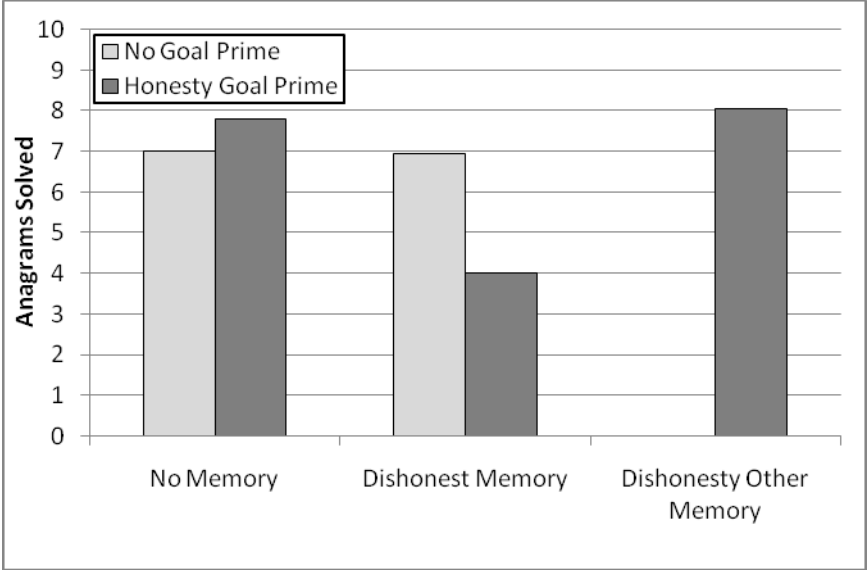


Figure 2. Number of anagrams solved as a function of the goal prime and memory conditions.

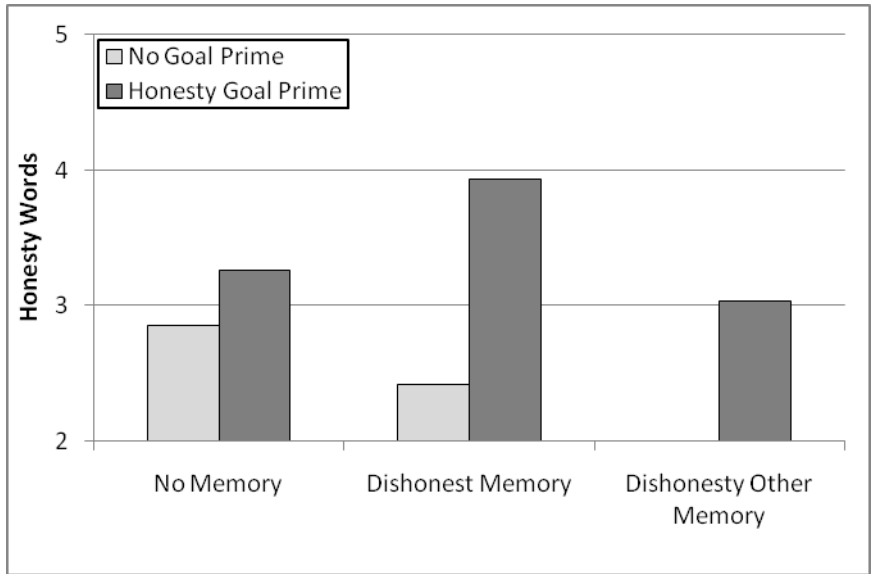


Figure 3. Number of honesty words given in the word completion task as a function of the goal prime and memory conditions.

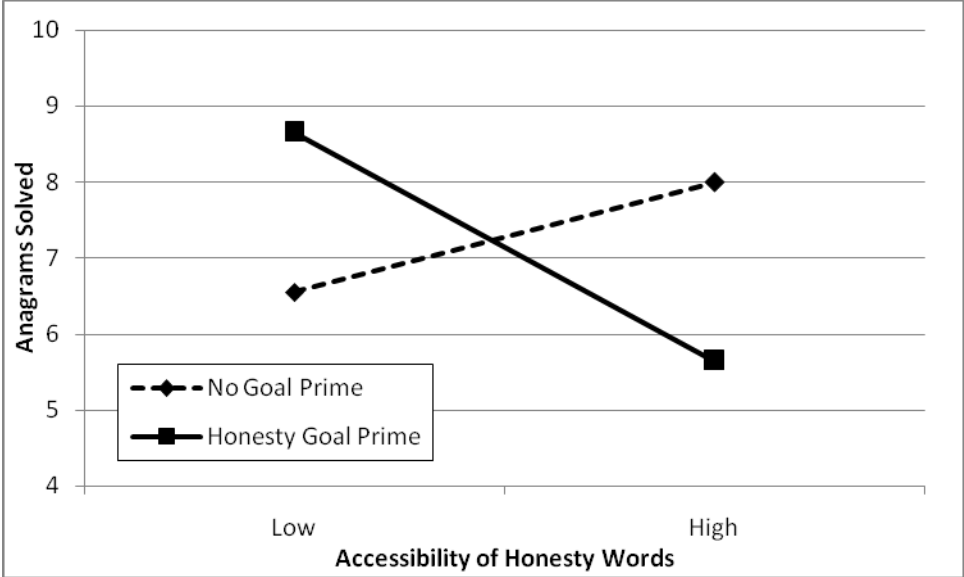


Figure 4. Number of anagrams solved as a function of honesty accessibility.

