The Slippery Slope: A Self-Regulatory Examination of the Cumulative Effect of Minor Ethical Transgressions

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Abstract

Many recent corporate scandals have been described as resulting from a slippery slope in which a series of small infractions gradually increased over time (e.g., McLean & Elkind, 2003). However, behavioral ethics research has rarely considered how unethical behavior evolves over time and to date has not empirically examined whether individuals engage in a slippery slope of increasingly unethical behavior. In this paper, we extend Bandura’s (1991, 1999) social-cognitive theory by demonstrating how the mechanisms of depleted self-regulation and increased moral disengagement can reduce ethicality over a series of gradually increasing indiscretions. Across three multi-round studies using different measures of unethical behavior, we find that gradual, rather than abrupt, changes lead to unethicality. In Studies 2 and 3, this effect is mediated by depleted self-regulation and increased moral disengagement.

*Keywords: behavioral ethics, self-regulation, depletion, moral disengagement*
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Well, you know what happens is, it starts out with you taking a little bit, maybe a few hundred, a few thousand. You get comfortable with that, and before you know it, it snowballs into something big.

— Bernard Madoff

Unethical behavior is widespread in the modern workplace (Ariely, 2008; McLean & Elkind, 2003). Financial advisor Bernard Madoff stole more than $18 billion from investors (Kirchner, 2010), a single employee at the firm UBS racked up $2.3 billion dollars in trading losses (Secker, 2011), and reporters at the News of the World tabloid hacked into the personal information of individuals ranging from celebrities to crime victims (McGuire, 2012). The origins of these and other egregious unethical behaviors have been anecdotally traced to a series of smaller infractions that increased over time (e.g., Kirchner, 2010; McGuire, 2012; Secker, 2011). In this paper, we argue that the temptation to commit small indiscretions (Mazar, Amir, & Ariely, 2008) over time may gradually lead people to commit acts that are considerably less ethical than they may have originally considered permissible. We refer to this phenomenon as the slippery slope of unethical behavior.

The slippery slope of unethical behavior is widely discussed in the popular press (e.g., BBC Ethics Guide; the Economist, 2002; “Marketplace,” 2010), business ethics textbooks (e.g., Jennings, 2011), and theoretical articles in the field of behavioral ethics (e.g., Tenbrunsel & Messick, 2004). Fiction writer Quentin Rowan described a descent into gradually increasing unethicality as he plagiarized from other sources over a period of years (CBS News, 2012). Rowan began by replacing words in his manuscripts with more sophisticated synonyms from
SAT preparation books. By the time he was caught several years later, he was publishing articles and books that included dozens of pages copied directly from other sources. Similarly, several major corporate scandals have been described as starting small and increasing over time. For example, according to McLean and Elkind (2003:132), “[t]he Enron scandal grew out of a steady accumulation of habits and values and actions that began years before and finally spiraled out of control.” Bernard Madoff’s Ponzi scheme (Kirchner, 2010), rogue trading at UBS (Secker, 2011), and phone hacking at the *News of the World* (McGuire, 2012) have been described in similar terms.

Despite an abundance of anecdotes and postulations, almost no empirical research examines the progression of unethical behavior over time. Although some research indicates that people are more accepting of others’ unethical conduct when it occurs gradually rather than abruptly (Gino & Bazerman, 2009), the progression of one’s own unethical behavior over time has not been examined. Consequently, it is unclear whether the stories so common in today’s business environment reflect an actual phenomenon or are merely an urban legend. If the slippery-slope effect does exist, research is also needed to explain the processes through which it occurs. In sum, an important gap exists between practice and research regarding the existence of and causal mechanisms associated with the slippery-slope effect.

To address this gap, we seek to extend Bandura’s (1991, 1999) social-cognitive theory of moral thought and action to propose that the slippery-slope effect may increase unethical behavior by impairing one’s ability to maintain appropriate, self-regulated behavior and by facilitating one’s propensity to morally disengage. Research has shown that when presented with ethics-related decisions, individuals balance the desire to maximize benefits with the need to maintain a positive self-concept as a moral person (e.g., Mazar et al., 2008). According to social-
cognitive theory, individuals comply with their own moral standards by exerting self-regulatory control over their thoughts and actions, a process that helps them resist temptation. However, compliance with moral standards both requires and consumes self-regulatory resources (Gino, Schweitzer, Mead, & Ariely, 2011). Thus, facing a series of gradually increasing unethical choices may deplete self-regulatory resources as individuals work to resist the temptation to be unethical. Over time, morally disengaged reasoning helps to disconnect a contemplated act from the guilt or self-censure that an otherwise non-depleted individual would have. In turn, moral disengagement facilitates unethical behavior through a process of rationalization in which questionable conduct is justified through a cognitive misconstrual of its nature and consequences (Detert, Treviño, & Sweitzer, 2008).

In this paper, we hypothesize a slippery-slope effect in which unethical behavior gradually increases over time as self-regulatory mechanisms become impaired and individuals morally disengage. Across three different tasks measuring unethical behavior at multiple points in time, we find evidence demonstrating the slippery-slope effect and its potential mechanisms. Study 1 suggests that individuals are more likely to be dishonest when the associated payouts are raised gradually versus abruptly. Study 2 extends Study 1 by demonstrating that cheating increases more when the motivation for unethicality increases gradually rather than abruptly, an effect that is mediated by both impaired self-regulatory processes and increased moral disengagement. Study 3 replicates the slippery-slope effect across unrelated tasks in a non-student sample with an average of more than 11 years of work experience, and shows that this effect is mediated by both self-regulation and moral disengagement.

