Keeping it real: self-control depletion increases accuracy, but decreases confidence for performance

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Abstract

We propose that egotism about one's abilities may be related to good self-regulation and a lack of self-control may reduce estimations of aptitudes. Self-control depletion should lead to more accurate and therefore less lofty predictions of future performances. In two experiments, self-control depletion was manipulated by having participants either resist tempting cookies or by inhibiting thoughts about a white bear. In both cases, nondepleted participants made bolder predictions about their future performance on a video game than their depleted counterparts. Instead, depleted participants were more modest in their predictions and more accurate in their predictions than nondepleted participants. These findings suggest that depletion undermines self-assurance in oneself, which may have implications for theories of depressive realism, accuracy, confidence, and goal setting.

> "I'm good enough, I'm smart enough, and doggone it, people like me!"
>
> Stuart Smalley (Franken, 1992)

Stuart Smalley, a wimpy character portrayed on Saturday Night Live by Al Franken, was a man who had to push himself in order to have self-confidence. To resist having negative self-thoughts (which were often quite accurate self-appraisals), he repeated affirmations such as the quote above to himself. Which leads us to the question: Are people automatically and naturally self-assured or is self-assurance a more controlled and effortful characteristic? Knowing the answer to this question would be very helpful in illuminating the human existence, as well as designing programs to help individuals succeed in school, work, and life.

Research has suggested that most people have an overall bias toward overconfidence (i.e., Harvey, 1997; Kahneman & Tversky, 1973; Klayman, Soll, González-Vallejo, & Barlas, 1999). Extensive research has built on these findings and the overwhelming conclusion is that most healthy people tend to overestimate their abilities, talents, control, and self (Ehrlinger & Dunning, 2003; Kenny & DePaulo, 1993; Kruger & Gilovich, 2004; Taylor & Brown, 1988). The general conclusions of these studies suggest that people tend to believe they make more correct judgments than they actually do. Related research on depressive realism has found that most healthy people significantly overestimated their control over their environment (Alloy & Abramson, 1979). Depressed people, on the other hand, were accurate in their estimation of control, which suggests that overconfidence is necessary for mental health.

The depressive realism findings also suggest that being overconfident may require some level of motivation to maintain. That is, it is unclear from the research whether overconfidence takes a constant force of will or whether it happens relatively automatically for most people.

Moreover, a closer analysis suggests maintaining these self-enhancements and illusions may not be effortless. In order to deal with negative feedback or evidence that one is not as amazing as originally thought, a person must engage a great number of cognitive mechanisms (Greenwald, 1980). For instance, they must discount negative past experiences or feedback, ignore doubts, and reject negative conclusions (e.g., Baumeister & Newman, 1994; Kunda, 1990; Shrauger & Schoeneman, 1979). Engaging in such thoughts and emotional control requires cognitive resources (Wegner, Schneider, Carter, & White, 1987). Indeed, consistent with the conclusion that maintaining these biases requires effort, research has found that these self-enhancing biases can be disrupted when individuals' cognitive resources are diminished (Ditto, Scepansky, Munro, Apanovitch, & Lockhart, 1998).

Maintaining these biases may not just require attention, however. In fact, trying to suppress one's thoughts, regulate feelings, and disregard threatening information in the environment all likely require the individual to exert self-control. That is, these processes require the individual to stop or override their feelings, thoughts, behaviors, or urges in order to reach a long-term goal (a review of the process of self-control can be found at Muraven & Baumeister, 2000). Indeed, it appears that thought suppression, emotional regulation, and attentional control all require self-control (Schmeichel, 2007). Insofar as these processes are needed to maintain the illusions of overconfidence, it is clear that overconfidence requires resources, effort, and will power. Perhaps processes that maintain confidence may not be entirely automatic. Instead, confidence may require the individual to actively work at and exert self-control to maintain the delusion. Such efforts, when disrupted, may result in less self-enhancement and greater accuracy.

Disrupting self-control

Recent research has found that self-regulation is impaired fairly easily. In particular, research on self-control strength has suggested that individuals have a limited ability to exert self-control (Muraven & Baumeister, 2000). The findings from this Ego Strength Model have suggested that people treat self-control like a limited resource that gets depleted with use. This means that after exerting self-control, the available pool of resources is perceived to be lower. Because people wish to maintain their reserves, they will often perform more poorly on subsequent attempts at self-control (Muraven, Shmueli, & Burkley, 2006).