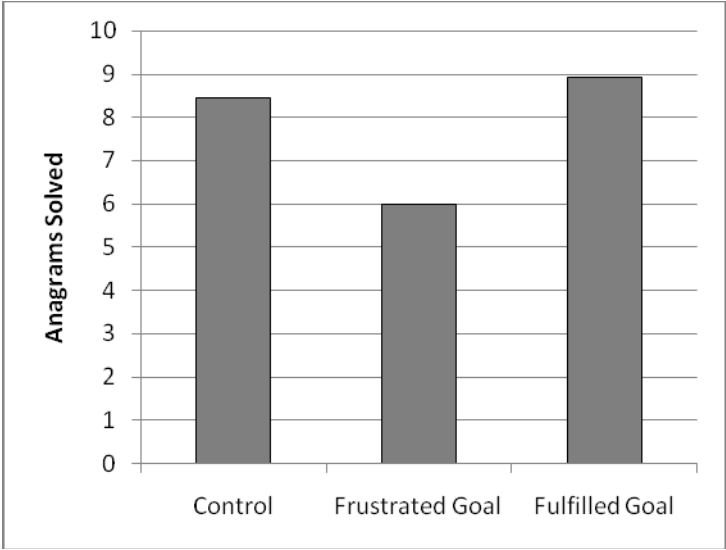


Figure 5. Number of anagrams solved as a function of condition.

APPENDIX A

Human Subjects Approval



Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8633 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 8/31/2006

To:

**Emer James Masicampo
MC 1270**

Dept.: **PSYCHOLOGY DEPARTMENT**

From: **Thomas L. Jacobson, Chair**

A handwritten signature in black ink, appearing to read "Thomas Jacobson".

Re: **Use of Human Subjects in Research
Action Tendencies in Ego-Depletion**

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Human Subjects Committee at its meeting on **8/9/2006**. Your project was approved by the Committee.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals which may be required.

If the project has not been completed by **8/8/2007** you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. The principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

cc: Roy Baumeister
HSC No. 2006.0714

APPENDIX B

Informed Consent Forms

Taste Preferences and Personality

I freely, voluntarily, and without element of force or coercion, consent to be a participant in the research project entitled "Taste Preferences and Personality." This research is being conducted by E. J. Masicampo, a graduate student at Florida State University. I understand that if I participate in this project I will be asked questions about my preferences and personality. I WILL ONLY PARTICIPATE IF I AM ABLE TO EAT NUTS, CHOCOLATE, DAIRY, SUGAR AND FLOUR. I WILL NOT PARTICIPATE IF I AM ALLERGIC TO NUTS, CHOCOLATE, DAIRY OR FLOUR, HAVE HIGH CHOLESTEROL, OR CANNOT EAT SUGAR. Allergic reactions are possible from any product and although uncommon, cannot be predicted. You should stop eating the food if any rashes, difficulty breathing or other adverse/allergic symptoms occur and seek medical advice. I understand that the total time commitment will be about 25 minutes, and I will be compensated by receiving the appropriate credit points for my time.

I understand that I must be 18 years of age to participate. I understand that my participation is totally voluntary and I may stop participation at anytime. If I decide to stop participation, I will still be entitled to the compensation of credit points. All my responses to the tasks will be coded by an anonymous subject number and will not be tied back to me personally. My name will not appear on any of the results. No individual responses will be reported in any publication. Only group findings will be reported. All data, identified only by subject code number, will be stored in a locked file cabinet behind the locked doors of the social psychology laboratory facility, and will be destroyed by September 1st, 2015. My participation in this project will remain confidential to the extent allowed by law.

I understand there is a possibility of a minimal level of risk involved if I agree to participate in this study. I might experience anxiety, frustration, or discomfort when completing the tasks. The research assistant will be available to talk with me about any discomfort I may experience while participating. I am also able to stop my participation at any time I wish.

I understand that this consent may be withdrawn at any time without prejudice, penalty, or loss of benefits to which I am otherwise entitled. I have been given the right to ask and have answered any inquiry concerning the study. Questions, if any, have been answered to my satisfaction.

