An Investigation of Consumers’ Moral Licensing Behavior

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Abstract

Research suggests that when individuals have done a good deed, this grants them ‘license’ to engage in more self-interested, immoral or asocial behaviors that otherwise would have discredited the individual. A number of studies across disciplines have found evidence of such licensing effects, yet our understanding of what causes these effects is limited. It is clearly counterproductive if a good deed is likely to be followed by a bad one. Such a regulatory pattern threatens people’s moral integrity and undermines personal welfare, yet no research examines how to counteract it.

In Essay 1 “Removing Individuals’ License to Misbehave,” I present an intervention aimed at counteracting the licensing effect. I demonstrate that having participants engage in a physical act of closure – enclosing a written recall of their good deeds within an envelope – counteracts their licensing behavior. This intervention targets what I propose is a critical but overlooked condition for moral licensing to occur: the accessibility of one’s previous good deeds. Furthermore, I contribute to our understanding of moral licensing by examining a novel moderator of the licensing effect, the actor-perceived specialness of one’s good deed.

Research has found that changes in self-concept may mediate the licensing effect. In Essay 2 “Examining Self-Concept as a Mediator of Licensing Effects”, I critically examine this
process. Across three studies I replicate the licensing effect, but find no significant relationship with participants’ self-concepts. In each study, self-concept was measured using scales previously established in the licensing context, yet none of these mediated participants’ licensing behavior. Based on both theoretical as well as empirical findings, I propose that our current self-concept measures need to be re-examined.

By advancing our understanding of moral licensing behaviors and demonstrating how to counteract them, this dissertation provides significant practical and theoretical contributions for our understanding of moral licensing effects.
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Introduction

Recent research suggests that when individuals feel they have done a good deed, it boosts their moral self-concept and grants them ‘license’ to engage in more self-interested, immoral or asocial behaviors that would have otherwise discredited the individual (Jordan, Mullen, & Murninghan, 2011). For example, after engaging in actions that were positive in nature, such as expressing non-prejudiced attitudes (Monin and Miller 2001), or writing stories about oneself using morally positive adjectives (Sachdeva et al. 2009), participants licensed themselves to endorse politically incorrect attitudes, or donated less money to charity, respectively.

Licensing effects appear robust and pervasive as a number of studies in marketing, organizational behavior, psychology, as well as energy policy have found evidence of consumers’ licensing behaviors (see Miller & Effron, 2010, for a review). These effects have been found to occur in a variety of behavioral domains including the moral, health, environmental and prosocial domain (Monin and Miller 2001; Chiou, Yang, and Wan 2011; Sachdeva, Ilieve, and Medin 2009). In addition, licensing effects have been found to occur, not only within each of these behavioral domains, but also across different, unrelated behavioral domains.

In spite of the fact that the licensing effect has been well established in the literature, our understanding of what causes these effects and our ability to predict when licensing behavior will occur is still rather limited. The majority of the research examining licensing behavior thus far has primarily focused on establishing and demonstrating the phenomenon itself. Only a small subset of studies on moral regulation have begun to explore the mechanism, and therefore what we know about the licensing process is still rather limited. It is counterproductive, both in terms
of moral integrity and personal progress, if a good deed is likely to be followed by a selfish or immoral act. Yet, to my knowledge, no research examines how to counteract these licensing effects. The main objective of this dissertation research is to develop a better understanding of individuals’ moral licensing behaviors in order to predict when they will occur and to determine how best to counteract them. My dissertation is organized as follows.

In Essay 1, I develop and test an intervention aimed at counteracting the licensing effect. Across three experiments I demonstrate that having participants engage in a physical act of closure – enclosing a written recall of their good deeds within an envelope – counteracts their licensing behavior. This intervention suggests a critical but often overlooked condition for moral licensing to occur: the accessibility of one’s good deeds, i.e. the ease with which relevant instances come to mind. Furthermore, this research contributes to our understanding of moral licensing by examining a novel moderator of the licensing effect, the actor-perceived specialness of their good deed. These findings carry important implications. I believe they can help guide the design of small, yet powerful interventions (that reduce the accessibility of one’s behavior) to improve individuals’ everyday behaviors in situations that carry the risk for undesirable licensing effects.

In Essay 2, I critically examine self-concept as a possible mediator of licensing. Although there is research in the licensing literature that supports the idea that the self is critical in driving licensing effects, empirical support for self-concept as a mediator of these effects is tentative at best. By carefully reviewing the literature on licensing and self-concept, I show that the few studies that directly test the relationship between licensing and self-concept each use a different measure for self-concept and find inconsistent patterns with respect to the relationship between self-concept and licensing. In addition, I replicate the licensing effect in three studies, but find
no significant relationship with participants’ self-concept, failing to replicate a mediation effect. In each study, self-concept was measured using scales previously established in the licensing context, yet none of these mediated participants’ licensing behavior. Based on both theoretical as well as empirical findings, I propose that our current self-concept measures need to be re-examined. These findings are important as they draw attention to the fact that more work is needed, as we still lack a clear understanding of what causes licensing effects.
Essay 1: Removing Individuals’ License to Misbehave

Consumers and corporations are becoming increasingly motivated to engage in and promote prosocial, environmental, and ethical actions. For example, in a recent survey the majority of Americans said it was very important for them to be ‘green’ (83%), reduce consumption (81%), contribute to non-profit organizations (65%) and buy goods from socially responsible companies (60%; Good.Must.Grow 2013). Similarly, a 2010 survey of UN global CEOs reports that the majority of CEOs feel that sustainability issues will be critical to the success of their business (93%), should be fully integrated into the strategy and operations of a company (96%), and report that their company will employ new technologies (e.g. renewable energy, energy efficiency, etc.) to address these issues over the next 5 years (91%; Lacy et al. 2010). As beneficial as these actions are, in the long run they are not always as successful or impactful as they could be, as they sometimes lead to undesired consequences. Recent research suggests that when individuals feel they have done a good deed, this boosts their self-concept and grants them ‘license’ to engage in more self-interested, immoral or asocial behaviors that otherwise would have discredited the individual (Merritt, Effron and Monin 2010).

A number of studies in marketing, psychology, organizational behavior and energy policy have found evidence of such licensing effects (see Miller and Effron 2010, for a review). For example, in a recent field study, researchers found that although their conservation campaign aimed at water-reduction led to a significant decrease in participants’ water usage, the participants more than offset the savings by simultaneously increasing their electricity demand (Tiefenbeck et al. 2013). In another study, researchers found that simply adding a recycling option to a public washroom, as compared to just a trash option, increased the paper towel usage
per individual (Catlin and Wang 2013). They argue that having the option to do something more beneficial for the environment (recycling their paper towels) provided individuals ‘license’ to consume more. In addition to environmental actions, a variety of behaviors have been found to lead to licensing effects including moral, healthy and prosocial actions (Monin and Miller 2001; Chiou, Yang, and Wan 2011; Sachdeva, Ilieve, and Medin 2009).

