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Unable to Resist Temptation: How Self-Control Depletion Promotes Unethical Behavior

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Abstract

Across four experimental studies, individuals who were depleted of their self-regulatory resources by an initial act of self-control were more likely to "impulsively cheat" than individuals whose self-regulatory resources were intact. Our results demonstrate that individuals depleted of self-control resources were more likely to behave dishonestly (Study 1). Depletion reduced people's moral awareness when they faced the opportunity to cheat, which, in turn, was responsible for heightened cheating (Study 2). Individuals high in moral identity, however, did not show elevated levels of cheating when they were depleted (Study 3), supporting our hypothesis that self-control depletion increases cheating when it robs people of the executive resources necessary to identify an act as immoral or unethical. Our results also show that resisting unethical behavior both requires and depletes self-control resources (Study 4). Taken together, our findings help to explain how otherwise ethical individuals predictably engage in unethical behavior.

Keywords: Impulsive cheating; Unethical behavior; Ego depletion; Dishonesty; Self-control; Self-regulatory resources; Moral Identity; Ethical decision making

Unethical acts can cause substantial damage to interpersonal relationships, organizations, and economic systems. A recent estimate from the Association of Certified Fraud Examiners (ACFE, 2008) indicates that U.S. businesses lose approximately 7% of their annual revenues to various forms of unethical behavior, an amount equal to $1 trillion in losses across the economy. Several well-documented ethical failures have caused remarkable harm to individuals and society as a whole, including those involving Bernie Ebbers and Bernie Madoff, as well as corporations such as Enron, Tyco, and Worldcom. This worrisome evidence and its economic consequences beg the question of why people engage in unethical behavior.

Although some people plan to behave unethically to attain opportunistic gains (Brief, Buttram, & Dukerick, 2001; Lewicki, Poland, Minton, & Sheppard, 1997), many individuals start with good intentions but ultimately engage in unethical behavior. An emerging literature has begun to identify important psychological factors that influence, consciously and unconsciously, decisions to behave unethically (Caruso & Gino, 2011; Chugh, Bazerman, & Banaji, 2005; Gino & Bazerman, 2009; Gino & Pierce, 2009; Kern & Chugh, 2009; Mazar, Amir, & Ariely, 2008; Messick & Bazerman, 1996; Schweitzer & Gibson, 2008; Schweitzer, Ordonez & Douma, 2004; Tenbrunsel & Messick, 2004). Despite this growing body of literature, many questions about the factors that cause people with good intentions to commit unethical acts remain unanswered.

Unethical behaviors are defined as acts that have harmful effects on others and are "either illegal or morally unacceptable to the larger community" (Jones, 1991: 367). Based on this definition, examples of unethical behaviors include violations of ethical norms or standards, cheating, stealing, and other forms of dishonesty. In this paper, we focus on a specific form of unethical behavior: cheating by overstating performance for monetary gain. Similar to other types of unethical behavior, cheating by overstating performance is tempting because it offers

short-term benefits (i.e., monetary rewards), but it may harm an individuals' moral self-concept and may engender long-term costs (e.g., tainted reputation or lower social acceptance).[1] For instance, a manager who cares about morality may be tempted to inflate her expense report or her billable hours because these behaviors are associated with higher financial rewards. These short-term benefits, however, may risk long-term harm to her reputation, to established relationships, and to long-term profitability. Thus, the decision to behave unethically commonly requires people to weigh two opposing forces: the desire to maximize self-interest and the desire to maintain a positive moral self-image and future relationships. To resolve the internal conflict between the short- and long-term benefits of dishonest acts, individuals must exert self-control (Mead, Baumeister, Gino, Schweitzer, & Ariely, 2009). That is, self-control is the psychological capacity that enables people to enact behaviors that are consistent with their long-term goals (e.g., of being an ethical person) and refrain from engaging in behaviors that are driven by short-term, selfish motives. But what happens when self-control is depleted?

In this paper, we address this question and investigate the role of self-control in unethical behavior. Across four laboratory studies, we test the hypothesis that self-control resource depletion increases unethical behavior because it reduces the extent to which people can and do recognize the unethicality of the situation. Our studies document the detrimental impact of self-control depletion on unethical behavior, and identify both the underlying mechanism explaining it and a theoretically and practically important moderator, moral identity.[2] Finally, we also examine whether resisting the temptation to cheat depletes one's own self-regulatory resources.

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[1] According to Fishbach and Coverse (2010b), a stimulus is tempting only when considered in relation to another, higher-order goal that the individual considers to be more important. Thus, temptations do not have specific content. "Rather, any personal motivation can potentially constitute an interfering temptation with respect to a higher-level goal, or it can constitute an overriding goal with respect to a lower-level temptation" (Fishbach & Coverse, 2010b).

[2] Throughout the paper we use the terms "self-control depletion" and "self-regulatory resource depletion" interchangeably. Similarly, we use the terms "self-control" and "self-regulation" interchangeably.

Taken together, our studies contribute to our theoretical understanding of the role of self-control in explaining unethical behavior and inform prescriptions for curtailing dishonesty.

Self-Control and Unethical Behavior

Self-control is "the ability to override or change one's inner responses, as well as to interrupt undesired behavioral tendencies (such as impulses) and refrain from acting on them" (Tangney, Baumeister, & Boone, 2004, p. 274). Self-control enables individuals to resist short-term temptations (e.g., the pleasure of eating cheesecake) to achieve long-term aims (e.g., losing weight; Loewenstein, 1996; Mischel, 1974; Myrseth & Fishbach, 2009).

In the near term, self-control, or *self-regulation,* is a finite resource (Baumeister & Heatherton, 1996; Heatherton & Baumeister, 1996; Muraven, Tice, & Baumeister, 1998). The strength model of self-regulation contends that all acts of self-regulation (e.g., refraining from buying a tempting product one does not need) draw from a common yet finite pool of resources, thereby leaving relatively fewer self-regulatory resources available for subsequent acts of self-control (Muraven, Tice, & Baumeister, 1998; Muraven & Baumeister, 2000). Thus, self-control is impaired when an individual continuously exerts self-control without rest or replenishment, just as a muscle becomes fatigued through exertion (Muraven, Tice, & Baumeister, 1998; Muraven & Baumeister, 2000). Since the introduction of the strength model, dozens of empirical investigations have demonstrated that acts of self-regulation impair subsequent self-regulatory efforts (e.g., Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven, Collins, & Nienhaus, 2002; Vohs & Heatherton, 2000). Behaviors such as controlling emotional expression, suppressing forbidden thoughts, and resisting tempting foods cause performance deficits in subsequent self-regulatory tasks.

Furthermore, behaviors from seemingly different spheres of self-regulation draw from the same resources, such that a task that involves controlling emotion can cause impairment on a subsequent task requiring persistence (Baumeister, Vohs, & Tice, 2007; Muraven, Tice, & Baumeister, 1998). For instance, research has found that, compared to people who have not recently had to self-regulate their behavior, people who have had to self-regulate their behavior are more likely to overeat, procrastinate, or shop impulsively (e.g., Baumeister, Bratslavsky, Muraven, & Tice, 1998; Vohs, 2006; Vohs, Baumeister, & Ciarocco, 2005; Vohs & Faber, 2007; Vohs & Heatherton, 2000; Vohs & Schmeichel, 2003; Schmeichel, Vohs, & Baumeister, 2003; Kivetz & Simonson, 2002; Mischel, Shoda, & Rodriguez, 1989).