**Background of the Slippery-Slope Effect**
In contrast to ethical theories rooted in the standard economic model of rational self-interest (e.g., Allingham & Sandmo, 1972; Becker, 1968), recent theoretical and empirical research has suggested that moral behavior is also shaped by psychological processes (e.g., Bandura, 1999; Mazar et al., 2008). Research has demonstrated that individuals not only desire to maximize the benefits obtainable in a given situation but also want to view themselves in a positive manner that corresponds with their moral values (Mazar et al., 2008). People generally balance the tension between self-interest and their moral standards in ways that permit some instances of questionable behavior while allowing them to maintain a positive self-concept as ethical people.

Studies have shown that individuals tend to rationalize minor unethical acts so that they may derive some benefit without being forced to negatively update their self-concept (Gino, Ayal, & Ariely, 2009; Mazar et al., 2008; Shalvi, Handgraaf, & De Dreu, 2011). For example, taking a pen home from the office may seem permissible, whereas taking money out of the company cash drawer may clearly be stealing (Ariely, 2008; Mazar et al., 2008). When unethical behavior becomes too egregious, the external rewards may be outweighed by the internal psychological cost of misconduct. For example, Mazar et al. (2008) found that participants who were paid to solve math problems within a time limit frequently over-reported their performance when they were compensated 10 cents or 50 cents for each problem solved, but rarely cheated when compensated $2.50 or $5 per problem solved. According to Mazar et al. (2008), taking an extra dime might have seemed trivial, whereas pocketing an unearned five-dollar bill may have forced individuals to recognize that taking unearned money is a form of stealing.

The research above suggests that people are prone to engage in minor indiscretions up to a certain threshold of severity in one-off experiments. Although studies of this type are
informative about discrete orthogonal ethical decisions, we argue that organizational behavior researchers should also consider how unethical behavior evolves over time. Until recently, the field relied primarily on cross-sectional studies using employees’ self-reported unethical intentions (Kish-Gephart, Harrison, & Treviño, 2010). Using studies like these as a foundation, a new wave of research has begun to focus on the observation of actual unethical behavior (see Kish-Gephart et al., 2010 for a review). Yet most of these studies measure only a single instance of observed unethical behavior and do not consider how this behavior may continue to evolve in the future. By considering the interdependence of ethical decisions that evolve over time, researchers may be better positioned to explain real-world ethical breaches.

**Theoretical Overview**

According to social-cognitive theory, two mechanisms facilitate unethical behavior: reduced self-regulation and increased moral disengagement. A growing body of research exploring self-regulatory resource theories has suggested that self-regulatory ability comes from an overarching psychological resource (Baumeister, 2002; Baumeister, Bratslavsky, Muraven, & Tice, 1998). Baumeister’s strength model theorizes that depletion occurs when self-regulatory behaviors draw from a finite reservoir of self-control and acts of volition reduce the capacity for further self-regulation (Baumeister & Heatherton, 1996; Muraven & Baumeister, 2000). Thus, individuals who resist a particular temptation may experience depletion and reduced self-regulatory capacity when faced with future temptations (Hagger, Wood, Stiff, & Chatzisarantis, 2010). For example, participants instructed to regulate their emotions while viewing an evocative video clip performed worse on a subsequent task requiring self-regulation than did participants who had not been instructed to regulate their emotions (Muraven, Tice, & Baumeister, 1998). In another study, participants instructed to exercise self-control by eating a bowl of radishes rather
than a bowl of chocolates were less persistent on a subsequent problem-solving task (Baumeister et al., 1998).

In many cases, compliance with moral standards requires individuals to resist questionable conduct. Under the strength model of self-regulation, self-regulatory behaviors draw from a global resource that allows executive control over thoughts and behaviors (Baumeister et al., 1998). As this resource is diminished, temptations may begin to exert a greater influence on behavior (Christian & Ellis, 2011). Thus, as self-regulatory resources are depleted, it may become increasingly challenging to conform one’s behavior to moral standards. For example, research by Mead et al. (2009) and Gino et al. (2011) found that participants who engaged in self-regulatory tasks subsequently behaved more unethically than those who did not engage in such tasks. Because resisting unethical behavior both requires and consumes self-regulatory resources, individuals facing a series of unethical decisions may be susceptible to the effects of depleted self-regulation. In the next section, we argue that one mechanism through which this effect manifests itself is moral disengagement.

**Moral Disengagement**

As self-regulatory resources are depleted, research suggests that it becomes increasingly difficult to conform one’s behavior to one’s moral standards (e.g., Christian & Ellis, 2011). In turn, individuals become more likely to rationalize their own questionable conduct, thus reducing the perceived discrepancy between their behavior and standards. Moral disengagement involves a dissonance-reducing process through which an individual is “freed from the self-sanctions and the accompanying guilt that would ensue when behavior violates internal standards” (Detert et al., 2008, p.375). Thus, moral disengagement is a form of moral self-deception that people may
become increasingly susceptible to as their self-regulatory resources become depleted. Through moral disengagement, individuals rationalize questionable conduct, minimize their personal responsibility, and dehumanize potential victims (Bandura, 1999). For example, people may rationalize theft from a wealthy company as having little impact, redefine lies to a competitor as “strategic misrepresentation” (Safire, 1979), and blame questionable decisions on one’s teammates or superiors.