It is clearly counterproductive if a good deed is likely to be followed by a selfish or immoral act. Such a regulatory pattern not only threatens people’s moral integrity but also undermines personal welfare and progress, yet I am not aware of any research that examines how to counteract it. Therefore the main goal of this research is to fill this gap and develop and test an intervention aimed at counteracting the licensing effect. The focal point of the proposed intervention is a critical but often overlooked condition allowing moral licensing to occur: the accessibility of one’s previous good deeds in memory, i.e. the ease with which relevant instances come to mind (Schwarz et al. 2003; Tversky and Kahneman 1973). When an individual is tempted to engage in self-interested behavior, if they have recently engaged in a good deed, then they can use this highly accessible deed as a license to misbehave. Thus, I propose that one point of intervention in the licensing process would be to reduce the accessibility of these recent good deeds. Specifically, I hypothesize that reducing how easily these good deeds come to mind, for example by inducing psychological closure, prevents these actions from serving as a moral license. By examining how to counteract licensing effects, this research also seeks to further our theoretical understanding of what drives moral licensing behaviors in order to better predict when they will occur.

In the next section, I provide a brief review of the literature on moral licensing, accessibility and closure. I then test the prediction that closure will counteract the moral
licensing effect across three experiments. Finally, I conclude with a discussion of the theoretical contributions and practical implications of these findings.

Theoretical Background

Moral Licensing

Moral licensing arises when individuals engage in an initial moral action which increases the likelihood that they will engage in a subsequent immoral action (Merritt et al. 2010). Such dynamics appear robust and pervasive, as they have been found across a variety of behavioral domains (Miller and Effron 2010; Zhong, Liljenquist, and Cain 2009). For example, after engaging in actions that were moral in nature, such as expressing non-prejudiced attitudes (Monin and Miller 2001), disclosing one’s conflict of interest when giving advice (Cain, Loewenstein, and Moore 2011), or writing stories about oneself using morally positive adjectives (Sachdeva et al. 2009), participants licensed themselves to endorse politically incorrect attitudes, gave more exaggerated self-serving advice, or donated less money to charity, respectively, compared to those in the control condition. In the environmental domain, it was found that, after purchasing environment-friendly products such as high-efficiency washing machines (Davis 2008) or more economical cars (Ohta and Fujii 2009), individuals licensed themselves to use these products more (e.g., doing more loads of laundry and increasing their driving).

Not only does licensing occur within each of these different behavioral domains, research also has found that it can occur across different, unrelated behavioral domains. For example, after participants imagined engaging in prosocial behaviors, they licensed themselves in an
unrelated domain by indulging in luxury products over necessities (Khan and Dhar 2006). Likewise, individuals who purchased items from a 'green' store were more likely to cheat on a subsequent task and steal money from the experimenter as compared to individuals who purchased items from a conventional store (Mazar and Zhong 2010).

The fact that individuals show these licensing behaviors both within and across domains raises the question of why individuals engage in moral regulation behaviors in the first place. Previous research on moral licensing argued that individuals’ moods do not drive moral licensing effects (Khan and Dhar 2006). Rather, some research suggests that individuals engage in licensing behavior when their self-concept deviates from its equilibrium (Jordan, Mullen, and Murninghan 2011; Khan and Dhar 2006). They argue that individuals are not necessarily striving for moral perfection, but rather trying to maintain a reasonable level of moral self-concept (Nisan 1991). In other words, when individuals do something good, this boosts their moral self-concept and, thus, gives them some wiggle room to engage in relatively more self-interested behaviors while remaining above the ‘immoral’ level. Conversely, when individuals behave in a way that lowers their moral self-concept, they are subsequently more likely to engage in compensatory behavior to re-establish their positive self-concept (Jordan et al. 2011).

While licensing effects have been well established in the literature, it has also been shown that they do not occur in all situations. Identifying the conditions in which they are likely to occur is critical for our understanding of moral regulation and for counteracting their undesirable consequences. One predictor of when licensing behavior will occur is whether individuals are able to justify their immoral actions to themselves. Previous research has shown that in conditions when it is difficult to rationalize acting immorally, individuals are less likely to show licensing effects after their initial good deed (Brown et al. 2011). Similarly, if individuals
use a rule-based ethical mindset (vs. an outcome-based mindset), what is right and wrong is viewed as more absolute. Specifically, under a rule-based mindset any immoral action is viewed as unjustifiable. Thus, individuals with such a mindset are less likely to license themselves to act immorally following their good deeds (Cornelissen et al. 2013). Another key determinant of licensing behavior identified in the literature is whether or not one’s good deed is associated with the self. For example, individuals did not license themselves, if 1) rather than purchasing environmental products, they were simply exposed to them (Mazar and Zhong 2010), 2) they attributed the reason for their actions to an external source (Khan and Dhar 2006), or 3) they thought of other people’s moral behaviors as opposed to their own moral behaviors (Sachdeva et al. 2009). Therefore, it is only in situations when the self is implicated in the initial behavior that individuals have been shown to exhibit licensing effects.

The conditions listed above are important for our understanding of when licensing will or will not occur, however they are not actionable or practical solutions to counteract licensing behaviors. Once individuals willingly engage in good deeds or recalls their own good deeds, they are more likely to show licensing effects. Thus the main goal of the current research is to develop and test an intervention aimed at counteracting consumers’ moral licensing behaviors in the very situations in which they are most likely to occur.

Going beyond the previously listed conditions, my research focuses on another necessary but often overlooked driver of the licensing effect: the accessibility of the good deed at the point when one is tempted to act in a self-interested manner. For the purposes of this research, I refer to accessibility as the ease with which relevant instances come to mind (Schwarz et al. 2003; Tversky and Kahneman 1973). I propose that in order for a good deed to serve as a moral license it needs to be both 1) easily accessible in memory, as well as 2) out of the ordinary or
special. When individuals are making moral decisions, research has found that they do so in the context of their previous actions (Nisan 1991). Having a good deed accessible in memory provides individuals some wiggle room to engage in self-interested behavior. However, if a good deed is not easily accessible, then they should not have any license to misbehave. Similarly, when an individual is tempted to misbehave, if their previous actions do not feel special or out of the ordinary, then they should not experience any boost in their self-concept, and should no longer show the licensing effect. Therefore, I propose that a key point of intervention in the licensing process would be reducing the accessibility of one’s initial good deed. In this paper I test my hypothesis by examining each of these components of an individual’s behavior: how special individuals perceive their good deed was, as well as the accessibility of the action in memory.