Just as people use self-control to diet (e.g., to resist a tempting piece of chocolate cake), people use self-control to refrain from engaging in tempting, unethical behavior (e.g., submitting an inflated expense report or taking office supplies home). Muraven et al. (2006) measured trait self-control and found that both trait self-control and self-control depletion predicted cheating behavior on a problem-solving task. Mead et al. (2009) also found that individuals were more likely to misrepresent their performance for financial gain when their self-control resources were depleted than when they were not depleted. These findings seem to generalize to the workplace. People with high self-control have been found to be less aggressive toward others at work (Latham & Perlow, 1996) and to be less likely to perform counterproductive or deviant work behaviors (Bordia et al., 2008; Douglas & Martinko, 2001; Marcus & Schuler, 2004; Sarchione et al., 1998). More recently, Christian and Ellis (*in press*) found that sleep deprivation decreases people's self-control and increases their hostility, resulting in greater workplace deviance. Integrating these findings, we postulate the following:

Hypothesis 1: Self-regulatory resource depletion increases unethical behavior.

Work by Muraven et al. (2006) and Mead et al. (2009) is particularly relevant to our investigation, as it studies cheating behavior. Although Muraven et al. (2006) and Mead et al. (2009) identify a link between self-control depletion and cheating, both investigations are silent with respect to the underlying mechanism that explains this link and the potential factors that moderate it. Understanding the relationship between self-control and unethical behavior is important, because this relationship explains how and when otherwise moral individuals will predictably behave unethically. In this paper, we identify both the underlying mechanism linking self-control depletion and unethical behavior and an important moderator (i.e., self importance of moral identity), and we thus advance our understanding of the role of self-regulatory processes in explaining unethical behavior.

Explaining the Link between Self-Control Depletion and Unethical Behavior

Effective self-regulation involves three main components: standards, monitoring and strength (see Baumeister & Bushman, 2010). The first component, *standards*, refers to goals or rules that drive individuals' behavior regarding what are appropriate or moral actions, and it is often determined by cultural norms. The second component, *monitoring*, consists in keeping track of the actions individuals want to regulate so that they can achieve their goals and standards. People typically monitor themselves through a feedback loop which, in the self-regulation literature, is referred to as the "test-operate-test-exit" loop (TOTE, see Carver & Scheier, 1981, 1982).

In this feedback model, people compare their actions to their standards or goals. If there is a discrepancy between current actions and standards (e.g., behaving selfishly when one wants to be a generous person), then people move to the "operate" phase in which they exert conscious self-control to change their behavior so that their actions are in line with their goals. During

further testing later on, if the person finds that the behavior meets the standards, then she can complete the loop by exiting it. Thus, similarly to the working of a thermostat, self-regulation works by comparing the self's current actions with pre-determined goals, and if the self falls short, some change would be made to bring about the desired state.

The third component of effective self-regulation is the *capacity for change*, also known as willpower. This component is particularly important in understanding what occurs during the "operate" phase of the TOTE loop. When people's self-control is depleted, their cognitive resources are taxed and, as a result, their executive functioning is hindered (Schmeichel, Vohs, & Baumeister, 2003). We propose that, compared to individuals whose self-regulatory resources are replenished, individuals whose self-regulatory resources are depleted are more likely to act unethically because these individuals do not have the executive resources to identify moral issues in the situation they are facing and to test their behavior against an external moral standard.

To behave ethically when facing a moral dilemma, individuals must recognize ethical issues and transform ethical intentions into ethical actions (Rest, 1986; Jones, 1991). Identifying the moral issue (moral awareness) is, indeed, the critical first step in a multistage ethical decision-making process (Ferrell & Gresham, 1985; Jones, 1991; Rest, 1986; Reynolds, 2006; Treviño, 1986). Rest (1986) defined moral awareness as an interpretive process through which an individual recognizes that a moral problem exists in a situation or that a moral standard or principle is relevant to some set of circumstances. More recently, Reynolds (2006) defined moral awareness as "a person's determination that a situation contains moral content and legitimately can be considered from a moral point of view" (p. 233). A person can thus exhibit different patterns of moral awareness in different situations (Treviño, 1986).

Both recognizing ethical issues in a decision and reasoning through moral dilemmas require cognitive resources (e.g., Bazerman, Gino, Shu, & Tsay, 2011; Dilchert et al., 2007; Kohlberg, 1969). Indeed, systematic processing results in greater recognition of moral issues in a given situation (Street, Douglas, Geiger, & Martinko, 2001; Swanson & Hill, 1993), relative to peripheral processing of information. Given that moral awareness relies on the very same cognitive resources that are taxed by self-regulatory resource depletion, we hypothesize that self-control resource depletion may reduce people's ability to recognize and reason through a moral issue. Put simply:

Hypothesis 2: Self-regulatory resource depletion impairs moral awareness.

Perhaps even more problematic, individuals who fail to recognize the moral aspect of an issue, decision, or situation will not activate the moral decision-making script (Jones, 1991; Street et al., 2001). Thus, when moral awareness is impaired, ethics-related constructs are less likely to be activated and available in their minds, and, as a result, individuals are more likely to behave unethically. We thus hypothesize that:

Hypothesis 3: The impaired ability to recognize moral issues mediates the relationship between self-regulatory resource depletion and unethical behavior.

Moral Identity as a Moderator

Although unethical behavior is common, almost everyone values honesty, believes strongly in his or her own morality, and strives to maintain a moral self-image (Greenwald 1980; Sanitioso, Kunda, & Fong, 1990). For instance, approximately 84% of individuals self-report that they are moral (Aquino & Reed, 2002). Moral identity reflects the extent to which an individual identifies him/herself as a moral person. Differences in moral identity determine ethical behavior. Compared to individuals who rate the importance of their moral identity to be

low or moderate, individuals who rate the importance of their moral identity to be very high strive harder to behave consistently with their internal moral compass and to make moral decisions (Aquino & Reed, 2002; Bergman, 2002; Blasi, 1980, 1993). Furthermore, individuals with a strong moral identity consider moral concerns and commitments to be central to their self-concept (Aquino & Reed, 2002), and are characterized by high moral self-regulation (Bandura, 1991). That is, they are able to recognize their own moral objectives and social expectations by processing pre-existing moral conceptions and affective states. With high moral self-regulation, people are able to extract, weigh, and integrate morally relevant information when facing moral dilemmas before deciding upon a course of action.