For instance, people who exerted self-control over their thoughts by not thinking about a white bear had greater difficulty regulating their alcohol intake subsequently as compared with individuals who solved math problems (Muraven, Collins, & Nienhaus, 2002). The differences in alcohol consumption could not be explained by differences in mood, arousal, or displeasure with the experiment; instead it was only related to the amount of self-control exerted in the initial phase of the experiment. Overall, the evidence is consistent with the limited strength model outlined earlier.

If maintaining positive illusions about one's ability requires overriding and regulation of one's thoughts, feelings, and beliefs, then it is possible that depletion will disrupt this process. As Locke and Latham (2006) suggested, setting and pursuing difficult goals requires a great amount of effort and resources. This means that depleted individuals may be more realistic in their outlook than nondepleted individuals. It seems reasonable that the Ego Strength Model could imply that people with limited self-control resources may take the safe route and set more reasonable goals than those who perceive their self-control as a "full tank."

Overview of current research

This hypothesis was tested in two experiments that asked participants to predict their ability to exceed a criterion. The first experiment tested the goal setting of both depleted and non-depleted participants. Specifically, they were allowed to set goals that were easier or more difficult to achieve. The subsequent experiment examined the effect of depletion on both accuracy and confidence. For our purposes, we define confidence as some certainty in a prediction or action. We believe that depletion of self-control strength will undermine this confidence in ability and lead to choosing more reasonable, realistic, and achievable goals. In fact, we hypothesize that depleted participants will set more realistic goals and be less overconfident in their goal choice than those in the control group. Therefore, in the depletion condition, people will be more likely to reach their reasonable goals than those in the control condition.

Experiment 1

Methods

Participants and design

Fifty-eight undergraduate students from the University at Albany participated in this experiment. Forty-two participants were female and 16 were male. Ninety percent were between 18 and 20 years old. Sixty-seven percent were Caucasian, 12% were Latino, 11% Asian, 4% African American, and 6% reported that they were another ethnicity. Participants were randomly assigned to be in a depleting or control condition. All received course credit for their participation.

Procedure

After consenting to the study, participants first completed a task that either required or did not require self-control. All participants were given a sheet of paper and told to write about animals for 5 minutes (Baumeister, Bratslavsky, Muraven, & Tice, 1998). For nondepleted participants, these were all the instructions given to them. Depleted participants, on the other hand, were told to not think about a white bear during this task and to make a check mark every time they thought about one. Then participants answered a manipulation check to assess if depleted participants used more self-control than nondepleted participants. This was a 1-item question: "How much self-control did the writing task require?", which was rated on a 1–5-point Likert scale. Next, we assessed participants' effort that they put forth on the task and perceived task difficulty, because these may confound with the effect of self-control on confidence. To ascertain the difficulty of the task and effort put forth, participants also rated the following questions on a 1–5 scale: "How difficult

was the writing task?" and "How much effort did the writing task require?" Similarly, because mood may be a potentially confounding factor as well, they also responded to the Positive and Negative Affect Scale to measure potential mood fluctuations (PANAS—Positive Affect: Cronbach's $\alpha = .86$, Negative Affect: Cronbach's $\alpha = .86$; Watson, Clark, & Tellegen, 1988).

Next, participants were seated at a computer and were told they would play "Sky Jinks," a video game designed for the Atari System (Baumeister, Heatherton, & Tice, 1993). We chose this game because overconfidence could be easily measured and the game appears trivial enough to elicit a lack of confidence similar to findings from depressive realism. All participants were asked if they had played this game before and no one reported playing Sky Jinks previously. For this game, the player steered a plane in a pylon race. Pylons were striped, colored objects and the participants were told to steer to the right of the red pylons and to the left of the blue pylons. This was achieved by pressing either the left or right arrow buttons accordingly. The experimenter informed participants that they would receive a 3 second penalty each time they did not steer correctly around a pylon. Also, they were to avoid all obstacles, such as trees, in the race. Colliding with any obstacle would slow the plane down and take longer to finish the race. Because the participants' score was the amount of seconds it took them to finish each race, their goal was to finish the race as quickly as possible.