**Specialness**

Research has shown that even when information is activated because of its accessibility, it might not be used if it is perceived as irrelevant or inappropriate (Higgins 1996). In order for a good deed to be relevant to provide someone with the license to misbehave, I propose that the good deed must be special and out of the ordinary. Consider the following: What if an action is objectively good – say recycling – but subjectively the action feels like nothing special – perhaps recycling has become so habitual it no longer feels special and no longer feels like a good deed. Would this good deed still lead to licensing effects? In other words, is it the deed itself that makes a good deed a good deed, or is it how the individual feels about the deed? Previous research on licensing has made no distinction between objectively good deeds and subjectively good deeds. However, I propose that this is a critical distinction, and that only when
the action is subjectively good, if it feels special to the individuals, can it serve as a moral license. If an individual’s actions do not feel special then they should no longer show the licensing effect. In this paper, I will examine whether the specialness of the behavior moderates the licensing effect.

In addition to being out of the ordinary, the proposed model argues that a good deed needs to be easily accessible in memory in order to serve as a moral license. If one cannot easily recall and draw on previous behavior, there is nothing to serve as a license. In order to manipulate the accessibility of one’s behavior in memory, I draw on previous research on psychological and choice closure.

**Psychological and Choice Closure**

Memory researchers define psychological closure as the sense that an experience is complete and a part of the past (Crawley 2010). Previous research has shown that the amount of psychological closure one feels about an event is a function of how accessible the details of that experience are in memory (Beike and Wirth-Beaumont 2005): At first, all the details of a new event are highly accessible, and individuals experience a low sense of closure towards that event. However, as the details become less accessible and more distant memories, individuals experience greater feelings of closure (Beike et al. 2007). Some research has found that psychological closure proceeds through inhibiting the emotional details aroused by previous memories (Crawley 2010). As a result, if the emotional details of a memory are made more salient, for example by asking participants to write about their emotions when recalling an event, research has shown that participants report feeling less psychological closure towards those
events (Beike and Wirth-Beaumont 2005). Conversely, increasing feelings of psychological closure, for example by having participants engage in physical acts of closure, reduces the accessibility of the emotional details of participants’ memories (Li, Wei, and Soman 2010). Together, this research demonstrates that psychological closure can have effects on both the accessibility of information in memory as well as on affective reactions. Given that previous research found licensing effects were not driven by affective reactions (Khan and Dhar 2006), I would expect that inducing closure would influence the likelihood observing licensing effects by reducing the accessibility of information in memory.

In addition to influencing feelings of psychological closure and emotions, physical acts of closure have also been shown to affect choice closure. Choice closure is the psychological process by which individuals come to view their previous decisions as complete (Gu, Botti, and Farro 2013). Choice closure works not through inhibiting emotional details of memories, but by precluding individuals from revisiting their choices (Gu et al. 2013). Across a series of studies, Gu and colleagues (2013) demonstrated that having participants perform acts of closure, such as covering forgone options with a lid or closing a menu of choices, inhibited their tendency to make comparisons between their selected and rejected choice options, in turn making them more satisfied with their final selected choice. Thus, by inducing choice closure, individuals were less likely to revisit the previous options, which aligns with the idea that the accessibility of these options was reduced.

Building off of these two streams of research (psychological closure and choice closure), I argue that physical acts of closure should not only reduce the accessibility of choice options in memory and the accessibility of emotions in memory, but should also reduce the accessibility of one’s previous actions in memory. Reducing the accessibility of one’s previous actions in
memory, should make them less likely to be used as a moral license. Previous research on closure primarily focused on negative experiences (negative emotions and choice regret). It is hypothesized that physical acts of closure should also happen for positive-valenced experiences. To test these hypotheses, the physical closure manipulation that Li and colleagues (2010) used to reduce the accessibility of emotions in memory was adapted. In their research, participants were first exposed to an emotionally laden stimulus (e.g. reading a sad story or describing their own regretted behaviors) and then were randomly assigned to either a closure condition or a control condition. Participants in the closure condition were asked to put the emotional stimulus into an envelope before handing it back to the experimenter. Participants in the control condition were simply asked to return their written descriptions. The researchers found that having participants physically enclose the emotional stimulus in an envelope alleviated participants’ associated negative emotions by increasing feelings of psychological closure. In addition to measuring how negatively participants felt, and more important for the current research, in one study Li and colleagues also tested participants’ recall for the details of the sad story that they had previously read. In support of the notion that acts of closure reduce the accessibility of the information in memory, they found that participants who had enclosed the sad story in an envelope performed worse on the memory test compared to control participants. Based on these findings, I predicted that having participants physically enclose their description of their recent good deeds in an envelope would reduce the accessibility of these actions in memory, preventing participants from accessing them and thus, using them as a “license” when subsequently tempted to act in a self-interested manner.

A preliminary study was conducted to test whether an act of closure, having participants enclose their recalled good deeds in an envelope (Li et al. 2010), would reduce the accessibility of these actions in memory. The effect of physical closure on mental accessibility was tested
using a word completion task (Edwards and Pearce 1994; Anderson, Carnagey, and Eubanks 2003). 111 undergraduates participated in this study. Participants were first randomly assigned to one of two recall tasks (environment-friendly vs. neutral). Half of the participants first described an environment-friendly behavior they had engaged in within the last week that they felt was very beneficial for the environment. Participants assigned to the neutral condition were asked to describe, in detail, the typical day in the life of a bee. Once everyone had finished, the experimenter collected all participants’ booklets (no closure condition) or collected envelopes in which participants placed their booklets (closure condition). Next, participants were presented with 20 word fragments, words with missing letters, and were told that their task was to fill in the blanks to complete each word (e.g. prese__ation, gree__). Ten of the word fragments could be completed either with neutral words (presentation, greet) or with words related to environment-friendly concepts (e.g. preservation, green).