We postulate that the self-importance of moral identity moderates the relationship between self-regulatory resource depletion and unethical behavior. Individuals high in moral identity have strongly internalized moral standards and thus do not need to expend cognitive resources when thinking through the decision of how to resolve ethical dilemmas. Consistent with these arguments, in a recent fMRI study, Greene and Paxton (2009) found that individuals who behaved honestly in a task where cheating was possible did not engage in controlled cognitive processes, while those who behaved dishonestly did. This suggests that "honest" individuals automatically recognized the immorality of cheating on the given task and were not tempted by the opportunity for dishonest gain. By contrast, individuals who behaved dishonestly exhibited increased activity in controlled cognitive processes, suggesting that they used cognitive resources to think through the decision of whether to behave unethically or not.

These findings indicate that individuals who behave honestly may not need to rely on their self-control in order to resist the temptation to cheat, since they strongly value morality and do not to use their cognitive resources to recognize and reason through moral issues. It is quite

possible that only individuals with a low moral identity may need to overcome the temptation to cheat when the situation allows for cheating and use cognitive resources to think through moral dilemmas. As suggested earlier, ethical behavior may break down because depleted individuals do not have the executive resources to identify moral issues and to test their behavior against an external moral standard. For those who strongly internalize moral standards (i.e., high moral identity), these resources are not needed and thus we expect them to be less likely to act dishonestly when their self-control resources are depleted compared to people with low moral identity. This reasoning leads us to postulate the following:

> Hypothesis 4: Moral identity moderates the relationship between self-regulatory resource depletion and unethical behavior. Specifically, this relationship is weaker for individuals with high moral identity than it is for individuals with low moral identity.

Overview of the Present Research

To test these hypotheses, we conducted four laboratory studies. Across these studies, we employed different depletion tasks, which have been validated in prior work. In Study 1, we test Hypothesis 1 using an attention task to manipulate self-regulatory resource depletion. In Study 2, we constructively replicate our test of Hypothesis 1 and also test Hypotheses 2 and 3 with an implicit measure of moral awareness. This measure allowed us to assess the degree to which ethics-related concepts were activated in participants' minds when facing the opportunity to cheat, while bypassing social desirability concerns. In this study, we manipulate self-regulatory resource depletion by using a writing task that forbids participants to use certain letters. We employ the same manipulation in Study 3, where we test Hypothesis 4 by measuring participants' self-importance of moral identity. Finally, in Study 4, we use the Stroop task to

measure self-regulation performance before and after participants had the opportunity to cheat, and test whether resisting the temptation to cheat consumes self-control.

Taken together, our studies aimed to demonstrate that depletion of self-control resources reduces the extent to which people are able to recognize the unethicality of a situation, which in turn causes them to engage in greater levels of unethical behavior. Moral identity moderates the relationship between self-control resource depletion and dishonesty. Finally, we demonstrate that the act of resisting unethical behavior depletes an individual's self-regulatory resources.

Study 1: Self-Control Depletion and Unethical Behavior

Our first study tests the hypothesis that self-regulatory resource depletion increases unethical behavior.

Methods

One-hundred one students from local universities (58 male; M_{age}=22.12, SD=2.58) in the Southeastern United States participated in the study for pay ($2 show-up fee and the opportunity to earn additional money throughout the study). Participants were randomly assigned to one of two conditions: self-regulatory resource depletion and no depletion. The study included two tasks: an evaluation task (used to manipulate self-regulatory resource depletion) and a problem-solving task (used to assess cheating). The two tasks were followed by a final questionnaire. Throughout the study, participants sat in private cubicles and were not allowed to interact with one another.

Self-control depletion manipulation. As in prior research (DeWall, Baumeister, Stillman, & Gailliot, 2007; Fischer, Greitemeyer, & Frey, 2007, 2008; Gilbert, Krull, & Pelham, 1988; Schmeichel et al., 2003; Vohs & Faber, 2007), participants watched a six-minute video clip on a computer, without audio, of a woman being interviewed. At the bottom of the computer screen,

under the video of the interviewee, a series of common, unrelated, one-syllable words (e.g., play, tight, greet) were displayed for 30 seconds each. We varied the amount of self-regulatory resources that participants needed to expend during the task by giving participants different instructions about how to direct their attention during the video. Participants in the no-depletion condition were given no instructions regarding the irrelevant words at the bottom of the screen. In contrast, participants in the depletion condition were instructed "not to read or look at any words that may appear on the screen. If you find yourself looking at the words, immediately reorient your attention toward the woman's face."

To control for possible emotion differences, following the video, we asked participants to complete the state version of the positive and negative affect schedule (PANAS; Watson, Clark, & Tellegen, 1988).

Cheating task. Participants next engaged in a problem-solving task (initially developed by Mazar, Amir, & Ariely, 2008), which presented them with the opportunity to falsely report higher performance levels in order to earn more money. Participants were presented with 20 matrices on the computer. Each matrix contained three rows and four columns of three-digit numbers (e.g., 5.19). Each matrix was presented to participants on a different screen. Participants had 20 seconds to find two numbers in each matrix that summed to 10. We informed participants that they would earn 50 cents for each correctly solved matrix. The computer kept track of their performance, and on the last screen it summarized how many matrices the participant solved correctly. However, participants were told to report their performance on the collection slip they had received and to stop by the experimenter's desk to receive payment based on their self-reported performance after completing the task. Participants reported their lab ID on the

collection slip as well as earlier in the session on the computer before they completed the online task. This enabled us to assess whether or not participants had over-stated their performance.

Final questionnaire. Finally, all participants completed a post-experiment survey that asked them to rate the difficulty of the video task used to manipulate self-control depletion using a 7-point scale (1=Not at all, 7=Very much). Using a similar scale, participants also indicated the extent to which the task required self-control, willpower, and cognitive effort to resist the temptation to look at the words on the bottom of the screen (α=.92). These items served as our manipulation checks for self-regulatory resource depletion. Participants were also asked to describe, in their own words, the purpose of the different parts of the experiment. To gauge suspicion, we asked participants if they thought "any tasks influenced your performance on any subsequent tasks."

Results

Participants' answers to the post-experimental questions revealed that they were aware of the ethical aspect of the situation but were not aware of any link between the video clip used to manipulate self-control depletion and the subsequent problem-solving task. None of the participants recognized that the two tasks were related or believed that the first task had influenced their behavior on the second task. Table 1 reports the descriptive statistics of the main variables measured in the study.

Manipulation checks. As expected, participants in the depletion condition rated the video task as significantly more difficult than did participants in the no-depletion condition (M=3.24, SD=1.53 vs. M=1.71, SD=1.06, t[99]=5.85, p<.001). In addition, participants in the depletion condition found that the video task required more self-control than did participants in the no-depletion condition (M=4.45, SD=1.66 vs. M=2.65, SD=1.39, t[99]=5.95, p<.001). Mood did not

differ as a function of self-regulatory resources condition. Differences across the depletion and no-depletion conditions for both positive- and negative-affect scores did not approach significance (both *p*s>.28).

Percentage of participants cheating. We predicted that self-control depletion would increase dishonesty (Hypothesis 1). To test this hypothesis, we first examined the percentage of participants who lied by over-reporting performance on the problem-solving task. As predicted, a larger percent of participants cheated by overstating performance on the problem-solving task in the depletion condition (34%, 17 out of 50) as compared to the no-depletion condition (13.7%, 7 out of 51), $\chi^2(1, N=101)=5.73$, $p<.05$.