As moral disengagement increases, so does one’s sphere of permissible conduct. According to Tenbrunsel and Messick (2004:229), individuals are prone to “incremental steps down the road of unethical behavior, due to the self-deception that occurs along the way.” For example, former New York Times reporter Jayson Blair indicated that his descent into plagiarism and fabrication of news stories occurred when he published a quote without attributing it to its source and suffered no consequence. According to Blair (CBS News, 2012):

[i]t’s kind of a slippery slope that starts to happen. I think once you realize that you can get away with something, once you cross over that line, you somehow have to rationalize how “I am a good person, and I did this, so somehow this has to be ok, I’ve got to make this ok.” So then it becomes a lot easier to do it.

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1 Recent research has frequently taken a trait-based approach to moral disengagement by looking at one’s propensity to morally disengage as a personality-related predictor of unethical behavior (e.g., Detert et al., 2008; Moore, Detert, Treviño, Baker, & Mayer, 2012). This approach to moral disengagement is reflective of research exploring predictors of a single instance of ethical behavior. However, social cognitive theory identifies moral disengagement as a mechanism that causally explains how reduced self-regulation increases subsequent unethical behavior. In other words, the social-cognitive interpretation is that moral disengagement is a universal phenomenon that can be contextually influenced. Thus, we investigate state moral disengagement.
In hindsight, Blair readily recognized that his behavior was blatantly unethical. Yet at the time of his acts, the process of moral disengagement allowed him to engage in self-deception by rationalizing his conduct.

Gradual increases in unethical behavior may facilitate moral disengagement through an induction mechanism in which similar forms of unethical conduct become routinized over time and are deemed acceptable without additional consideration. Thus, an unethical act that is similar to one’s previous behavior may be more easily justified than an act that appears different in terms of content and severity. Moral disengagement may explain why people are prone to committing a series of unethical behaviors that increase gradually and are thus more easily rationalized than unethical conduct that increases abruptly.

In sum, current behavioral ethics theory suggests that individuals are prone to committing small acts of unethicality while avoiding major indiscretions. However, over a series of ethics-related decisions, resisting temptation both requires and consumes self-regulatory resources. As self-regulatory resources are depleted, individuals morally disengage and are able to rationalize gradual, but not abrupt, increases in unethical behavior. Consequently, the mechanisms of reduced self-regulation and increased moral disengagement may facilitate a process of gradually increasing unethicality over time (as depicted in Figure 1). We hypothesize:

**Hypothesis 1:** Over a series of ethics-related decisions, people will engage in more unethical behavior when potential unethicality develops gradually over time rather than abruptly.

**Hypothesis 2a:** Over a series of ethics-related decisions, people will experience a greater depletion of self-regulatory resources when potential unethicality develops gradually over time rather than abruptly.

**Hypothesis 2b:** Over a series of ethics-related decisions, people will become more morally disengaged when potential unethicality develops gradually over time rather than abruptly.
Hypothesis 3: The relationship between a series of ethics-related decisions in which potential unethicality develops gradually over time versus abruptly and unethical behavior will be sequentially mediated by both the depletion of self-regulatory resources and moral disengagement.

Overview of Studies

Studies 1, 2, and 3 were designed to examine the slippery-slope effect by adapting three different widely used behavioral ethics tasks in order to measure unethical behavior at multiple points in time. In all three studies, the final round of the task was identical across conditions, but the rounds leading up to the final round changed either gradually or abruptly. Specifically, Study 1 extends recent single-round findings by Mazar et al. (2008) by using gradual versus abrupt increases in monetary incentives over multiple rounds to create a slippery slope. Study 2 used gradual versus abrupt changes in the difficulty of a task on which participants could cheat. Study 3 used monetary incentives combined with gradual versus abrupt changes on an initial task to examine levels of cheating on a subsequent task. Additionally, Studies 2 and 3 measured the mediating mechanisms of self-regulation and moral disengagement to examine the processes through which the slippery-slope effect may influence unethical behavior over time.

Study 1 Method

Participants and Design

Study 1 was conducted in a laboratory setting using 57 undergraduate students from a large public U.S. university who were randomly assigned to one of two conditions: the gradual-change or the abrupt-change condition. The median age of participants was 21; 53% were female. Participants received course credit as well as compensation based on their performance during three rounds of a problem-solving task adapted from Mazar et al. (2008). This task included a series of 20 matrices per round, each containing a set of 12 three-digit numbers (e.g.,
4.73), and was identical in both conditions. For each round, participants had two minutes to circle the two numbers in each matrix that added up to exactly 10. After each round, participants checked their work and recorded their performance on an answer sheet in their task packet.

All materials were identical across conditions for all three rounds. However, participants were compensated differently in the first two rounds of the gradual-change condition than in the first two rounds of the abrupt-change condition. In the gradual-change condition, compensation for each matrix solved gradually increased across each of the three rounds. We specifically used certain payout amounts for this task as indicated by Mazar et al. (2008), who found in a single-round study that many participants were willing to cheat when compensated $.25 for each matrix solved (a small amount that could easily be rationalized) but few did so when paid $2.50 per matrix (a larger amount that made dishonesty seem much more salient). Thus, in the gradual-change condition, we told participants that they would earn $.25 for each matrix solved correctly during round 1, $1 for each matrix solved correctly during round 2, and $2.50 for each matrix solved correctly during round 3. In the abrupt-change condition, participants were told that they would not be compensated for their performance in round 1 and round 2 but would earn $2.50 for each matrix solved correctly in round 3. In both conditions, participants paid themselves from an envelope in their carrel and left the remaining money in the envelope at the end of the experiment.