All participants played the game 10 times. For each participant, the experimenter rounded the third best score and told them that this was the average score that students have achieved during the game previously. This way, the average score was always specific for each participant, so that average scores were poorer for those who performed badly and better for those who performed well. The experimenter did not inform participants that this "average score" was personalized for them. Beating the "average score" was a rather difficult goal to achieve, because it was never achieved on a majority of the rounds. The experimenter asked participants if they would beat the average score in another round of the game. Notably, there was no incentive for setting an easier or more difficult goal. The experimenter asked the participants to predict their score on the last round. Everyone played the game one more time and their scores were recorded. Afterwards, participants were debriefed and given credit for their participation.

Results

Manipulation checks

As seen in Table 1, participants told not to think about a white bear reported using more self-control than those who just wrote about animals, $t(56) = 3.46$, $p = .001$, Cohen's $d = .91$.

Table 1 Experiment 1: Means and *SD*s for Depleted and Nondepleted Participants

	Nondepleted		Depleted	
	M	SD	M	SD
White bear task required self-control	2.14	1.21	3.31	1.42
Negative affect	11.46	4.35	11.80	5.38
Positive affect	26.19	7.62	27.75	7.74
Average score	51.61	10.30	54.10	13.07
Average score minus predicted score	1.71	2.67	0.17	2.74

SD = standard deviation.

Compared with participants in the control group, depleted participants did not report that the white bear task required significantly more effort, $t < 1$, or that the task was significantly more difficult, $t(56) = 1.55$, $p = .13$. There were two ways we measured setting reasonable, attainable goals. First, participants responded verbally to a yes or no question about whether or not they could beat the average score. Also, we calculated differences between the criterion given to participants and the score participants predicted they would attain on their next turn. These two measures were highly correlated, $r(57) = .64$, $p < .001$. Because each of these measures was assessed on a different metric, each was analyzed individually.

Depletion, setting realistic goals, and accuracy

We first examined the statements of whether or not participants believed they could beat the average score for the game. By comparing depleted and nondepleted participants, we found that significantly more depleted people (40%) said they could not beat their score as compared with nondepleted people (13%), $\chi^2 = 4.79$, $p = .03$.

Also, depletion was predictive of differences between the score participants predicted they would get on their next turn and their average score. A *t*-test indicated that depleted participants predicted a poorer performance in respect to the average score than nondepleted participants, $t(56) = 2.16$, $p = .03$, Cohen's $d = .57$. We also examined the accuracy of the predictions from the differences between the predicted score and the next score the participants actually achieved on their next turn. A *t*-test indicated that nondepleted participants performed worse than they predicted, but depleted participants were rather accurate about their future performance $t(56) = 1.63$, $p = .108$, Cohen's $d = .43$. In short, although nondepleted participants were overconfident in their predictions, depleted participants were more realistic about how well they would do.

Alternative explanations

Next, we wanted to determine if differences in participants' actual performance was affected by the

depletion manipulation. We did not expect that actual performance should differ between depleted or control participants. Rather, we believe that accuracy and difficulty in goal setting should differ. Indeed, a *t*-test indicated that depleted participants did not differ in their actual performance, as evidenced by their score, from control participants, $t(56) = .803$, $p = .43$. That is, depletion did not undermine actual performance. This finding suggests that it is unlikely that a poor performance increased accuracy or lessened lofty goal setting.

Next, we wanted to determine if depletion simply put participants in a worse mood. Using the participants' scores on the PANAS, a *t*-test indicated that, as compared with the control condition, depletion did not put participants in a worse mood, $t(56) = .26$, $p = .80$. Being in the control condition did not enhance participants' mood more than those in the depletion condition, $t(56) = .74$, $p = .46$. Also, a regression analysis indicated that responses to how much self-control the writing task required was unrelated to negative affect, $B = .45$, standard error $(SE) = .45$, $t(56) = 1.01$, $p = .32$. Reports about self-control exerted during depletion task did not have a significant impact on positive affect either, $B = .38$, $SE = .75$, $t(56) = .50$, $p = .62$. Next, through another regression analysis, we examined mood and its relation to all of the goal-setting measures. A negative mood was not related to differences between predicted performance and the average score, $B = .11$, $SE = .08$, $t(56) = 1.42$, $p = .16$. Positive mood did not significantly affect these differences either, $B = -.08$, $SE = .05$, $t(56) = -1.64$, $p = .11$. Likewise, a logistic regression indicated that positive affect was unable to predict whether or not participants stated they could beat the average score or not, $B = .06$, $SE = .04$, $Wald = 1.69$, $p = .19$. This was also true for negative affect, $B = .02$, $SE = .06$, $Wald = .07$, $p = .80$. Overall, these results suggest that mood is an unlikely factor contributing to the differences in our two confidence measures. Furthermore, these results indicate that it is more likely that being depleted of self-control strength, and not other confounding variables, which caused these differences in goal setting.