Actual and self-reported performance. Participants' self-reported performance on the problem-solving task mirrored these results. A 2 (actual vs. reported performance) X 2 (depletion vs. no-depletion) mixed ANOVA revealed a significant interaction, $F(1,99)=4.55$, $p<.05$, $\eta^2=.04$. Although actual performance on the problem-solving task did not vary between the depletion condition ($M=8.60$, $SD=3.57$) and the no-depletion condition ($M=8.10$, $SD=3.21$, $t[99]<1$), self-reported performance did. Participants in the depletion condition reported a higher number of correctly solved matrices ($M=10.92$, $SD=5.07$) compared to participants in the no-depletion condition ($M=9.06$, $SD=4.12$, $t[99]=2.03$, $p<.05$). The mixed ANOVA also indicated that the main effect of self-regulatory resource depletion was not significant ($F[1,99]=2.55$, $p=.11$, $\eta^2=.03$), while the effect of type of performance (actual vs. self-reported) was significant ($F[1,99]=26.51$, $p<.001$, $\eta^2=.21$), providing evidence for cheating across conditions.

Additional analyses. We also tested whether self-reported depletion mediated the relationship between self-regulatory resource depletion and unethical behavior (Baron & Kenny, 1986). In this experiment, the putative mediator was self-reported ratings of how much effort

was required to complete the video task (three items). We used the difference between self-reported and actual performance as our dependent measure in this analysis. When controlling for our manipulation, self-reported depletion predicted cheating, β=.30, p<.01. After controlling for self-reported depletion, the effect of self-regulatory resource depletion on dishonest behavior decreased from β=.21, p<.05 to β=.06, p=.60. A bootstrap analysis showed that the 95% bias-corrected confidence interval for the size of the indirect effect excluded zero (0.441, 1.856), thus suggesting a significant indirect effect (MacKinnon, Fairchild, & Fritz, 2007; Shrout & Bolger, 2002).[3] Although this meditational analysis is not a central test of our main hypotheses, these results are noteworthy because they suggest that our manipulation depleted participants' self-regulatory resources, which, in turn, increased cheating on the problem-solving task.

Discussion

These results provide support for Hypothesis 1: when self-regulatory resources are depleted by prior exertion of self-control, unethical behavior increases. This study successfully replicates previous research demonstrating that both trait and state self-control are linked to unethical behavior (Mead et al., 2009; Muraven et al., 2006) using a task that eliminates the possibility of one-sided errors in remembering one's own performance and in overstating it. One may argue that self-regulatory resource depletion influences motivated processing, such that participants depleted of their self-control resources are more motivated than others to think they have solved more matrices correctly than they actually did. However, by using a procedure in which participants received feedback regarding whether or not the solution they found for each matrix was correct, we ruled out this alternative explanation.

[3] We obtained the same results when using percentage of cheating as the dependent variable, and when using self-reported performance and controlling for actual performance on the problem-solving task.

Study 2: Self-control Depletion and Impaired Moral Awareness

In Study 2, we unpack the effect of self-regulatory resource depletion on unethical behavior that we observed in Study 1. Specifically, we tested the hypothesis that self-regulatory resource depletion impairs recognition of moral issues (i.e. reduces moral awareness), which in turn heightens dishonesty.

To ensure that we were capturing degree of moral awareness and not social desirability concerns, we used an implicit measure of moral awareness. Specifically, we gave participants word fragments that could be turned into meaningful words that were or were not related to ethics.[4] Word-completion tests have been shown to assess implicit cognitive processes (Bassili & Smith, 1986; Tulving, Schacter, & Stark, 1982). We predicted that depleted participants would use fewer ethics-related words than non-depleted participants, indicating that depletion reduces moral awareness (Hypothesis 2). Furthermore, we expected that moral awareness would mediate the relationship between depletion and unethical behavior (Hypothesis 3).

Methods

Participants and Design. Ninety-seven (50 male; M_{age}=21.80, SD=3.53) college and graduate students from local universities in the Southeastern United States participated in the study for pay. Participants received $5 for completing the first task and could earn up to an additional $10 on the second task. Participants were randomly assigned to one of two conditions: self-regulatory resource depletion or no-depletion. Throughout the study, participants sat in private cubicles and were not allowed to interact with one another.

[4] As suggested by prior research, individuals whose moral awareness is impaired fail to recognize the moral aspect of a decision or situation. This failure results in the lack of activation of the moral-decision making script necessary to behave honestly in the face of the temptation to cheat for monetary gains (see Jones, 1991; Street et al., 2001). Because of the lack of activation of the moral-decision making script, ethics-related constructs are less likely to be activated in individuals' minds. Thus, the implicit measure we employ in this study measures a direct consequence of impaired moral awareness.

Procedure. Participants were told they would engage in three unrelated tasks during the study: a writing task (which we used to manipulate self-regulatory resource depletion), a problem-solving task (which we used to assess cheating), and a word-completion task (which we used to assess ethical saliency). They received the instructions for each task just before engaging in it, rather than at the beginning of the session.

Self-control depletion manipulation. We manipulated self-regulatory resource depletion using Schmeichel's (2007) procedure, which consists of varying the degree to which participants' have to inhibit their dominant writing tendencies in order to complete an essay correctly. This task requires participants to write a short essay without using words that contained either the letters A and N (depletion condition) or the letters X and Z (no-depletion condition). Participants engaged in this task, which we referred to as the "writing task," for six minutes. Following this task, participants completed the PANAS (Watson et al., 1988).

Cheating task. Ostensibly as a separate experiment (called "Task Performance under Time Pressure"), participants were then asked to complete a problem-solving task on the computer. This task included the matrix problem we used in Study 1, but with one difference. Instead of giving participants the collection slip they would use to report their performance at the start of this part of the experiment, the experimenter distributed it after participants completed the word-completion task. In this way, we could make sure participants realized there was an opportunity to cheat before they completed the word-fragment task used to assess our mediator. Upon completion of the problem-solving task, the experimenter told participants she forgot to distribute the collection slip on which they could self-report their performance, and she asked participants to complete the next task (i.e., the word-completion task) before filling out the collection slip so that she would have the time to find and distribute it. The experimenter also

told participants that they would bring the collection slip to her at the end of the study to receive their payment so that they could quickly leave the laboratory. In this way, we assured that participants were aware of the fact that they could cheat on the problem-solving task by over-reporting performance on the collection slip.

Word-completion task. We introduced the word-completion task right after participants completed the problem-solving task and before they filled out their collection slips. In the word-completion task, participants were asked to convert word fragments into meaningful words. Specifically, they were given a list of words with letters missing and were asked to fill in the blanks to make complete words by using the first word that came to mind (adapted from Gino & Bazerman, 2009). We wanted to determine whether self-control depletion reduces the mental accessibility of ethics-related words. Of the six word fragments, three (_ _ R A L, _ I _ _ _ E, and E _ _ _ C _ _) could be completed as ethics-related words (moral, virtue, and ethical) or as unrelated words (e.g., mural, tissue, and effects).