In accordance with previous experiments that have used this problem-solving task (e.g., Gino, Norton, & Ariely, 2010; Mazar, Amir, & Ariely, 2008), participants were told that they would throw away their worksheets for each round and would turn in only the task packet containing their answer sheet. Thus, participants believed their work would not be checked, and they could cheat by overstating their performance if they desired. Unbeknown to participants, a
unique coded number appeared on both the worksheets and task packets that enabled the two to be linked after participants had disposed of their materials and left the room (e.g., Gino et al., 2010; Schweitzer, Ordóñez, & Douma, 2004).

Measures

Performance. The worksheet and answer book was matched for each individual. Performance was measured as the actual number of matrices solved by the participant (not necessarily the same as the reported performance).

Unethical behavior. Similar to other studies (Gino et al., 2010; Mazar et al., 2008), the over-reporting of correctly solved matrices in the problem-solving task was used to measure unethical behavior. In particular, we were interested in over-reporting during round 3, in which participants in both the gradual-change and abrupt-change conditions were paid identically ($2.50) for each matrix they reported to have solved correctly. Matrix over-reporting is a strong measure of unethical behavior because correct solutions are clear, legitimate mistakes are infrequent, and participants seldom underreport the number of matrices solved correctly (Mazar et al., 2008). The systematic pattern of overstatements across multiple rounds and conditions suggests that most instances of over-reporting in our study were intentional.

Study 1 Results

Table 1 provides means, standard deviations, and correlations between Study 1 variables. As expected, there was a significant positive correlation between the gradual-change condition and over-reporting. Additionally, this effect grew stronger across each successive round. There was a positive correlation between over-reporting behavior in rounds 1, 2, and 3, suggesting that those who started cheating in one round were likely to continue cheating in later rounds. There was also a negative correlation between performance and over-reporting, suggesting that those
who performed poorly were the most likely to cheat. As depicted in Figure 2, across all rounds, participants cheated much more in the gradual-change condition than in the abrupt-change condition. Mean levels of over-reporting are shown on the $y$-axis for both the gradual-change and abrupt-change conditions across all three rounds. Specifically, in the gradual-change condition, cheating levels increased with each successive round (means between 1.0 and 1.5), whereas cheating was fairly low and constant in the abrupt-change condition (means between 0.2 and 0.5). Supporting Hypothesis 1, we found that for round 3, in which participants in both conditions paid themselves $2.50 for each matrix solved, participants in the gradual-change condition over-reported the number of matrices they solved significantly more than did participants in the abrupt-change condition ($t_{55} = 2.53$, $p < .05$). Specifically, 60% of participants in the gradual-change condition cheated at least once in round 3, as compared to only 30% in the abrupt-change condition. Additionally, in the gradual-change condition, 57% of those who cheated in round 1 also cheated in round 2, and 78% of those who cheated in round 2 later cheated in round 3.

**Study 1 Discussion**

The results of Study 1 support Hypothesis 1 by providing evidence of a slippery slope of gradually increasing unethical behavior over time. Specifically, despite identical tasks and compensation per matrix solved, participants in the gradual-change condition were approximately twice as likely to overstate their performance in the final round as were participants in the abrupt-change condition, and they also overstated their performance more severely. Study 1 extends the findings of Mazar et al.’s (2008) single-round studies using the same problem-solving task. In the abrupt-change condition of Study 1, for example, most participants did not cheat when paid $2.50 per matrix. Similarly, in the first round of the gradual-
change condition, participants frequently over-reported their performance when paid 25 cents per matrix solved. However, over time, participants in the gradual-change condition who were willing to cheat to earn 25 cents in round 1 were increasingly likely to cheat to earn $1 per matrix in round 2 and even more likely to cheat to earn $2.50 per matrix in round 3. Thus, Study 1 provides evidence of a slippery-slope effect over time and extends previous single-round behavioral ethics research arguing that people are tempted to cheat primarily in small amounts.

The slippery-slope effect of over-reporting behavior shown in Study 1 may have organizational parallels, such as employees who gradually start over-reporting the hours they have worked, increasingly exaggerate aspects of their job performance over time, or progressively overstate the positive attributes of a product to potential clients. However, a limitation of Study 1 is that it focused on a slippery-slope effect related specifically to a gradual increase in monetary incentives and also did not test the mechanisms through which this effect occurred. Study 2 extends Study 1 by demonstrating the slippery-slope effect using a different task without monetary compensation. Additionally, Study 2 provides evidence that the relationship between the slippery slope and unethical behavior is mediated by reduced self-regulatory ability and increased moral disengagement.

**Study 2 Method**

**Participants and Design**

Study 2 was conducted in a laboratory setting using 115 undergraduate students from a large public U.S. university who were randomly assigned to one of two conditions: the gradual-change condition or the abrupt-change condition. The median age of participants was 21, and 53% were female. Participants received course credit for their participation. Each participant worked in a separate carrel and completed a number of computerized filler tasks that were
unrelated to the experiment for approximately 30 minutes. The filler tasks were designed to
disguise the true, ethics-related purpose of the experiment.