An analysis of variance (ANOVA) of recalled action and closure condition on the accessibility of environmental concepts was run, and a significant main effect of closure emerged (F(3,107) = 4.79, p = .031), such that those individuals with closure completed significantly fewer word fragments with environmental words. In line with the notion that recalling environmental-actions would increase the accessibility of environmental concepts, contrasts revealed that participants who recalled their environmental behaviors completed significantly more word fragments with environmental words (MEnv-Friendly/No-Closure = 3.88, SD = 1.79), as compared to participants who completed the neutral recall task when there was no closure (MNeutral/No-Closure = 2.97, SD = 1.40; F(1,107) = 4.59, p = .034). More critically, consistent with the

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1 Only assignments to the environment friendly recall conditions, with and without closure, were random and contemporaneous; the neutral recall conditions, with and without closure, were run at a later time, although participants were still randomly assigned to them.
hypothesis that closure would reduce the accessibility of these good-deeds in memory, individuals who engaged in an act of closure after recalling their environment-friendly behavior completed significantly fewer word fragments with environmental words compared to individuals with no closure ($M_{\text{Env-Friendly/Closure}} = 2.86, \ SD = 1.38; F(1,107) = 5.58, p = .002$). And notably, they did not significantly differ from controls ($M_{\text{Neutral/Closure}} = 2.68, \ SD = 1.72; F(1,107) = .18, p = .672$). No significant differences emerged in the number of word fragments completed with environmental words for individuals in the neutral recall condition with and without closure ($F(1,107) = .48, p = .488$).

These results demonstrate that individuals who placed their descriptions of recent environment-friendly behavior in an envelope showed evidence of experiencing closure: displaying a lower mental accessibility for environmental words compared to individuals who did not put their descriptions into an envelope. In fact, the accessibility of environmental words for individuals who enclosed their environmental actions did not significantly differ from the accessibility of environmental words for individuals in the control condition, who had not recalled an environment-friendly action at all. These findings support that physical acts of closure reduce the accessibility of one’s recent actions in memory, in much the same way that closure has been found to reduce emotion and choice accessibility.

Taking all this together, I predicted that reducing the *accessibility* of individuals’ good deeds would remove their license to misbehave. More specifically, I hypothesized that having participants enclose their good deeds in an envelope would counteract licensing effects, by reducing how accessible the actions are in memory. The remainder of the paper is organized as follows: Experiment 1 tests whether the proposed closure intervention can effectively reduce consumers’ intentions to subsequently license their self-interested behavior. Experiments 2 and
3 replicate and extend these findings by measuring participants’ *actual* prosocial and immoral behaviors. Additionally, Experiment 2 tests whether these findings are restricted to licensing effects – the focus of this research – or whether they extend to individuals’ compensation behavior – doing a good deed after having done a bad one. Finally, Experiment 3 examines a novel moderator of the effect: how special participants’ initial acts are to them.

**Experiment 1**

The purpose of Experiment 1 was to provide initial evidence for the proposed intervention aimed at countering moral licensing behavior. In particular, the hypothesis that having individuals enclose descriptions of their recent good behaviors (i.e. environmental acts) would reduce their licensing intentions was tested. It was predicted that, after recalling their good deeds, individuals would feel more licensed to engage in immoral actions for personal gain, and thus would indicate higher immoral intentions. However, once individuals experience closure towards their good deeds, it was hypothesized that they would no longer license themselves to act immorally, and hence would express lower immoral intentions. Furthermore, since closure reduces the accessibility of their behavior, it was predicted that inducing closure in this experimental setting should make individuals act almost as though they had not recalled their good behavior in the first place. Therefore, Experiment 1 sought to confirm that closure is bringing participants back to the neutral ‘baseline’. Finally, it was hypothesized that when there is no good deed present, as in the control condition, the act of closure itself should have no effect on individuals’ immoral intentions. Only when individuals have recalled or engaged in a good deed should closure have an impact on their licensing behavior.
Design and Procedure

A total of 123 undergraduate students (83 women, Mean Age = 20.08 years, SD = 2.31) participated in this experiment in exchange for $5 payment. Participants were randomly assigned to conditions of a 2 (recalled action: environment-friendly vs. neutral) x 2 (closure: closure vs. no closure) between-participants design. Upon arrival, participants were told that they would be taking part in several unrelated studies over the course of the session. For the ‘first study’ all participants were given a questionnaire booklet with no identifying information on the outside, to induce feelings of anonymity. Within the questionnaire booklet, participants in the environment-friendly condition were asked to describe, in detail, an environment-friendly behavior that they had engaged in within the last week which was very beneficial for the environment, and also to think about how it made them feel when they engaged in that behavior. Participants assigned to the neutral condition were asked to describe, in detail, the typical day in the life of a bee. For participants assigned to the closure condition, they were also given an envelope with their questionnaire booklet, and were instructed to place the booklet in the envelope when they were finished with the study. Once everyone had finished, the experimenter collected all participants’ booklets (no closure condition) or the envelopes in which participants had placed their booklets (closure condition). Next, in order to reduce the risk of demand artifacts that could arise from measuring participants’ licensing behaviors immediately following the recall task, participants completed a short filler task (approximately 5 minutes) disguised as a

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2 Only assignment to the environment friendly recall conditions, with and without closure, were random and contemporaneous; the neutral recall conditions, with and without closure, were run at a later time, although participants were still randomly assigned to them.
cognitive attention study in which they were asked to circle the letter “e” every time it appeared in a short paragraph of Latin text.

In the third ostensibly unrelated survey, participants’ intentions (from 1 = “not at all likely” to 7 = “very likely”) to engage in various immoral behaviors for personal gain were measured (adapted from Stets and Carter 2011; see Appendix A). Given that many of these items were overtly immoral behaviors (e.g., “You have the opportunity to take an item (e.g. merchandise, money) that does not belong to you. How likely are you to do it?” or “You have the opportunity to copy another student’s answers during an exam. How likely are you do it?”), participants were expected to report relatively low intentions to engage in these actions. The answers to the eight scenarios were aggregated to form an immoral behavioral intentions scale ($\alpha = .61$).

**Results and Discussion**

Four participants were excluded because they failed to follow the experimental instructions (i.e. they did not write about their own environmental actions), leaving a total of 119 participants. The main pattern of results is unaffected by removing these participants. An analysis of variance (ANOVA) of closure condition on participants’ immoral behavioral intentions revealed the predicted interaction between closure and recalled action ($F(1, 118) = 6.43$, $p = .013$).

In line with previous research on licensing, participants who recalled their environment-friendly actions expressed significantly higher intentions to engage in immoral behaviors ($M_{\text{Env-Friendly/No-Closure}} = 2.52$, $SD = .87$) compared to participants who recalled their neutral actions task
when there was no closure (\(M_{\text{Neutral/No-Closure}} = 2.08, \ SD = .79; F(1,115) = 5.14, p = .025\)).