Final questionnaire. Finally, participants answered a few demographic questions and answered the same manipulation check questions as those used in Study 1. In addition, participants indicated what they thought the purpose of the two studies was and whether "any tasks influenced your performance on any subsequent tasks." As before, we used these questions to gauge any suspicion.

Results

As in Study 1, we confirmed that participants were unaware of the relationship between the various tasks we employed in the study. Table 2 reports the descriptive statistics of the main variables measured in the study.

Manipulation checks. As expected, participants in the depleted condition found that the writing task required more self-control (three items, α=.89) than did participants in the no-depletion condition (*M*=5.07, *SD*=1.21 vs. *M*=3.43, *SD*=1.72, *t*[95]=5.42, *p*<.001). Participants in the depleted condition also reported the writing task to be more difficult than did participants in the no-depletion condition (*M*=4.31, *SD*=1.49 vs. *M*=3.20, *SD*=1.43, *t*[95]=3.74, *p*<.001). However, the writing task did not significantly influence either positive or negative affect (both *t*s<1).

Percentage of participants cheating. As predicted, a larger percent of participants cheated by overstating performance on the problem-solving task in the depletion condition (41.7%, 20 out of 48), relative to participants in the no-depletion condition (18.4%, 9 out of 49), χ^2(1, *N*=97)=6.28, *p*<.05.

Actual and self-reported performance. We conducted a mixed ANOVA with participants' real and self-reported performance as a within-subjects factor and self-regulatory resource depletion as the between-subjects factor. As predicted, self-reported performance was higher than real performance (*F*[1,72]=37.20, *p*<.001, η^2=.28), indicating that participants cheated. The main effect of self-regulatory resource depletion was not significant (*p*=.18). More important, we found a significant interaction (*F*[1,72]=8.88, *p*<.01, η^2=.09). Consistent with Hypothesis 1, participants in the no-depletion condition reported significantly lower levels of performance (*M*=7.53, *SD*=3.37) than did participants in the depletion condition, (*M*=9.15, *SD*=3.99), *t*(95)=2.16, *p*<.05. Yet real performance did not significantly differ between these two conditions (*t*<1). These results indicate that depletion did not influence actual performance on the task, only self-reported performance.

Word-completion task. Participants in the depletion condition generated fewer ethics-related words (M=1.06, SD=0.98) than did those in the no-depletion condition, (M=1.63, SD=1.04), $F(1,95)=7.78$, $p<.01$, $\eta^2=.08$, suggesting that self-regulatory resource depletion reduced moral awareness as predicted by Hypothesis 2.

Mediation analysis. We next tested whether the reduced accessibility of ethics-related concepts (our proxy for individuals' impaired moral awareness) mediated the effect of self-regulatory resource depletion on cheating on the problem-solving task (Baron & Kenny, 1986), as predicted by Hypothesis 3. The difference between self-reported and actual performance served as our dependent measure in this analysis. When controlling for self-regulatory resource depletion, the number of ethics-related words predicted lower cheating, β=-.49, $p<.001$. After controlling for the number of ethics-related words, the effect of self- regulatory resource depletion on cheating decreased from β=.29, $p<.01$ to β=.16, p=.08. A bootstrap analysis showed that the 95% bias-corrected confidence intervals for the size of the indirect effect excluded zero (0.255, 1.361), thus suggesting a significant indirect effect (MacKinnon et al., 2007; Shrout & Bolger, 2002). These results show that moral awareness mediated the relationship between self-regulatory resource depletion and cheating, thus supporting Hypothesis 3.

Discussion

Results from Study 2 further establish the link between self-regulatory resource depletion and unethical behavior. Our self-regulatory resource depletion induction significantly influenced accessibility of ethics-related concepts, which mediated the relationship between depletion and cheating on the problem-solving task. As we suggested earlier, a lower accessibility of ethics-related concepts is a viable measure of moral awareness since individuals who do not recognize the moral aspect of a given decision fail to activate a moral decision-making script. Thus, these

results suggest that self-regulatory resource depletion may lower people's ability to recognize unethical behavior since ethicality is not activated in their minds when facing an ethical dilemma due to the taxed cognitive resources required to think through ethical dilemmas.

Study 3: Moral Identity, Self-control Depletion and Dishonesty

In Study 3, we seek to identify a boundary condition for the effect of self-regulatory resource depletion on unethical behavior: moral identity. As predicted by Hypothesis 4, we expect individuals with high moral identities to be less likely to act dishonestly than individuals with low moral identities, even when their self-control resources are depleted.

Methods

Participants. Sixty-five (29 male; M_{age}=21.33, SD=2.69) undergraduate students from a university in the Southeastern United States participated in the study for pay. Participants received a $2 show-up fee and had the opportunity to earn an additional $10 throughout the study. Participants were randomly assigned to one of two conditions: depletion or no depletion.

Materials and procedure. Study 3 employed the same problem-solving task and depletion induction as those we used in Study 2, but this time participants completed the problem-solving task on paper. Each participant received a test sheet with the 20 matrices to solve as well as a sheet with the instructions to the task and an example. This second sheet of paper had a collection slip printed on its back. One of the three-digit numbers of an example matrix and of a test sheet matched each other; the matched number was unique for each participant. By giving participants matched materials, we were able to measure the difference between self-reported and actual performance for each participant. Positive differences indicate misrepresentation. Participants could earn up to $10 on this task (50 cents for each correctly solved matrix).

Participants first engaged in the depletion induction. Then they self-reported their mood on the PANAS and answered a short personality questionnaire with our manipulation check, bogus questions, and the moral identity measure. Ostensibly as a separate experiment, participants then completed the problem-solving task on paper. Finally, participants answered manipulation checks asking them to indicate the extent to which they felt tired and worn-out after the depletion induction using a five-point scale (1=Not at all, 5=Very much). They also answered demographic questions, and then they indicated what they thought the purpose of the two studies was and whether "any tasks influenced your performance on any subsequent tasks." As before, we used these questions to gauge any suspicion.

Measure of moral identity. We used five items from Aquino and Reed's (2002) moral identity instrument to measure self-importance of moral identity. The instructions for the items listed "some characteristics that might describe a person: Caring, Compassionate, Fair, Friendly, Generous, Helpful, Hardworking, Honest, and Kind." The instructions continued, "The person with these characteristics could be you or it could be someone else. For a moment, visualize in your mind the kind of person who has these characteristics. Imagine how that person would think, feel, and act. When you have a clear image of what this person would be like, answer the following questions." These five items captured what Aquino and Reed (2002) refer to as "Internalization," or the degree to which moral trait associations are deeply embedded in the person's sense of self. Sample items include, "It would make me feel good to be a person who has these characteristics" and "Being someone who has these characteristics is an important part of who I am." Participants answered the five items on 7-point Likert scale (1=Strongly disagree, 7=Strongly agree). Items were averaged into an aggregate construct of moral identity (α=.81). Aquino and Reed (2002) provided considerable evidence for the validity of their construct. In

addition, they demonstrated that the items assessing internalization were internally consistent, showed significant test-retest reliability, had a stable factor structure, and were significant predictors of a variety of morally relevant cognitions and behaviors (Aquino & Reed, 2002; Reed & Aquino, 2003).