I understand that I may contact E. J. Masicampo, Florida State University, Department of Psychology, Psychology building room A303, (805) 637-3427, or Dr. Roy Baumeister, Florida State University, Department of Psychology, Psychology building room A315, (850) 644 – 4200, for answers to questions about this research or my rights. Group results will be sent to me upon my request. If I have questions about my rights as a subject/participant in this research, or if I feel I have been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at (850) 644-8633.

I have read and understand this consent form.

(Full printed name)

(Signature)

(Date)

Language and You

I freely, voluntarily, and without element of force or coercion, consent to be a participant in the research project entitled "Language and You." This research is being conducted by E. J. Masicampo, a graduate student in the Department of Psychology at Florida State University working with Dr. Roy Baumeister, Eppes Professor in the Department of Psychology at Florida State University. I understand the purpose of this research project is to assess how individuals view, process, and understand language. I understand that the total time commitment will be about 25 minutes, and I will be compensated by receiving the appropriate credit points for my time.

I understand that I must be 18 years of age to participate. I understand that my participation is totally voluntary and I may stop participation at anytime. If I decide to stop participation, I will still be entitled to the compensation of credit points. All my responses to the tasks will be coded by an anonymous subject number and will not be tied back to me personally. My name will not appear on any of the results. No individual responses will be reported in any publication. Only group findings will be reported. All data, identified only by subject code number, will be stored in a locked file cabinet behind the locked doors of the social psychology laboratory facility, and will be destroyed by December 1st, 2015. My participation in this project will remain confidential to the extent allowed by law.

I understand there is a possibility of a minimal level of risk involved if I agree to participate in this study. I might experience anxiety, frustration, or discomfort when completing the tasks. The research assistant will be available to talk with me about any discomfort I may experience while participating. I am also able to stop my participation at any time I wish.

I understand that this consent may be withdrawn at any time without prejudice, penalty, or loss of benefits to which I am otherwise entitled. I have been given the right to ask and have answered any inquiry concerning the study. Questions, if any, have been answered to my satisfaction.

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I have read and understand this consent form.

(Full printed name)

(Signature)

(Date)

Stream-of-thought Study

I freely, voluntarily, and without element of force or coercion, consent to be a participant in the research project entitled "Stream-of-thought Study." This research is being conducted by E. J. Masicampo, a graduate student in the Department of Psychology at Florida State University working with Dr. Roy Baumeister, Eppes Professor in the Department of Psychology at Florida State University. I understand the purpose of this research project is to assess conscious processes during different tasks. I understand that the total time commitment will be about 25 minutes, and I will be compensated by receiving the appropriate credit points for my time.

I understand that I must be 18 years of age to participate. I understand that my participation is totally voluntary and I may stop participation at anytime. If I decide to stop participation, I will still be entitled to the compensation of credit points. All my responses to the tasks will be coded by an anonymous subject number and will not be tied back to me personally. My name will not appear on any of the results. No individual responses will be reported in any publication. Only group findings will be reported. All data, identified only by subject code number, will be stored in a locked file cabinet behind the locked doors of the social psychology laboratory facility, and will be destroyed by September 1st, 2015. My participation in this project will remain confidential to the extent allowed by law.

I understand there is a possibility of a minimal level of risk involved if I agree to participate in this study. I might experience anxiety, frustration, or discomfort when completing the tasks. The research assistant will be available to talk with me about any discomfort I may experience while participating. I am also able to stop my participation at any time I wish.

I understand that this consent may be withdrawn at any time without prejudice, penalty, or loss of benefits to which I am otherwise entitled. I have been given the right to ask and have answered any inquiry concerning the study. Questions, if any, have been answered to my satisfaction.

I understand that I may contact E. J. Masicampo, Florida State University, Department of Psychology, Psychology building room A303, (805) 637-3427, or Dr. Roy Baumeister, Florida State University, Department of Psychology, Psychology building room A315, (850) 644 – 4200, for answers to questions about this research or my rights. Group results will be sent to me upon my request. If I have questions about my rights as a subject/participant in this research, or if I feel I have been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at (850) 644-8633.

I have read and understand this consent form.

(Full printed name)

(Signature)

(Date)