Critically, in support of the hypothesis that closure would counteract moral licensing effects, after recalling their environment-friendly actions, individuals who engaged in an act of closure expressed significantly lower immoral intentions ((\(M_{\text{Env-Friendly/Closure}} = 2.03, \ SD = .56\)) than those without closure (\(F(1,115) = 6.73, p = .011\)). In fact, no significant differences were found in the immoral intentions of the participants who recalled their environment-friendly behaviors and the neutral recall participants (\(M_{\text{Neutral/Closure}} = 2.27, \ SD = .75; F(1,115) =1.71 , p = .193\)). These data suggest that closure is bringing participants back to a neutral baseline.

Also, as hypothesized, contrasts revealed that there was no significant difference in the immoral intentions for neutral recall-participants with or without closure (\(F(1,115) = 1.02, p = .310\)). In other words, when there is no good deed accessible, physically enclosing ones’ description in an envelope has no impact on subsequent immoral intentions.

The results of Experiment 1 provide initial support for the hypothesis that closure following a good behavior will counteract its licensing effect. After recalling their previous environmental behaviors, individuals expressed significantly higher immoral intentions. However, once participants enclosed their described environment-friendly behaviors in an envelope, they reported significantly lower intentions of engaging in immoral behaviors. In fact, inducing closure brought participants back to neutral baseline, such that they no longer behaved differently from controls. In addition, closure had no effect in situations where a good deed was not present, as there was no difference in the immoral intentions for those who recalled their neutral behaviors with and without closure. Closure only impacts behavior in so much as it reduces the accessibility of that initial good deed. One limitation of Experiment 1 is that only behavioral intentions were measured rather than testing the effect of closure on real behavior.
Therefore, Experiment 2 seeks to replicate and extend these findings while observing effects on real behavior.

**Experiment 2**

Experiment 2 sought to replicate and extend these findings on several dimensions. First, in order to provide external validity to these findings, participants’ actual behavior was measured, as opposed to just their behavioral intentions. Second, in order to extend the generalizability of these findings, the effects of closure were tested on individuals’ subsequent good (prosocial), rather than bad (immoral) behavior. Third, moral licensing is only one side of the moral regulation coin and it is important to extend the findings to the other side of the coin: moral compensation. Specifically, research on moral regulation has shown that when individuals engage in bad actions that lower their moral self-concept, they are subsequently more likely to engage in compensatory behavior to re-establish a positive self-concept (Jordan et al. 2011). In Experiment 2, I sought to test whether closure, which reduces the accessibility of one’s previous deeds in memory, would also counteract these compensation behaviors. And finally, some papers examining moral regulation effects only compare the actions of those who engaged in good deeds to those who engaged in bad deeds (e.g. Conway & Peetz 2012). In doing so, it makes it difficult to discern whether one is observing licensing or compensation effects. Notably, I compare participants who recalled their good and bad deeds to participants who recalled neutral actions (control), in order to provide more conservative tests of moral licensing and compensation effects respectively. Therefore, Experiment 2 tested whether closure
following an initially good or bad act would attenuate individuals’ moral licensing and compensating behaviors, respectively.

Finally, I sought to examine whether these effects were being driven by mood. Some previous research has suggested that engaging in good deeds did not affect participants’ subsequent mood, and more critically, mood did not predict moral licensing effects (Khan and Dhar 2006). However, given that closure can have effects on mood (Li et al. 2010), I wanted to test whether mood effects were present. Therefore, mood and arousal measures were added in this study.

**Design and Procedure**

A total of 203 undergraduates (118 women, Mean Age = 20.18 years, SD = 2.45) participated in this experiment in exchange for course credit. Participants were randomly assigned to conditions of a 3 (recalled action: environment-friendly, environment-unfriendly, vs. neutral) x 2 (closure: closure vs. no closure) between-participants design. As in the previous studies, upon arrival, participants were told that they would be taking part in several unrelated studies over the course of the session. For their first study, all participants completed a recall task. In addition to the environment-friendly and neutral recall conditions from Experiment 1, an environment-unfriendly recall condition was added. Participants assigned to the environment-unfriendly condition were asked to describe, in detail, an environment-unfriendly behavior they had engaged in within the last week that was very harmful for the environment, and also to think about how it made them feel when they engaged in that behavior. As in the previous experiments, following the recall task, the experimenter collected participants’ booklets (no
closure condition) or the envelopes in which participants placed their booklets (closure condition). Participants then completed the same neutral filler task from the previous experiment. Participants then reported their mood on four scales (from -8: “bad”, “disappointed”, “sad”, “displeased” to +8: “good”, “satisfied”, “happy”, “pleased” respectively; $\alpha = .89$) and their arousal on four scales (from -8: “calm”, “tired”, “down”, “sedated” to +8: “excited”, “energetic”, “elated”, “aroused” respectively; $\alpha = .78$).

Finally, participants were given their last, and ostensibly unrelated task. They were informed that the purpose of this last study was to obtain their evaluation of the website www.freerice.com. Before visiting the website, participants were given a description of Freerice.com, which is a web site that donates 10 grains of rice to help fight world hunger for every multiple-choice question an individual answers correctly.\(^3\) If an individual answers a question incorrectly, the correct answer is displayed, and the question is repeated within three turns. Participants were then instructed to test the website for as long as they wanted, as the time they spend gave them the experience they needed to evaluate the website and, at the same time, for each question they answered correctly 10 grains of rice would be donated to help fight world hunger. This provided a trade-off for participants between earning more rice donations (doing good for others) and finishing the task earlier and concluding the experimental session (self-interest). The amount of rice donated served as the main dependent variable.

\[^3\] Advertisements presented on the web site following correct questions pay for these rice donations.
Results and Discussion

Three participants were excluded because they failed to follow the experimental instructions (i.e. they did not write about their own environmental actions), leaving a total of 200 participants. The main pattern of results is unaffected by removing these participants.

Mood and Arousal

Separate two-way ANOVAs revealed that there were no significant effects of recalled action and closure on participants’ self-reported mood (F(3, 134)= .35, p = .793) and arousal (F(3, 134)= .16, p = .923) across environmental recall conditions. Consistent with previous research on moral regulation, participants’ recalled actions had no subsequent effect on their mood.

Donation Behavior

A two-way ANOVA with the amount of rice donated as the dependent variable and recalled action and closure conditions as the independent variables revealed the significant predicted interaction (F(2,194) = 5.71, p = .004). In line with the prediction and the findings from the previous study that when no good or bad deed is accessible closure has no impact on subsequent prosocial behavior, contrasts revealed that no significant differences were found in the amount of rice donated for those in the neutral condition with closure (M_{Neutral/Closure} =
359.12, SD = 229.30) or without closure (M_{Neutral/No-Closure} = 381.94, SD = 241.39; F(1,194) = .12, 
p = .727).