Results

Manipulation checks. As expected, participants in the depleted self-regulation condition reported feeling more tired and worn out (M=2.31, SD=0.80 vs. M=1.53, SD=0.89, t[63]=3.72, p<.001) at the end of the task compared to participants in the no-depletion condition. However, the writing task did not significantly influence either positive or negative affect (both ts<1). In addition, none of the participants recognized that the two tasks were related or believed that the first task had influenced their behavior on the second task.

Percentage of participants cheating. A larger percent of participants overstated performance on the problem-solving task in the depletion condition (56.3%, 18 out of 32) than in the no-depletion condition (30.3%, 10 out of 33), $\chi^2(1, N=65)=4.46$, $p<.05$.

Actual and self-reported performance. We conducted a mixed ANOVA with participants' real and self-reported performance as within-subjects factors and self-regulatory resource depletion as the between-subjects factor. As predicted, self-reported performance was higher than real performance (F[1,63]=39.63, p<.001, η^2=.39), indicating that participants cheated. The main effect of self-regulatory resource depletion was not significant (p=.28). More important, and consistent with Hypothesis 1, we found a significant interaction (F[1,63]=11.20, p<.01, η^2=.15). Participants in the no-depletion condition reported significantly lower levels of performance (M=8.61, SD=4.26) than did participants in the depleted self-regulation condition,

(M=10.75, SD=4.31), $t(63)=2.02$, $p<.05$. Yet real performance did not significantly differ between these two conditions ($t<1$).

The moderating role of moral identity. We then conducted hierarchical ordinary least-squares (OLS) regression analyses to test Hypothesis 4, which predicted that depletion would increase unethical behavior among low moral identity individuals, but not among high moral identity individuals. We followed the moderated regression procedures recommended by Aiken and West (1991), entering the control variable (i.e., actual performance on the matrix task) in Step 1, depletion and moral identity in Step 2, and their interaction in Step 3.[5] Participants' self-reported performance on the matrix task served as the dependent variable. The results of our moderated regression analyses are displayed in Table 3. With respect to our main hypotheses about the relationship of depletion and moral identity with unethical behavior (here measured by overstatement of performance), it is worth noting that both depletion and moral identity were significant independent predictors of self-reported performance (Step 2).

As predicted in Hypothesis 4, the product of depletion and moral identity was a significant positive predictor of unethical behavior (Step 3). To facilitate the interpretation of the interaction, we plotted the simple slopes for the relationship between depletion and unethical behavior at one standard deviation above and below the mean of moral identity (Aiken & West, 1991). The results, depicted in Figure 1, are consistent with our prediction that moral identity weakens the association between depletion and unethical behavior. To test this interpretation, we statistically compared the two slopes to zero. When moral identity was low (1 SD below its mean), depletion significantly predicted higher levels of unethical behavior, $\beta=.47$, $p<.001$.

[5] Note that the nature and significance of the results do not change when not controlling for actual performance in this analysis.

When moral identity was high (1 SD above its mean), depletion did not influence unethical behavior, as the slope did not differ significantly from zero, β=.09, p=.39.

Discussion

These findings demonstrate that moral identity moderates the relationship between self-control depletion and unethical behavior. Depletion increased participants' tendency to inflate their performance for financial gain, but only among participants with low moral identity. In contrast, self-control resource depletion did not promote unethical behavior among individuals with high levels of moral identity. These findings highlight the important role moral identity can play in preventing unethical behavior and counteracting the effect of self-regulatory resource depletion.

Study 4: Resisting the Temptation to Cheat Depletes Self-Control

Our first three studies provide consistent evidence for a link between self-regulatory resource depletion and unethical behavior. In addition, they show that depletion seems to increase unethical behavior by reducing people's moral awareness. Indeed, the degree to which ethics-related concepts were activated in participants' minds mediated the causal effect between depletion and dishonest behavior, and the degree of internalization of moral norms moderated the relationship.

In our fourth study, we extend our investigation by considering a closely related, but different question: Does refraining from cheating consume individuals' self-regulatory resources? Self-control enables individuals to refrain from cheating, especially when temptation is great. In fact, prior studies have found that when temptation is weak, self-control activation is minimal. But as the temptation to disengage from the long-term goal increases, individuals' self-control efforts also increase (for a thorough review, see Fishbach & Converse, 2010a, 2010b).

Self-control thus helps people resist the desire to satisfy a self-serving motive and cheat. The thesis of the current work is that the self-control resources enable individuals to refrain from cheating. Just as other ego-depleting tasks consume the self-regulatory resource, we expect that resisting unethical behavior is depleting. We thus hypothesize that:

Hypothesis 5: Refraining from unethical behavior consumes self-control.

To test this hypothesis, in Study 4 we gave participants an opportunity to cheat and then measured self-control with the Stroop task (Stroop, 1935; DeWall, Baumeister, & Vohs, 2008; Richeson & Trawalter, 2005; Spreen & Strauss, 1991). We address potential issues of self-selection by collecting baseline measures of self-control with the Stroop task.

Methods

Participants. Ninety-two (48 male; M_{age}=20.79, SD=1.85) undergraduate students from a Southeastern U.S. university participated in the study for pay. Participants received a $2 show-up fee and had the opportunity to earn an additional $20 throughout the study.

Materials and procedure. Participants came to the laboratory for three purportedly unrelated experiments concerning learning (Study 1), personality (Study 2), and performance under time pressure (Study 3). The experimenter began the study by explaining that the session contained three unrelated experiments. In the first task (ostensibly Study 1), participants were asked to read the names of 20 colors, which were printed on glossy paper in matching colors (e.g., "RED" was printed in the color red). Participants were then asked to look at a second sheet of glossy paper on which the names of 20 colors were also printed. This time, however, the color names were printed in colors that did not match the word (e.g., "RED" was printed in yellow). We asked participants to name the font color of the 20 words printed on the sheet (e.g., to say red when reading the word "green" in red font). All trials were timed; the time difference between

the incongruent and congruent trials provided a baseline assessment of self-control (DeWall et al., 2008; Richeson & Trawalter, 2005). We paid participants $5 for their participation.

After completing this first task, participants completed an unrelated questionnaire (purportedly Study 2), which served as a filler task. In the third task (what they believed to be Study 3), participants completed the same matrix exercise used in Study 3 (maximum payment on this task: $10). As before, we used a procedure that enabled us to match actual performance with self-reported performance.

After completing the matrix task, participants switched to the last task for which they earned $5: the Stroop task. As before, participants read 20 congruent names (e.g., "BLUE" printed in the color blue) and 20 incongruent names (e.g., "BLUE" printed in green). Once again, participants' performance was timed. Upon completion of this task, they completed a post-experiment questionnaire, which included the same suspicion questions that we used in our prior studies. As before, none of the participants recognized that the various tasks were related or believed that one task influenced another.