After completing the filler tasks, participants were led to believe that the main portion of
the study had finished. They were then asked to complete one additional computerized task that
was described as an analytical task currently being designed and piloted for use in future
research studies. The task, adapted from Von Hipple, Lakin, and Shakarchi (2005), required
participants to solve a series of ten math problems, each consisting of a string of ten numbers
(e.g., \(4 + 3 - 2 + 5 - 1 + 7 + 2 + 3 - 4 + 1 = ?\)). Participants were told that after a few seconds,
the computer program was designed to provide a pop-up displaying the correct answer so that
they would be able to check their work. They were also specifically told to solve all problems
without the assistance of the pop-up answer. To disable the pop-up answer, participants were
instructed to press the spacebar as soon as each problem appeared on the screen. Following other
studies using adapted versions of this task (e.g., Jordan, Mullen, & Murnighan, 2011), we gave
participants an ample period of 3.5 seconds to press the spacebar to prevent the answer from
popping up.

Whereas Study 1 manipulated monetary incentives either gradually or abruptly, Study 2
manipulated the difficulty of the rounds themselves either gradually or abruptly. Thus, in Study
2, participants’ incentive to cheat was the ability to finish the experiment and leave more quickly
without being caught. Generally, the entire task took participants between 5 and 15 minutes to
complete. Participants in both the gradual-change and abrupt-change conditions were presented
with the same initial problem in round 1 and the same final problem in round 10. In round 1, the
ten numbers to be added and subtracted were between 1 and 5. In round 10, the range of the ten
numbers to be added and subtracted grew to between 1 and 20. However, in the gradual-change
condition, the problems gradually increased in difficulty across rounds, whereas in the abrupt-change condition, the difficulty level increased abruptly in the final round. To ensure that all participants understood they were supposed to press the spacebar immediately after each problem appeared, the experimenter repeated all instructions twice and displayed them to participants on the computer screen. Additionally, only native English speakers were used for this study.

**Measures**

**Depletion of self-regulatory resources.** We measured the depletion of self-regulatory resources at two times during the course of the ten rounds using four items from the State Ego Depletion Scale (Ciarocco, Twenge, Muraven, & Tice, 2010). A sample item is “I feel like my willpower is gone.” First, ability to self-regulate was measured after round 1 to provide a baseline and to test whether participants in both conditions started the experiment with similar levels of self-regulatory ability. Second, ability to self-regulate was also measured after round 9 to determine whether gradual versus abrupt changes differentially influenced self-regulatory ability. Participants responded to these items on a seven-point scale ranging from *strongly disagree* to *strongly agree*. The reliability of the scale was .90 when measured after round 1 and .91 when measured after round 9.

**Moral disengagement.** We measured moral disengagement immediately following round 10 with two items assessing the rationalization component of the moral disengagement measure developed by Moore et al. (2012). We adapted these items to specifically refer to moral disengagement regarding the problem-solving task. For example, an item capturing moral justification was adapted from “It is ok to spread rumors to defend those you care about” to “It is ok if someone didn’t hit the spacebar as long as they had a good reason for not doing so.”
Participants responded to these items on a seven-point scale ranging from strongly disagree to strongly agree. The reliability of the scale was .70.

**Unethical behavior.** The experiment was designed to convince participants they were helping to test a task under development and thus that the experimenter would not be able to detect a failure to press the spacebar. However, unbeknown to participants, the computer program kept track of whether they hit the spacebar during each round. Additionally, following Jordan et al. (2011), the answer that popped up was not the correct answer but rather the correct answer minus one. This allowed us to separate participants who accidentally forgot to press the spacebar and solved the problem on their own from participants who deliberately chose not to push the spacebar. We used a conservative measure of unethical behavior by dichotomously counting only participants who both failed to press the spacebar and who also reported an incorrect answer.

**Study 2 Results**

Table 2 provides means, standard deviations, and correlations between Study 2 variables. As expected, the gradual-change condition, depletion in round 9, moral disengagement, and unethical behavior were all positively correlated with one another. Hypothesis 1 predicted that participants would ultimately engage in more unethical behavior in the gradual-change condition than in the abrupt-change condition. As depicted in Figure 3, the same percentage of participants in both conditions (9%) cheated in round 1. In round 10, the percentage of participants who cheated in the abrupt-change condition increased only slightly to 10%, whereas 25% of participants cheated in the gradual-change condition. Supporting Hypothesis 1, this difference was statistically significant ($\chi^2_{1} = 4.04$, p < .05).
Hypothesis 2a predicted that participants would experience a greater depletion of self-regulatory resources over time in the gradual-change condition than in the abrupt-change condition. As expected, in the gradual-change condition, mean depletion of self-regulatory resources significantly increased from 2.41 following round 1 to 2.64 following round 9 ($t_{57} = 2.08, p < .05$). In the abrupt-change condition, there was not a significant difference in the depletion of self-regulatory resources over time, with mean depletion at 2.25 following round 1 and 2.33 following round 9 ($t_{57} = 1.70, p > .05$). Comparing the depletion of self-regulatory resources in the gradual-change condition to the abrupt-change condition, there was not a significant difference following round 1 ($t_{113} = .86, p > .05$); however, the results approached significance following round 9 ($t_{57} = 1.62, p = .11$). Thus, Hypothesis 2a was partially supported.

Hypothesis 2b predicted that participants would become more morally disengaged in the gradual-change condition than in the abrupt-change condition. Supporting Hypothesis 2b, mean moral disengagement was significantly higher in the gradual-change condition (Mean = 3.04) than in the abrupt-change condition (Mean = 2.41, $t_{113} = 2.34, p < .05$).