Contrasts revealed the standard moral regulation effects for participants without closure. Licensing behavior was observed when there was no closure, such that individuals who recalled their positive, environment-friendly behaviors (M_{Env-Friendly/No-Closure} = 275.45, SD = 206.58) subsequently donated significantly less, compared to the neutral recall-participants (F(1,194)=2.86, p_{1-tailed} = .046), and significantly less compared to participants who recalled their environment-unfriendly behaviors (M_{Env-Unfriendly/No-Closure} = 453.24, SD = 319.12, F(1,194) = 7.65, p = .006). In line with compensation, participants who recalled their negative environment-unfriendly behaviors donated marginally more than the neutral recall-participants (F(1,194)=2.18, p_{1-tailed} = .071).

Critically, in support of the hypothesis that closure would counteract moral regulation effects, for those with closure, no significant differences in the amount of rice donated between the participants who recalled their environment-friendly behaviors (M_{Env-Friendly/Closure} = 444.29, SD = 342.67) and the neutral recall participants were found (F(1,194) = .92, p = .337). Similarly, no significant difference between participants with closure who recalled their environment-unfriendly behaviors (M_{Env-Unfriendly/Closure} = 316.06, SD = 193.94) and the neutral recall participants were found (F(1,194) = 1.00, p = .318). These data replicate the previous finding that closure is bringing participants back to a neutral baseline.
Together, the results of Experiment 2 replicate my previous findings and provide additional evidence that physically enclosing one’s description of a good deed one has done can truly counteract moral licensing effects. When there is no closure, individuals who recalled their positive environment-friendly behaviors subsequently licensed themselves to donate less than those in the control condition. Critically, this intervention was once again successful in removing these effects; once individuals enclosed their environmental-behaviors in an envelope, they donated no differently than participants who recalled a neutral behavior. Therefore, inducing closure brought participants back to neutral baseline, such that they no longer behaved differently from controls.

In addition to replicating the previous findings, Experiment 2 extends them by 1) demonstrating the effects in a new domain (prosocial actions/donating behavior), 2) demonstrating the effects on participants’ real behavior (not only intentions), 3) suggesting that closure effects were not driven by changes in participants affective reactions, and finally 4) by including a negative behavior-recall condition to demonstrate that closure counteracts moral compensation as well. Consistent with previous studies on compensation, when there was no closure, individuals who recalled their negative environment-unfriendly behaviors donated more than participants in the control condition. However, once individuals enclosed their behaviors in an envelope, they behaved no differently than participants who recalled a neutral behavior, again bringing participants back to neutral baseline. Although some studies on moral regulation compare participants who recalled their good deeds to those who recalled their bad deeds (e.g. Conway & Peetz 2012), in order to provide a more conservative test of moral licensing and compensation effects, I compared participants who recalled their good and bad deeds to participants who recalled neutral actions (control).
Thus far it has been demonstrated that by having individuals engage in an act of closure, which can reduce the accessibility of an individual’s good deeds in memory, one can counteract moral regulation effects. In addition to the accessibility of a good deed, the proposed model predicts that in order for a good deed to serve as a moral license it needs to be out of the ordinary in order to give an individual the license to misbehave. The purpose of Experiment 3, in addition to providing further support for the closure intervention, is to explore a novel moderator of the licensing effect: how special participants’ initial acts feel to them. If, when individuals are tempted to misbehave, the action is seen as nothing special, it is hypothesized that we will no longer observe licensing effects. By examining the moderating effect of specialness, this research also seeks to develop a better understanding of what drives moral licensing and better predict when it will occur.

**Experiment 3**

The purpose of Experiment 3 was threefold. First, it sought to replicate the previous results in the context of a different licensing induction: having participants recall their previous selfless behaviors, which were defined as helping another person or people without benefiting themselves. Second, it extends the findings by measuring participants’ actual licensing behavior in a new and immoral domain: cheating. Third, and most importantly, it provides additional support for the critical role that both accessibility and specialness play in the licensing process. I proposed that for a behavior to serve as a license it not only has to be easily accessible in memory but it also has to be out of the ordinary. Therefore in this study I examine a moderator of the licensing effect: how special one finds one’s good deeds. I propose that individuals will
be more likely to exhibit licensing effects in situations when they feel that their objectively good behavior was something special.

Although no research has examined how individuals’ subjective views of their good deeds will influence their likelihood of showing licensing effects, there is some support in the literature for the notion that the ‘goodness’ of a deed itself is important for driving subsequent licensing behavior. Specifically, researchers found a significant correlation between how immoral participants’ initial behaviors were, as rated by independent coders, and participants’ subsequent compensation behavior (Jordan et al. 2011). To put it another way, the less ‘moral’ an initial behavior was, the more they would subsequently compensate for it. To see if a similar pattern of results was evident in the previous study, I had two independent coders rate the “goodness” of the environmentally-friendly descriptions provided by participants in Experiment 2. Coders were given the following scale to rate the scenarios: how good or bad in general do you, the coder, evaluate the action described by the participant to be (7-point scale from -3: “very bad”, +3: “very good”; inter-coder reliability (α = .82). Replicating Jordan’s results, when there was no closure a significant negative correlation ($r(32) = .55, \beta = -204.5, p = .001$) between coder’s “goodness” ratings of participants’ behaviors and participants’ donations was found. In other words, the better a participants’ behavior was perceived to be, the more participants licensed themselves (i.e. the less they donated).

A limitation of these findings was that they did not examine participants’ perceptions of their own behaviors. They provide evidence that as behaviors become objectively more “good”, as rated by outside observers, individuals are more likely to license themselves. However, my

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4 Although the same directional pattern emerged for environmentally-unfriendly behaviors recalled with no closure, this effect was not significant ($r(29) = .04, \beta = -20.9, p = .83$).
model suggests that it is not just how good one’s behavior is objectively, but how special individual’s behavior feels to them, subjectively, that affects their likelihood to grant themselves moral license. Another point of note is that in all of my previous experiments, participants were explicitly instructed to recall behaviors that were ‘very beneficial’ or ‘very harmful’ for the environment. This presumably could cause everyone to try to recall actions that they felt were special for the environment, and hence drive licensing behavior.

To address these limitations and better support my prediction that the specialness of one’s behavior is a necessary condition to cause licensing behavior, in Experiment 3, participants rated how special their behavior felt to them. And in addition, participants were no longer instructed to list actions that were ‘very beneficial’, which may have biased them previously to recall behaviors that were more special. This allows me to test whether the specialness of one’s behavior, as experienced by the individual themselves, moderates their likelihood to show licensing behavior.