Discussion

This first experiment indicated that self-control depletion may be increasing realistic goal setting and accurate judgments for future performances. These findings do not appear to be a result of a negative mood or because of being a poor video game player. Moreover, it is unlikely that being realistic and accurate was due to the depletion task requiring greater effort or was more difficult than the control task. However, it is possible the depletion method itself may have undermined confidence and thus resulted in setting lower goals. Perhaps the people who were told not to think about a white bear felt less successful or accomplished because they actually did think about a white bear. Nondepleted people, having no such

instruction, may have felt relatively successful in writing about animals. Although Wallace and Baumeister (2002) found that failure attributions about a depletion task did not diminish persistence on a future task, this experiment examined confidence. Therefore, similar findings for confidence should be found with another manipulation of self-control depletion in which both groups should feel equally successful and accomplished afterwards.

Furthermore, it is possible that simply saying that one will beat the average score and by a substantial amount may not be indicative of confidence per say. To address this issue, participants were asked about their confidence for another round of the video game.

Experiment 2

Methods

Participants and design

Sixty-six undergraduates at the University at Albany participated in this experiment. The sample consisted of 32 women and 34 men ($N = 66$). Our participants reported their ethnicities as follows: 52% Caucasian, 12% Latino, 9% African American, 9% Asian, and 18% reported either another ethnicity or chose not to report their ethnicity. All participants were randomly assigned to a control or self-control depletion condition.

Procedure

We replicated Experiment 1 using a different depletion method. To manipulate self-control depletion, participants were given a plate of two cookies and a plate of two radishes for 5 minutes. Participants were randomly assigned to either the depletion or control condition. For those in the depletion condition, the experimenter told participants the following: "For the next 5 minutes, we would like you to resist eating these cookies. I know they are very tempting and you may want to eat them, but you should not. You may eat as much of the radishes as you would like but do not eat any of the cookies." In the control condition, participants were told not to eat the radishes, but were allowed to eat the cookies. These procedures were successfully used in previous experiments on ego-depletion (Baumeister et al., 1998). Participants responded to the PANAS to assess positive and negative mood states. They also responded to the following questions: "How much self-control did the cookie task require?", "How much effort did the cookie task require?", and "How difficult was the cookie task" which were all rated on a 1–5-point Likert scale.

Afterwards, participants completed the Sky Jinks task similarly to how it was conducted in Experiment 1. However, after reporting whether or not they could beat the score and what score their predicted on their next turn, they were also asked

the following question: "How confident are you that you will surpass the average score?" This item was rated on a 5-point Likert scale. Afterwards, all participants were debriefed about the true nature of the experiment and given credit.

Results

Manipulation checks

As seen in Table 2, participants who were not allowed to eat the cookies reported that the cookie task required more self-control than participants who were not allowed to eat the radishes, $t(64) = 2.48$, $p = .02$, Cohen's $d = .61$. Depleted participants did not report that their cookie task was more difficult, $t < 1$, or that the cookie task required more effort, $t(64) = 1.00$, $p = .32$, than for participants in the control condition. Whether or not participants said they could beat the average score was highly correlated with the difference between the predicted next score and the average score, $r(66) = .64$, $p < .001$. Statements that the average score would be surpassed on the next turn was positively correlated with how confident participants were about their future performance, $r(66) = .41$, $p = .001$. Likewise, the difference between the predicted and average score was correlated with self-reported confidence about the next round of play, $r(66) = .28$, $p = .02$. All three measures were analyzed separately to examine if they were impacted by the depletion manipulation.