Hypothesis 3 predicted that the slippery-slope effect of gradual versus abrupt changes on increased unethical behavior would be mediated by reduced self-regulation and increased moral disengagement. To test the significance of the indirect effects of the slippery slope on unethical behavior through self-regulatory resources and moral disengagement, we used Preacher and Hayes’ (2008) approach to examining multiple mediation models. This procedure is an extension of the Sobel test (Sobel, 1982) and is recommended over Baron and Kenny (1986) because it allows multiple mediators to be tested simultaneously and does not assume a normal sampling distribution of indirect effects (Preacher & Hayes, 2008; Williams & MacKinnon, 2008). As Preacher and Hayes (2008) have recommended, we estimated the indirect effects using
unstandardized coefficients and utilized bootstrapping procedures with 1,000 resamples. Bootstrapping provides evidence of mediation if the bias-corrected confidence interval excludes zero for indirect effects. Supporting Hypothesis 3, we found a significant indirect effect of gradual versus abrupt changes on unethical behavior in round 10 sequentially through both depletion of self-regulatory resources and moral disengagement (coefficient = .03, 95% CI = .0002, .2023).

Study 2 Discussion

The results of Study 2 support Hypotheses 1, 2, and 3 by providing evidence of the slippery-slope effect and the mediating mechanisms of depleted self-regulation and increased moral disengagement. Study 2 also extends Study 1 by demonstrating the slippery-slope effect in a different context with no monetary incentives. However, a limitation of Studies 1 and 2 is that both rely on a student sample. Additionally, Studies 1 and 2 do not consider how progression down a slippery slope of unethical behavior on one task may spill over into unethical behavior on other subsequent tasks. Study 3 addresses these limitations and extends Study 2 using a different task and a non-student sample with considerable work experience. Study 3 also explores whether the slippery-slope effect extends from one task to other tasks by inducing the slippery slope on an initial task, assessing ability to self-regulate and moral disengagement, and then measuring unethical behavior on a separate task.

Study 3 Method

Participants and Design

Study 3 was conducted as an online experiment using 205 adult U.S. residents who were randomly assigned to either the gradual-change or abrupt-change condition. The median age of participants was 33, and 59% were female. Participants had an average of 11.3 years of work
experience, and 37.1% worked full-time, 21.5% worked part-time, 11.2% were self-employed, and 30.2% were currently unemployed.

Participants first completed an ethics task adapted from Gino et al. (2010) that was described to participants as a visual perception task. For this task, participants were presented with a square divided into two triangles containing a total of 20 green dots distributed between them. During each round, the dots appeared only for one second and then disappeared. Participants were told that their task was to correctly identify whether there were more dots on the left side of the square or more dots on the right side of the square after each round and to be as accurate as possible. However, participants were also told (falsely) that most people could more easily perceive dots on the right side of the square, the dominant side of their visual field; consequently, they were told, they would earn 1 cent for selecting more dots on the right side and 10 cents for selecting more dots on the left side. This payment structure induced a motivation to report more dots on the left side of the square.

To make sure that participants understood the task and payment system, they were required to correctly complete a manipulation check containing four questions regarding their instructions for each round, the number of rounds, the purpose of the task as described in the instructions, and how they would be compensated for each round. We adapted this task from Gino et al. (2010) in order to create gradual versus abrupt changes across successive rounds. In both conditions, the first two rounds were unambiguous, with five dots on one side of the square and 15 dots on the other side. However, in the gradual-change condition, the distribution of dots gradually grew more ambiguous with each successive round, whereas the distribution of dots remained constant in the abrupt-change condition until round 10 (the final round). In round 10,
both conditions were shown an ambiguous distribution of dots, with nine dots on the left side and 11 dots on the right side.

**Measures**

**Depletion of self-regulatory resources.** Following the visual perception task, we measured the depletion of participants’ self-regulatory resources using the same four items from the State Ego Depletion Scale (Ciarocco, Twenge, Muraven, & Tice, 2010) as in Study 2. Participants responded to these items on a seven-point scale ranging from *strongly disagree* to *strongly agree*, and the reliability of the scale was .86.

**Moral disengagement.** Moral disengagement was measured with Moore et al.’s (2012) eight-item scale. A sample item is, “Considering the ways people grossly misrepresent themselves, it’s hardly a sin to inflate your own credentials a bit.” Participants responded to these items on a seven-point scale ranging from *strongly disagree* to *strongly agree*, and the reliability of the scale was .84.

**Unethical behavior.** Although we measured whether participants correctly identified the side with more dots during the perception task, the primary purpose of Study 3 was to examine whether the slippery slope of unethical behavior resulting from the perception task would extend to increased unethical behavior on a subsequent task. We measured participants’ subsequent unethical behavior by providing them with an additional opportunity to cheat to earn extra money at the end of the study. This measure of unethical behavior took advantage of the online nature of the study. Though in fact we recruited participants using a single recruitment service, we informed them that they would be paid differentially based on which recruitment service had directed them to our study. Participants claiming to have been recruited by a different online service could earn an additional bonus of 25 cents. Unbeknown to participants, this recruiting
service was fictitious, and no participants were recruited from this service. Thus, we were able to measure whether participants lied in response to this question in order to receive unearned compensation.