**Design and Procedure**

A total of 196 undergraduates (141 women, Mean Age = 19.55 years, SD = 1.62) participated in this experiment in exchange for course credit. Participants were randomly assigned to one of three conditions (selfless no-closure vs. selfless closure vs. neutral closure). Participants were instructed that they would be taking part in several unrelated studies over the course of the session. For the first study, participants were asked to describe a selfless behavior they had engaged in within the last week, which helped another person or people without benefiting themselves in any way, and also to think about how it made them feel when they
engaged in that behavior. Participants in the neutral condition (control) were asked to describe a
day in the life of a bee. Once everyone had finished, the experimenter collected participants’
booklets (no closure condition) or the envelopes in which participants placed their booklets
(closure conditions). Participants then completed the filler task from the previous experiments.
After the filler task, participants were asked to think back to the selfless behavior they had
described and rate how they felt about their previous behavior. Specifically, they were asked to
rate their recalled behavior on three dimensions using 7-point scales: how difficult it was to
recall the behavior (from 1:“not at all difficult” to 7:“very difficult”), how close the individual
they helped was to them (from 1:“not at all close” to 7:“very close”) and how special the action
felt to the participant (from 1:“not at all special” to 7:“very special”). It was hypothesized that
specialness would not differ across closure conditions, but would moderate individuals’
likelihood to show licensing effects.

Finally, as an ostensibly unrelated study, participants completed a modified version of the
matrix cheating-task (Mazar, Amir and Ariely 2008). For this task, participants are given a test
sheet with 20 matrices, each composed of 12 three-digit numbers (e.g. 1.69, 4.81, 5.19…), as
well as an answer sheet. Participants are instructed that their task is to solve as many of the
matrices as they can by finding two numbers in each matrix that sum to 10. Participants were
given 3 minutes to solve as many of the matrices as they could, and were informed that they
would earn $0.25 for each correctly solved matrix. After the 3 minutes, participants were
instructed to report the total number of solved matrices on the answer sheet, to throw away their
test sheets, and hand in their answer sheets only to the experimenter for payment. Unbeknownst
to the participants, one number on the test sheet matched their session id number, so the
individual test sheets could be matched with their answer sheets. Whether or not participants
overstated their performance on the matrix was the main dependent variable.
Results and Discussion

Recalled Action

In order to ensure that the closure effects were not being driven by differences in the types of behaviors that participants were recalling, participants’ perceptions of their behaviors were measured on three dimensions. Critically, for participants who recalled their selfless behaviors, those with and without closure did not differ in how difficult it was to recall their behavior ($M_{\text{Selfless/Closure}} = 3.48, SD = .23; M_{\text{Selfless/No Closure}} = 3.53, SD = .22; F(1,129) = .02, p = .886$), how close they felt to the person whom they helped ($M_{\text{Selfless/Closure}} = 3.44, SD = .30; M_{\text{Selfless/No Closure}} = 3.89, SD = .28; F(1,129) = 1.22, p = .271$), nor how special their action felt ($M_{\text{Selfless/Closure}} = 4.08, SD = .21; M_{\text{Selfless/No Closure}} = 4.26, SD = .20, p = .540$). In other words, the selfless behaviors recalled were essentially equivalent on these dimensions for those with and without closure.

Cheating Behavior

In order to examine the differences in participants’ likelihood of cheating across our three conditions (Selfless-No Closure, Selfless-Closure, and Control-Closure) a binary logistic regression was run ($\chi^2(2) = 4.60, p = .100$).\(^5\) In the control condition, 31.8\% of participants cheated.

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\(^5\) Although the pattern of results for the amount of cheating was in the same direction, there were no significant differences in the mean amounts that participants cheated across conditions.
cheated for higher pay by overstating their true performance on the matrix task. In line with the
standard licensing effect, participants who recalled their selfless actions were significantly more
likely to cheat (50%; $\chi^2 (1, N = 196) = 4.45, p = .035$) than those in the control condition if there
was no closure. Critically, once participants enclosed their selfless behaviors in an envelope, is
as though they returned to a neutral baseline (what they would have done if they had not recalled
a good deed at all) and were no more likely to cheat than participants in the control condition
(39.1%; $\chi^2 (1, N = 196) = .74, p = .388$).

Next, in order to examine the moderating effect of specialness on likelihood of cheating,
a binary logistic regression was run with whether or not participants cheated as the dependent
variable and with closure, specialness, and their interaction as independent variables$^6$. As
predicted, a significant interaction between closure and specialness emerged ($\beta = -.72, \chi^2 (1, N =
130) = 3.82, p = .047$). Spotlight analyses (Aiken and West 1991) at one standard deviation
above and below the mean of specialness showed that for behaviors viewed as more special, the
results were consistent with the previous studies (see Figure 2). That is, when there was no
closure, individuals were significantly more likely to cheat following their special behavior
(60.2%), and closure significantly counteracted this effect (32.2%; $\beta = .28, t(127) = 2.21 , p =
.029$; likelihood of individuals cheating in the control condition: 31.8%). On the other hand,
when individuals’ rated their behaviors as less special, participants with closure (45.2%) and
without closure (38.6%) did not differ in their likelihood to cheat ($\beta = -.07, t(127) = .52, p =
.602$).

$^6$ Participants in the control condition were not asked to rate the specialness of their neutral action, and therefore
were not included in the moderation analyses.
Finally, thus far I have assumed that specialness and accessibility represent distinct aspects of an individual’s good deed. One might argue, however, that a special deed, because of its uniqueness, may be more highly accessible in memory. In order to examine whether individuals’ special deeds were more highly accessible, I examined the relationship between how easy it was for individuals to recall their actions and the actions’ specialness. No significant correlation emerged (p = .62). In other words, I find no evidence for a relationship between specialness and accessibility in my current study. These two constructs appear to some degree to represent distinct aspects of the good deed.

Together, these results provide additional evidence for the hypothesis that physical closure can counteract the licensing effect. In addition, Experiment 3 extends these results by inducing licensing in a new domain (prosocial actions) and measuring participants’ actual immoral behavior (likelihood of cheating). Most importantly, a new insight on a moderator of the licensing effect was found: actor-perceived specialness of the behavior. Specifically, I showed that only when individuals perceive that their objectively good behavior is special they will engage in licensing behavior. When participants felt that their objectively good behavior was less special, they showed no evidence of licensing behavior, suggesting that individuals’ good deed needs to be out of the ordinary in order for them to license themselves. And finally, physical closure was found to have an impact only in the very situations in which licensing is likely to occur. Therefore, when individuals did not perceive their good behavior to be special, closure had no influence on their likelihood to cheat. Conversely, when their behavior felt more
special to them, individuals were significantly more likely to cheat without closure than with closure.