Results

Percentage of participants cheating. We first examined the number of participants who misrepresented their performance on the matrix task. Thirty-two out of 92 participants (34.4% of them) cheated on the problem-solving task.

Self-regulation performance. Self-regulatory performance reflected the difference between the time it took participants to name the colors of the congruent and incongruent words (DeWall et al., 2008; Richeson & Trawalter, 2005). Lower scores indicate better self-regulation. We computed two scores for each participant: one for the Stroop task participants completed *before* they had the opportunity to cheat, and another for the Stroop task participants completed

after having the opportunity to cheat. Compared to participants who cheated by over-reporting their performance on the problem-solving task, participants who refrained from misrepresenting their performance on the matrix task performed similarly on the first self-control task ($M_{cheaters}$=30.56 vs. $M_{non\text{-}cheaters}$=31.48, t[90] <1). Yet, supporting Hypothesis 5, they performed significantly worse on the second self-control task ($M_{cheaters}$=29.59 vs. $M_{non\text{-}cheaters}$=37.63, t[90]=-3.56, p<.01).

Discussion

Our findings in Study 4 demonstrate that resisting the temptation to cheat consumes self-regulatory resources. Participants who resisted the temptation to cheat performed significantly worse on a subsequent self-regulation task, even though performance on the same self-control task did not differ between groups prior to the opportunity to cheat.

General Discussion

Across four laboratory studies, we found that individuals with depleted self-regulatory resources are more likely to engage in unethical behavior than individuals without depleted self-regulatory resources. Using different manipulations for self-control depletion, our results indicate that refraining from unethical behavior both requires and depletes self-regulatory resources. Participants with depleted self-control were more likely to behave unethically by lying about their performance on a problem-solving task compared to participants whose self-control was not depleted (Study 1). They were also less likely to recognize unethical behavior because ethics-related concepts were less accessible in their minds when they faced the opportunity to cheat, indicating that their moral awareness was impaired (Study 2). This impaired moral awareness when facing ethical dilemmas mediated the relationship between self-regulatory resource depletion and unethical behavior (Study 2). Importantly, we identified a boundary condition for

the effect of self-control depletion on dishonest behavior: moral identity. Moral identity moderated the relationship between self-regulatory resource depletion and dishonesty, such that this relationship was weaker for participants with high moral identity (Study 3): Participants with high moral identity were less likely than those with low moral identities to act unethically, especially when their self-control resources were depleted. Finally, our results show that resisting unethical behavior depleted participants' self-control resources (Study 4).

Theoretical Contribution and Practical Implications

Our study contributes to knowledge about the role of self-regulation processes in promoting and discouraging unethical behavior on several fronts. First, we identified a robust relationship between self-control resource depletion and unethical behavior. Building on prior research (e.g., Mead et al., 2009; Muraven et al., 2006), we identified an important mechanism explaining this relationship. We proposed and found that self-control resource depletion impairs moral awareness and negatively impacts the ability of individuals to recognize moral issues.

Second, we extend prior research by identifying a boundary condition for the relationship between self-control resource depletion and unethical behavior. Although previous work has considered individual differences (see Baumeister, Gaillot, DeWall, & Oaten, 2006), no prior investigation has examined the moderating role of moral identity in self-regulation. We find that moral identity moderates the effects of self-regulatory resource depletion on unethical behavior; when moral identity is salient and central to an individual's self-concept, self-regulation is less important for curtailing unethical behavior.

Third, we demonstrate that resisting unethical behavior consumes self-regulatory resources. This finding suggests that good conduct that involves refraining from unethical behavior may result in subsequent cheating. If new opportunities to engage in unethical behavior

arise, depleted self-regulatory resources may make otherwise ethical individuals particularly vulnerable. This problem may be particularly acute because people commonly examine their decisions within the context of their recent behavioral history (Zhong, Liljenquist, & Cain, 2009). When individuals decide whether or not to engage in unethical behavior, they consider their previous moral and immoral actions with respect to moral credits (past good deeds) and moral debits (past bad deeds) (Nisan, 1991; see also Monin & Miller, 2001). Thus, just as moral credits may promote subsequent unethical behavior, resisting the temptation to cheat depletes self-control resources and may thus increase the likelihood of a subsequent ethical failure.

Our research also contributes to the existing literature in behavioral ethics. Ethics scholars have long debated whether unethical behavior is primarily a result of character flaws ("bad apples" approach), situational influences ("bad barrel" approach) or both (see, for example, Treviño's [1986] person-situation interactionist model, or Jones' [1991] issue-contingent model). These different conceptualizations of the underlying causes of unethical behavior have broad implications for theory and practice. Our findings offer strong support for a person-situation interactionist model: situational influences (e.g., the presence of rewards, or monitoring) may trigger an individual's self-motives to become more salient. Yet, moral identity may help individuals respond to those motives.

Finally, our work suggests an explanation for a consistent and puzzling finding in the behavioral ethics literature: When study participants are given the opportunity to cheat and the objective costs are small (e.g., the task is anonymous and there is little risk of being caught), participants often cheat even if they care about being moral and being seen as ethical by others (see Gino, Ayal, & Ariely, 2009; Ayal & Gino, 2011; Schweitzer, Ordonez, & Douma, 2004). Our results suggest that cheating may be the result of a self-regulatory failure: when self-control

resources are depleted, people do not have enough cognitive resources to recognize the moral component of the decision they are facing, and thus give in to the temptation to cheat.

Prescriptively, our findings suggest that individuals, including managers in organizations, should carefully schedule their activities. Whenever they face tasks that afford opportunities to cheat, managers may benefit by scheduling these tasks when they are fresh and well rested (e.g., not after a long flight). Similarly, managers may benefit from arranging tasks to reduce the likelihood that their employees will face ethical decisions when their self-regulatory resources are depleted. Our findings also suggest that, in addition to calling attention to ethical issues involved in common dilemmas that employees face at work or training individuals to recognize those issues, managers and organizations should focus on removing temptations, developing self-control, and monitoring individuals who are likely to be depleted (e.g., individuals who are frequently interrupted at work).

Our result that moral identity moderates the relationship between self-control depletion and unethical behavior also informs important prescriptions. Some individuals, even when they are depleted, are better equipped to resist unethical behavior. Individuals with high moral identities could be used role models or selected to handle important decisions, especially in settings that deplete self-control.

Many natural settings consume self-regulatory resources. Controlling one's behavior on a cramped airplane, avoiding a bowl of candy in the office, working under time pressure, or presenting a prospective client with an unbiased forecast may deplete self-regulatory resources. Our findings suggest that organizational members and individuals more generally should be aware of the potentially depleting effects of their own and their colleagues' environments. Once our self-control resources are depleted, we are vulnerable to engaging in unethical behavior.