Depletion, setting realistic goals, accuracy, and confidence

Replicating the results of Experiment 1, significantly more depleted participants (59%) stated they could not beat the average score than nondepleted participants (3%), $\chi^2 = 23.57$, $p < .001$. Again, we wanted to determine if depleted participants predicted a better outcome for the final round than control participants. A t-test revealed that the control group performed worse than predicted as compared with the depleted group, $t(65) = -4.24$, $p < .001$, Cohen's

$d = 1.00$. As in Experiment 1, this suggested that the control group was overconfident whereas the depleted group was accurate. Next, we analyzed the differences between the predicted score and the next score the participants attained on their next turn. A two-tailed t-test indicated that nondepleted participants performed worse than predicted, but depleted participants were more accurate about their performance $t(64) = 1.74$, $p = .086$, Cohen's $d = .43$. This finding suggested that the control group erroneously believed they would do better than they actually did. It appeared that depletion led people to be quite accurate about their future performance on the game.

Furthermore, we wanted to determine if these verbal statements about participants' future performance were indeed related to how confident they were. Consistent with the results from Experiment 1, a one-tailed t-test suggested that depleted people reported less confidence in whether or not they could beat the score than those in the control condition, $t(65) = 1.72$, $p = .04$, Cohen's $d = .43$. Along with the statements about beating the average score and by how much, this added measure of confidence appeared to be affected by the depletion manipulation as well.

Alternative explanations

As in Experiment 1, we wanted to ensure that depleted participants were not performing more poorly on the game, which could affect their confidence about the game. Indeed, a t-test revealed that there were no significant differences between the average scores for depleted and control participants, $t(65) = 1.24$, $p = .22$. Like in Experiment 1, this finding suggested that being depleted did not significantly cause decrements in actual performance. Overall, these results suggest that it is unlikely that these potentially confounding variables had any significant effect on the confidence measures.

Next, another t-test suggested that control participants were not in a better mood than depleted participants, $t(65) = .23$, $p = .82$. Furthermore, depletion did not put participants in a more negative mood, $t(65) = .77$, $p = .45$. In a regression analysis, being in a good mood was not able to account for predicting a better performance than the average score either, $B = .02$, $SE = .04$, $t(65) = .40$, $p = .69$. A logistic regression revealed similar results for whether or not participants said they could beat the average score, $B = .04$, $SE = .04$, $Wald = 1.03$, $p = .31$. Also, a negative mood was similarly unable to explain participants' accuracy about their future performance, $B = .04$, $SE = .05$, $t(65) = .74$, $p = .46$. Again, a logistic regression for negative affect was unable to predict whether or not people said they could beat the score, $B = .004$, $SE = .05$, $Wald = .01$, $p = .91$. Next, we conducted the regression analyses on mood for the confidence item. A negative affect was not significantly related to self-reports about how confident they were to beat the average score, $B = -.03$,

Table 2 Experiment 2: Means and *SD*s for Depleted and Nondepleted Participants

	Nondepleted		Depleted	
	M	SD	M	SD
Cookie task required self-control	1.56	.95	2.24	1.23
Negative affect	14.19	6.49	13.70	5.25
Positive affect	25.10	7.36	24.76	7.96
Average score	50.47	4.33	53.50	12.90
Average score minus predicted score	1.75	2.47	−.60	2.20

SD = standard deviation.

$SE = .02$, $t(65) = -1.47$, $p = .15$. Likewise, a positive mood was unable to account for differences in how confident they felt, $B = .02$, $SE = .02$, $t(65) = 1.56$, $p = .13$. It seems reasonable to conclude that setting practical goals and predicting accurate future performances was actually due to the self-control depletion manipulation, and not due to any mood differences. Furthermore, confidence in future performances was likely due to depletion manipulation and not an unrelated pleasant or unpleasant mood.

Performance accuracy: effect size analysis

Some of the marginally significant effects in Experiments 1 and 2 were likely due to the measurement error that accompanies analyses with difference scores. Specifically, the differences between the predicted performance on Sky Jinks and the actual performance did not reach conventional significance levels, but the effect sizes in both experiments were moderate. A sample-size weighted effect size was calculated for the effect of the depletion manipulation on the differences between the predicted and actual Sky Jinks scores. A two-tailed test revealed that this effect size was significant, Cohen's $d(127) = .43$, $p < .02$.

Discussion

Experiment 2 replicated and extended the results from Experiment 1. Self-control depletion decreased bold predictions, which cannot be explained by the depletion task being especially difficult or requiring extensive effort. Plus, these findings cannot be attributed to a poor video game performance or by a bad mood. Again, depleted participants were not overly confident, but instead very accurate and realistic about their future performance on the video game. This indicates that depletion may be enhancing accuracy similar to the realistic expectations characteristic of depressed people. Yet, depleted people were not in a more negative mood, which would be expected of a depressed person. Instead, depleted people seem to be depressively realistic, minus the depression.