**Study 3 Results**

Table 3 provides means, standard deviations, and correlations between Study 3 variables. As expected, the gradual-change condition, depletion, moral disengagement, and unethical behavior were all positively correlated with one another. Hypothesis 1 predicted that participants would ultimately engage in more unethical behavior in the gradual-change condition than in the abrupt-change condition. As expected, participants in the gradual-change condition more frequently misreported their performance on the visual perception task as compared to participants in the abrupt-change condition ($t_{203} = 3.43, p < .01$). However, the main purpose of Study 3 was to test whether the slippery slope induction on the visual perception task would also increase unethical behavior on a subsequent task and whether this relationship would be mediated by self-regulatory ability and moral disengagement. As depicted in Figure 4, participants were significantly more likely to lie about how they had been recruited into the study in order to earn a bonus if they were in the gradual-change condition (9%) for the visual perception task as compared to the abrupt-change condition (2%, $\chi^2_{1} = 3.85, p < .05$). Thus, Hypothesis 1 was supported.

Hypothesis 2a predicted that participants would experience a greater depletion of self-regulatory resources over time in the gradual-change condition than in the abrupt-change condition. Supporting Hypothesis 2a, participants were significantly more depleted in the gradual-change condition (Mean = 1.56) than in the abrupt-change condition (Mean = 1.24, $t_{203} = 3.96, p < .01$). Hypothesis 2b predicted that participants would become more morally disengaged
in the gradual-change condition than in the abrupt-change condition. Supporting Hypothesis 2b, mean moral disengagement was significantly higher in the gradual-change condition (Mean = 2.63) than in the abrupt-change condition (Mean = 2.31, t_{203} = 2.36, p < .05).

As in Study 2, we tested for evidence of mediation by estimating the indirect effects using unstandardized coefficients and utilized bootstrapping procedures with 1,000 resamples (Preacher & Hayes, 2008). Bootstrapping provides evidence of mediation if the bias-corrected confidence interval excludes zero for indirect effects. Supporting Hypothesis 3, we found a significant indirect effect of gradual versus abrupt changes on unethical behavior sequentially through both depletion of self-regulatory resources and moral disengagement (coefficient = .07, 95% CI = .002, .231).

**Study 3 Discussion**

The results of Study 3 support Hypotheses 1, 2, and 3. As predicted, the results provide evidence consistent with a slippery-slope effect, such that gradual changes over time were associated with reduced self-regulation, increased moral disengagement, and higher levels of unethical behavior. Additionally, these results extend Studies 1 and 2 by demonstrating that the slippery-slope effect can influence subsequent unethical behavior on an unrelated task and that this effect is mediated by both self-regulatory ability and moral disengagement. Thus, unethical behavior associated with the slippery-slope effect may not be limited to a particular context but may spill over into other domains.

**General Discussion**

The purpose of this research was to examine the slippery-slope effect and explore the mediating mechanisms through which unethical behavior evolves over time. Although there are many anecdotes about the slippery slope in the business world, our results provide the first
empirical evidence that we are aware of regarding susceptibility to increased unethical behavior over time. Additionally, despite using three different tasks and measures of unethical behavior, we found strong effects: exposure to slippery-slope conditions more than doubled the rates of unethical behavior in our studies. The results also extend social-cognitive theory by demonstrating that the slippery-slope effect increases unethical behavior through the mediating mechanisms of reduced self-regulation and increased moral disengagement.

**Theoretical Implications**

Our results extend current research in three ways. First, we provide empirical evidence of the slippery-slope effect in a controlled environment to provide novel insight into how unethical behavior develops over time. Recent behavioral ethics research has used single-round studies to conclude that people are prone to commit small indiscretions but not major unethical violations (e.g., Mazar et al., 2008). However, we demonstrate that the magnitude of unethicality can be increased from smaller to larger indiscretions over a series of gradually changing ethics-related decisions. Our results suggest that previous conclusions from experiments relying on the assessment of unethical behavior at a single point in time may need to be reconsidered from a temporal perspective.

Second, we seek to extend social-cognitive theory through a consideration of how its purported mechanisms of self-regulation and moral disengagement may influence unethical behavior over time. Although social-cognitive theory has been widely cited in the behavioral ethics literature, few studies have empirically considered how the mediating mechanisms of reduced self-regulation and increased moral disengagement may facilitate unethical behavior. We also provide a theoretical account of why gradual, but not abrupt, changes over a series of ethics-related decisions deplete self-regulatory resources and increase moral disengagement.
Whereas many single-round studies have treated moral disengagement as a trait-based propensity, our results indicate that moral disengagement can be influenced by contextual factors across consecutive rounds. Across two studies with different tasks and populations, we found that the slippery-slope effect reduced self-regulatory resources, facilitated moral disengagement, and increased unethical behavior.

Third, the results extend recent research on self-regulation and unethical behavior by demonstrating that unethical decisions themselves can deplete self-regulatory resources over time. Additionally, a series of gradually changing ethics-related choices was found to be more depleting than a series with an abrupt change. We also provide evidence of a causal process through which the relationship between depleted self-regulatory resources and increased unethical behavior is mediated by moral disengagement. Thus, our study integrates research on social-cognitive theory and moral disengagement with emerging self-regulatory resource theories. This integration may provide new insight into how other antecedents of depletion, such as sleep deprivation or difficult performance goals, may ultimately impact unethical behavior via increased moral disengagement.