Limitations and Directions for Future Research

Our findings need to be qualified by a number of limitations that suggest directions for future research. First, all four studies were conducted in a laboratory setting, a methodological approach that limits the external validly of our findings. Van den Bos (2001) suggested that researchers examining new hypotheses should first test them in experimental settings and then take their proposed and tested models into the field for further validation. We began our investigation of the mediating and moderating factors characterizing the link between self-regulatory resource depletion and unethical behavior in a controlled laboratory setting. By taking advantage of random assignment and different manipulations for self-control resource depletion that have been validated in previous research, our laboratory studies provided consistent and robust evidence that self-regulatory resource depletion promotes dishonesty.

Future research could benefit from investigating the same relationships tested here using different methodological approaches and samples within organizations. Within organizations, other factors such as ethical climate or culture may work in the same way as an individual's self-importance of moral identity. However, many natural settings also offer salient rewards for unethical behavior (e.g., opportunities to inflate an expense report or to inflate billable hours) or stretch goals (Ordonez, Schweitzer, Galinsky & Bazerman, 2009), which may heighten the effects demonstrated here. Future work examining how self-control depletion promotes unethical behavior in organizational settings may advance our understanding of self-regulation processes and dishonesty in the workplace.

Future research could also investigate other boundary conditions of the relationship between self-control depletion and unethical behavior. In our studies, we demonstrate that moral identity weakens the link between self-control depletion and dishonesty. Other personality

differences and contextual factors, such as the presence of others (e.g., role models or trustworthy colleagues), may moderate this relationship.

Another important limitation of the present work is that in all four studies we employed the same type of task (with small variations) to assess cheating. Future research employing different tasks to measure unethical behavior may strengthen the results presented here. By using different tasks to measure cheating, future research could also examine whether the relationship between self-regulation and unethical behavior changes as the intensity of the moral issues at stake increases or as the magnitude of the potential consequences of one's dishonest actions become larger. Previous research on self-control has demonstrated that self-regulatory resource depletion does not affect simple information processing (e.g., Schmeichel et al., 2003), which may be involved when people face simple rather than complex ethical dilemmas.

Future research could also further examine the role of moral awareness in explaining the relationship between self-control depletion and unethical behavior. Here, we have employed an implicit measure of moral awareness. Rather than measuring moral awareness directly, we assessed a direct consequence of not recognizing a moral component of a given decision or issue – namely, the activation of ethics-related constructs in individuals' mind at the time of making the decision to cheat. Future studies could employ more direct measures of moral awareness such as those employed in prior work on moral awareness (e.g., Reynolds, 2008) to provide stronger evidence for the mediational story proposed in the current paper.

Another potentially fruitful direction for future research involves identifying ways to restore self-control resources. Recent work suggests that the act of exercising self-control has a physiological substrate. Specifically, exerting self-control reduces glucose in the bloodstream (Gailliot et al., 2007; Gailliot & Baumeister, 2007; Masicampo & Baumeister, 2008). Although

depleted individuals perform less well on subsequent self-control tasks than non-depleted individuals, consuming glucose restores the capacity for self-control. Perhaps the same physiological mechanism could explain unethical behavior when people are otherwise depleted. Further work testing this possibility and investigating effective ways in which self-control can be replenished may deepen our understanding of the physiological and psychological drivers of unethical behavior when a person's self-regulatory resources are depleted. Furthermore, this research could examine whether similar mechanisms may lead to ethical rather than unethical behaviors in situations in which behaving ethically is tempting.

Finally, future research could investigate effective ways of developing and strengthening self-control when confronting ethical dilemmas. Prior work has found that individuals can build self-control through practice (e.g., Gailliot, Plant, Butz, & Baumeister, 2007; Muraven, Baumeister, & Tice, 1999; Muraven, 2010). For instance, individuals who practiced self-control by forcing themselves to study (Oaten & Cheng, 2006a) or exercise (Oaten & Cheng, 2006b) exhibit better self-control than those who did not. Quite possibly, by resisting tempting unethical behavior, individuals may develop their capacity to resist future, tempting unethical behaviors. Insight from these future studies may offer important ideas for how we can educate and train individuals to more effectively reach their ethical goals.

Conclusion

Self-control depletion promotes unethical behavior and impairs individuals' ability to recognize that their behavior is unethical. Importantly, moral identity moderates the relationship between self-regulatory depletion and unethical behavior. Individuals with high moral identities are less influenced by self-control depletion. In addition, we find that resisting unethical behavior itself consumes self-control.

Many common stimuli deplete self-control resources (Vohs & Baumeister, 2004). For example, working under a tight deadline and working with frequent interruptions require individuals to exert self-control. Our work suggests that these familiar experiences increase the likelihood that individuals will cross ethical boundaries (e.g., inflate expense reports, offer self-serving advice to customers or colleagues) because they will fail to recognize the moral issue involved in the situations they face. Existing safeguards may be insufficient to restrain otherwise ethical employees from engaging in unethical behavior.

For many, the effort to resist temptation is a constant struggle. As our results suggest, good intentions cannot guarantee ethical action. Like Mae West, we "generally avoid temptation, unless [we] can't resist it."

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Tables

Table 1

*Study 1 descriptive statistics. *** p<.001, **p<.01, *p<.05*

	M	*SD*	1	2	3	4	5	6
1. Depletion	.50	0.50						
2. Difficulty	2.47	1.52	.50***					
3. Self-reported self-control	3.54	1.77	.51***	.22*				
4. Positive affect	2.45	0.89	-.11	-.03	.02			
5. Negative affect	1.54	0.48	.01	.06	.03	.13		
6. Actual performance	8.35	3.39	.07	-.14	-.13	-.06	.08	
7. Reported performance	9.98	4.68	.20*	-.08	.13	-.02	.07	.72***

Table 2

*Study 2 descriptive statistics. *** p<.001, **p<.01, *p<.05*

	M	*SD*	1	2	3	4	5	6	7
1. Depletion	.49	0.50							
2. Difficulty	3.75	1.56	.36***						
3. Self-reported self-control	4.24	1.70	.49***	.34**					
4. Positive affect	2.84	0.85	.03	.17	.07				
5. Negative affect	1.71	0.55	.09	.01	.02	-.01			
6. Ethics-related words	1.35	1.04	-.28**	-.38**	-.25*	-.08	.02		
6. Actual performance	6.74	2.87	.01	-.08	-.04	.07	-.05	-.01	
7. Reported performance	8.33	3.76	.22*	.07	.07	.05	.00	-.39***	.70***

Table 3

*Study 3 moderated regression analyses predicting self-reported performance on the problem-solving task. *** p<.001, **p<.01, *p<.05*

	Step 1		Step 2		Step 3	
	β	*t*	*β*	*t*	*β*	*t*
Actual performance	.70	7.84***	.64	8.10***	.70	8.74***
Depletion			.28	3.64**	.28	3.82***
Moral identity			-.28	-3.53**	-.30	-3.92***
Depletion X moral identity					-.19	-2.40*
	R^2	.49	R^2	.64	R^2	.67
	$F(1,63)$	61.43	$F(2,61)$	12.76	$F(1,60)$	5.76
	ΔR^2	.49	ΔR^2	.15***	ΔR^2	.03*

Figure Captions

Figure 1. Study 3 simple slopes.

Figure 1