REFERENCES

- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology, 81*, 1014-1027.
- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74*, 1252-1265.
- Bongers, K. C. A., & Dijksterhuis, A. (in press). Consciousness as a trouble shooting device? The role of consciousness in goal-pursuit. In E. Morsella, J. A. Bargh, & P. Gollwitzer (Eds.), *The Oxford handbook of human action* (Vol. 2, pp. xx-xx). New York: Oxford University Press.
- Chartrand, T. L. (1999). Consequences of automatic motivation for mood, self-efficacy, and subsequent performance. Unpublished doctoral dissertation, New York University.
- Custers, R., & Aarts, H. (2007). Goal-discrepant situations prime goal-directed actions if goals are temporarily or chronically accessible. *Personality and Social Psychology Bulletin, 33*, 623-633.
- Förster, J., Liberman, N., & Higgins, E. T. (2005). Accessibility from active and fulfilled goals. *Journal of Experimental Social Psychology, 41*, 220-239.
- Goschke, T., & Kuhl, J. (1993). Representation of intentions: Persisting activation in memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 19*, 1211-1226.
- Herman, C. P., & Polivy, J. (1975). Anxiety, restraint, and eating behavior. *Journal of Abnormal Psychology, 84*, 666-672.
- Liberman, N., & Förster, J. (2000). Expression after suppression: A motivational explanation of postsuppressional rebound. *Journal of Personality and Social Psychology, 79*, 190-203.
- Little, B. R. (1988). Personal projects analysis: Trivial pursuits, magnificent obsessions, and the search for coherence. In D. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 15-31). New York: Springer-Verlag.
- Macrae, C. N., & Johnston, L. (1998). Help, I need somebody: Automatic action and inaction. *Social Cognition, 16*, 400-417.

- Marsh, R. L., Hicks, J. L., & Bink, M. L. (1998). Activation of completed, uncompleted, and partially completed intentions. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *24*, 350-361.
- Marsh, R. L., Hicks, J. L., & Bryan, E. S. (1999). The activation of unrelated and canceled intentions. *Memory & Cognition*, *27*, 320-327.
- Martin, L. L., & Tesser, A. (1989). Toward a motivational and structural theory of ruminative thought. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought* (pp. 306-326). New York: Guilford Press.
- Martin, L. L., & Tesser, A. (2006). Extending the goal progress theory of rumination: Goal reevaluation and growth. In L. J. Sanna, & E. C. Chang (Eds.), *Judgments over time: The interplay of thoughts, feelings, and behaviors* (pp. 145-162). New York: Oxford University Press.
- Mayer, J. D., & Gaschke, Y. N. (1988). The experience and meta-experience of mood. *Journal of Personality and Social Psychology*, *55*, 102-111.
- Mayr, U., & Keele, S. W. (2000). Changing internal constraints on action: The role of backward inhibition. *Journal of Experimental Psychology: General*, *129*, 4-26.
- Moskowitz, G. B. (2002). Preconscious effects of temporary goals on attention. *Journal of Experimental Social Psychology*, *38*, 397-404.
- Muraven, M., Tice, D. M., & Baumeister, R. F. (1998). Self-control as a limited resource: Regulatory depletion patterns. *Journal of Personality and Social Psychology*, *74*, 774-789.
- Schmeichel, B. J., Vohs, K. D., & Baumeister, R. F. (2003). Intellectual performance and ego depletion: Role of the self in logical reasoning and other information processing. *Journal of Personality and Social Psychology*, *85*, 33-46.
- Shah, J. Y., Friedman, R., & Kruglanski, A. W. (2002). Forgetting all else: On the antecedents and consequences of goal shielding. *Journal of Personality and Social Psychology*, *83*, 1261-1280.
- Shah, J. Y., & Kruglanski, A. W. (2002). Priming against your will: How accessible alternatives affect goal pursuit. *Journal of Experimental Social Psychology*, *38*, 368-383.
- Tice, D. M., Bratslavsky, E., & Baumeister, R. F. (2001). Emotional distress regulation takes precedence over impulse control: If you feel bad, do it! *Journal of Personality and Social Psychology*, *80*, 53-67.

- Wegner, D. M., Giuliano, T., & Hertel, P. (1985). Cognitive interdependence in close relationships. In W. J. Ickes (Ed.), *Compatible and incompatible relationships* (pp. 253-276). New York: Springer-Verlag.
- Wegner, D. M., Schneider, D. J., Carter, S. R., & White, T. L. (1987). Paradoxical effects of thought suppression. *Journal of Personality and Social Psychology*, *53*, 5-13.
- Zeigarnik, B. (1927). Über das Behalten von erledigten und unerledigten Handlungen [On the retention of completed and uncompleted transactions]. *Psychologische Forschung*, *9*, 1-85.

BIOGRAPHICAL SKETCH

E. J. Masicampo is very open to new experiences: he loves to visit new places, eat new foods, and—most of all—to learn new things. The decision to become a social psychologist was—he feels—a reasonable compromise between his many, incompatible interests. He received a B.A. in psychology from the University of California, Santa Barbara in 2003. He is currently working toward a Ph.D. in social psychology at Florida State University.

E. J. feels that he ought to be grateful for having so many good-hearted and inspiring people in his life. He also feels that he ought to be thankful for his education and that he should try to be a (much) better teacher.

E. J. would like ideally to be a positive influence both in and outside of his career. He hopes that his research will be insightful, impactful, and helpful to others but that his desire for success will never take away from the things that really matter—like doing crosswords in coffee shops, playing mafia with his family, or falling unexpectedly out of hammocks.