**Managerial Implications**

Given the many scandals that have plagued the business world in recent years, managers are looking for explanations regarding the possible origins and prevention of egregious unethicality. Business leaders have considered the possibility of a slippery-slope effect and ascribed it to corporate scandals ranging from Enron to Madoff. Contrary to the argument of some researchers that employees are prone to commit only minor indiscretions, our results suggest that small indiscretions may snowball into major violations over time if left unchecked.
Our results confirm managerial intuition about a slippery-slope effect and provide insight into the mechanisms through which it operates.

Managers may want to consider whether their organization possesses a strong ethical culture in which misconduct is clearly defined and even small deviations are quickly addressed. Those who notice and address questionable employee conduct may be able to reduce the likelihood that minor indiscretions may escalate over time. Additionally, managers should be mindful of employees with high-pressure responsibilities or job requirements that may drain self-regulatory resources over time and facilitate moral disengagement. Addressing minor instances of unethical behavior by a particular employee may also help curb the unethical behaviors of other employees. After all, employees who see their coworkers being called out for minor offenses may be less likely to rationalize their own potentially deviant behaviors. In addition, periodic ethics training may help to prevent moral disengagement by clearly defining and communicating the organization’s ethical standards. In sum, managers may want to consider steps they can take to quickly address small instances of unethical behavior and create an environment in which employees are less likely to suffer from reduced self-regulatory ability and increased moral disengagement.

**Limitations and Directions for Future Research**

This research is not without limitations. For example, we found evidence of the slippery-slope effect using relatively low-stakes unethicality in a short time frame. Although our findings parallel the behaviors described by some former white-collar criminals over an extended time period, additional research is needed to explore the slippery-slope effect in an organizational environment with higher stakes. Generalizability is often cited as a concern in laboratory studies, but the purpose of this research is to provide the first empirical test of the slippery-slope effect in
a controlled environment and the causal mechanisms through which it operates. Additionally, the slippery-slope effect is a general phenomenon common to all individuals. We operationalized the slippery slope in different ways across multiple studies and found effects using both student and non-student samples. Thus, we feel that the laboratory setting strengthened the potential contribution of this research by allowing us to assess causality in three multi-round studies measuring multiple mediators and unethical behavior over time.

Future research is needed to consider both the individual-level and contextual factors that may either exacerbate or attenuate the slippery-slope effect. Given that self-regulation and moral disengagement were found to mediate the slippery-slope effect, moderators associated with self-regulation and moral disengagement will likely also influence the effect. For example, individuals with a strong moral identity may be less susceptible to the slippery-slope effect, whereas those who are Machiavellian, utilitarian, or low in moral development may be particularly prone to it. Contextual factors such as ethical climate, a code of conduct, monitoring, and ethical priming may all reduce the slippery-slope effect or prevent it from occurring. Following ethics-related interventions, it would be interesting to see whether individuals start back at the top of the slippery slope with small indiscretions or if they instead pick up where they left off with violations of a larger magnitude. Additionally, research could explore how differences in terms of both content and severity influence a series of ethics-related decisions over time. For example, there may be a threshold at which many people begin to perceive an ethics-related decision as significantly different from a previous decision and stop their progression down the slippery slope.

Finally, further research is necessary to explore how a slippery slope of unethical behavior in one area spills over to unethical behavior in another area. Study 3 provides
preliminary evidence that gradual increases in unethical behavior in one area will be associated with increased unethical behavior in other areas. This makes sense given that self-regulatory ability and moral disengagement can be associated with unethical behavior in many areas of one’s life. For example, an employee who gradually begins to over-report his or her hours may become increasingly likely to commit seemingly unrelated unethical acts, such as taking home office supplies for personal use, surfing the Internet on company time, or deceiving potential clients to increase sales. Similarly, future research could explore whether growing indiscretions in an employee’s personal life may spill over into deviant workplace behaviors.

**Conclusion**

Although the slippery-slope effect has often been described anecdotally by both scholars and practitioners, this research provides the first test of the effect in a controlled environment. Across three studies, our results extend social-cognitive theory by testing the mechanisms of reduced self-regulation and increased moral disengagement through which unethical behavior evolves over time. Whereas behavioral ethics theory to date suggests that individuals are prone to committing small indiscretions but not blatant unethicality, this research sheds light on the process through which small instances of unethical behavior may begin to snowball into larger violations. Given the lack of research exploring unethical behavior over time, we hope that these findings will encourage research exploring the temporal nature of unethicality.
References


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<sup>a</sup> \( n = 57 \)

<sup>b</sup> Coded as 0 = Abrupt Change, 1 = Gradual Change

<sup>c</sup> Gender coded as 0 = Male, 1 = Female

*\( p < .05 \)

**\( p < .01 \)
### TABLE 2
Means, Standard Deviations, and Correlations Among Study Two Variables

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*\(n = 115\)

*b Coded as 0 = Abrupt Change, 1 = Gradual Change

*c Gender coded as 0 = Male, 1 = Female

*p < .05

**p < .01
TABLE 3
Means, Standard Deviations, and Correlations Among Study Three Variables

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*a n = 205
*b Coded as 0 = Abrupt Change, 1 = Gradual Change
*c Unethical behavior coded as 0 = Did Not Claim Unearned Bonus, 1 = Did Claim Unearned Bonus
*d Gender coded as 0 = Male, 1 = Female
*p < .05
**p < .01
FIGURE 1
Theoretical Diagram
FIGURE 2
Mean instances of cheating in Study 1 across rounds 1 through 3
FIGURE 3
Percentage of participants who cheated in Study 2 in rounds 1 and 10
FIGURE 4
Percentage of participants who lied to claim an unearned bonus in Study 3