General discussion

Across two experiments, we found that depleted individuals were more accurate in their predictions to exceed a goal. In both experiments, using different means of depleting ego-strength, individuals who exerted self-control in the first phase of the experiment felt that they were less likely to meet a moderately difficult goal. Moreover, they were right, as their estimate of how well they would do did not differ from their actual performance. Nondepleted individuals were not so right, as they overestimated how well they would do.

The results suggest that the processes that underlie confidence are not entirely automatic. Instead, they seem to

require executive control to some degree and are disrupted by ego-depletion. Put another way, being self-assured may take self-control as the person has to ignore or deal with doubts, fears, countervailing information, and prior experiences. When depleted, people may have trouble putting all these things aside, which undermines their overconfidence and results in more accurate predictions of future performance.

Although prior research (e.g., Paulhus, Graf, & Van Selst, 1989) has suggested that attentional load increases the positivity of self-presentation, there are some fundamental differences between that research and the current results. First, in this article, we examined confidence about a specific performance, rather than general sense of self. Moreover, we asked participants to make a rating about a concrete task that they had just spent quite some time practicing (and expected to engage in again), rather than self-reports of traits (a similar argument holds for the self-reports of narcissism in Vohs, Baumeister, & Ciarocco, 2005). We suggest that on straightforward, self-report measures of risk taking with no priming of contradictory information and no behavioral outcomes, depleted individuals may have followed the simple rule of selecting the most positive responses. However, on a more complex, novel task with clear standards and outcomes, depleted individuals' ability to engage in self-enhancement is impaired. More research will be needed to integrate these separate patterns of results.

One interesting implication of these results is that self-control is not always an unmitigated good thing. Depleted individuals were more accurate in their estimates of a future performance than nondepleted individuals. Being able to exert self-control led to an overestimation of future performance. Obviously, the final outcome on a task will depend on whether accuracy or overconfidence is more important; in the present experiments, accuracy was the goal and hence, depleted individuals did better than nondepleted individuals. Although this research benefits from examining behavioral outcomes that model many situations in the world, much more experimentation is needed to determine if these effects carry over to more profound situations.

Whereas we are confident in these results, we do not want to communicate overconfidence. There are several limitations worth noting. In particular, we used the same measure of confidence in both experiments. We chose the same way to measure confidence in both experiments because it was good way to control for natural ability in the video game task, which we deemed an important asset for these experiments. Also, people are largely unfamiliar with the video game, making it less likely that previous experience would affect confidence outcomes. Nevertheless, future researchers may wish to replicate our results using other tasks. In addition, we were concerned that our manipulations of ego-depletion led to feelings of failure directly. Experiment 2 attempted to address this concern, but it would be useful to directly assess

those feelings. Yet, it is unlikely that depletion made participants feel badly, because our mood measures did not indicate this. Perhaps more specific measures of mood would be beneficial for follow-ups in this line of research. More broadly, we did not examine the underlying process. Hence, although we suggest that depletion makes people more realistic for goal setting by changing the way people process information about the self, we did not assess that directly.

In our experiments, we specifically measured confidence in ability. Experiments examining confidence or overconfidence typically measure confidence in regards to estimates or answers to specific questions. As we believe depletion will have more impact on dependent measures related to ultimate behaviors, we did not measure confidence in this way. Yet, it is possible that depletion may affect confidence in judgments for estimates or responses to questions as well. Future research would be needed to investigate this possibility further.

These results may have implications for understanding depressive realism as well as other confidence effects. Depressed or dysphoric individuals are dealing with negative affect, numerous stressors, and unwanted thoughts that may require self-control. This could put them in a state of fairly constant depletion, which would undermine their ability to regulate themselves. The net result would be less overconfidence. Conversely, maintaining overconfidence may be depleting as well. This could explain why situations that require making decisions (Vohs et al., 2008) are depleting—the confidence required to make these decisions requires self-control. In conclusion, we found that depletion of ego-strength leads to setting realistic goals for one's future performance. It appears that self-control is needed in order to maintain self-assurance. This suggests that confidence is not an automatic process, but one that we must engage and imbue with personal energy. Instead, doggone it, confidence seems to require self-control strength.

Acknowledgments

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