**General Discussion**

Moral licensing effects are robust and pervasive, with a number of studies across disciplines showing evidence of individuals’ licensing behaviors (see Miller & Effron, 2010, for a review). In spite of the prevalence of these effects, our understanding of these effects is still rather limited and research has yet to determine how to counteract them. This research is the first to develop and test an intervention designed to counteract licensing in the very situations in which it is most likely to occur. Across three experiments I demonstrate that having participants engage in a physical act of closure – enclosing a written recall of their good deeds within an envelope – counteracts their licensing behavior. My intervention targets what I propose is a critical but often overlooked condition for moral licensing to occur: the *accessibility* of one’s previous good deeds. Furthermore, this research contributes to our understanding of moral licensing by examining a novel moderator of the licensing effect, the actor-perceived specialness of one’s good deed. I present evidence that these two constructs (accessibility and specialness) represent distinct aspects of the good deed, each of which is necessary for licensing behavior to occur.

Experiment 1 demonstrated that implementing closure effectively reduced consumers’ *intentions* to subsequently license more self-interested immoral behaviors. Experiments 2 and 3 replicated and extended these findings by measuring participants’ *actual* prosocial (donations) and immoral (cheating) *behaviors*. Additionally, Experiment 2 demonstrated that closure
counteracted both individuals’ licensing as well as individuals’ compensation behaviors by comparing them to individuals in a neutral control condition. Finally, Experiment 3 presented a novel moderator of the licensing effect: how special participants’ initial acts are to them. Together these findings contribute to both the moral licensing literature and to the closure literature.

Contributions and Future Research

This paper adds to the growing literature on moral licensing by highlighting the role that both accessibility and specialness play in driving licensing effects. For example implementing closure, in order to reduce the accessibility of one’s good deeds, counteracted subsequent licensing behavior. In addition, behaviors judged to be less special did not produce licensing effects. The findings from this research provide initial support for the idea that the ease with which relevant good deeds come to mind can predict subsequent licensing behavior.

This paper is the first to develop and test an intervention that counteracts licensing behavior in the very situations in which it is most likely to occur. Implementing closure, in order to make one’s previous good deeds less accessible, effectively removes individuals’ licensing behavior. Right after an individual engages in a good deed or recalls engaging in a good deed, these actions are most readily accessible in memory. Subsequently, when that individual is tempted to act in a self-interested manner, these highly accessible good deeds provide license to behave more selfishly. The focal point of this intervention was this accessibility of the previous good deeds in memory. Implementing closure after individuals recalled their good deeds reduced the accessibility of these actions. For example, in my pre-study I found that individuals
who enclosed descriptions of their environmental good deeds demonstrated less mental accessibility for environmental concepts compared to those without closure. Extending this logic, I would predict that any intervention that makes one’s good deeds more accessible, such as drawing attention to these deeds, or asking individuals to recall them, would exacerbate the effect.

Furthermore, this research contributes to our understanding of moral licensing by demonstrating that the actor-perceived specialness of a good deed can significantly moderate the licensing effect. To date, research has presumed that all objectively good deeds are likely to lead to licensing behavior. In this paper, it is shown that only when individuals identify their good deed as special will they engage in licensing behavior. If, on the other hand, individuals view their objectively good deed as something more ordinary or neutral, these deeds no longer license them to engage in self-interested actions. This supports the idea that the propensity to license oneself is a function of how one construes one’s actions. Future research should explore the malleability of these construals. By making good deeds seem more like the norm (as opposed to something special), we may be able to prevent licensing effects. In addition it would be important to examine individuals’ chronic tendencies to construe actions in one way or another, as a source of heterogeneity.

Licensing has been found to occur across a variety of behavioral domains. Therefore, in my experiments I manipulated and measured moral licensing in a number of different domains. To induce licensing, participants were asked to recall their good deeds by describing their previous environmental behaviors (Experiment 1 and 2) or their previous prosocial actions (Experiment 3) relative to individuals who were not asked to recall their good deeds. Participants’ subsequent immoral intentions (Experiment 1), actual prosocial behavior
(Experiment 2), as well as their actual immoral (cheating) behavior (Experiment 3) were measured. Across these different unrelated behavioral domains I found that with no closure, individuals who recalled their previous good deeds are subsequently more likely to license themselves and act in a self-interested manner, whereas individuals who have engaged in a physical act of closure following their good deeds no longer act more selfishly.

An additional contribution of this research to the moral regulation literature is that it examined the effects of physical closure on individuals’ compensation behavior. Implementing closure not only counteracted individuals’ propensity to show licensing behavior, but also removed their likelihood to compensate for their negative actions. Thus, to the extent that one seeks to encourage good deeds, one should exercise caution to not increase closure toward individuals’ bad deeds. Naturally, individuals would want to compensate for their bad deeds, so in this case it would be better to increase the accessibility of the bad deed, rather than applying closure which decreases the accessibility.

These findings also contribute to the literature on closure. My research shows that physical acts of closure, which have previously been shown to reduce the accessibility of emotions in memory, and the accessibility of choice options in memory, also reduce the accessibility of one’s previous actions in memory. In addition, I find that this effect occurred for positively-valenced actions whereas the majority of the literature on closure has focused on negative emotions and negative choice comparisons. That is, after recalling their recent environment-friendly actions, individuals who placed the descriptions of their behavior in an envelope displayed a lower mental accessibility for environmental words compared to individuals that did not put their descriptions into an envelope. This finding is important as it shows that physical acts of closure can reduce the accessibility of one’s actions in memory, even
positive actions, in turn influencing the likelihood that these actions will guide subsequent behaviors.

One question that arises from the current research is whether closure is actually preventing individuals from recalling their good deed, reducing how well the good deed is recalled, or having its effects by reducing the emotions generated from recall. It is possible that closure is acting on any one of these mechanisms. Subsequent research should try to tease apart these alternative mechanisms, as doing so would shed more light on what is counteracting licensing, and in turn further our understanding of the mechanism driving moral licensing. Developing a better understanding of the drivers of moral licensing behavior better enables us to predict when it will occur and better equips us to counteract its undesirable consequences.

These findings from this research carry some important implications. Given the prevalence of licensing behaviors in the field, developing interventions that can effectively curb this counterproductive tendency is crucial. This research demonstrates that a subtle act of physical closure can have a significant impact on reducing individuals’ likelihood of exhibiting licensing behaviors. In addition to physical acts of closure, other means that reduce the accessibility of one’s behavior in memory should also be effective in counteracting licensing. For example, following an individuals’ good deed, I would predict that making any other unrelated information more salient and top-of-mind would reduce the accessibility of the initial good behavior, and would, in turn, inhibit licensing effects. Future research could examine other and perhaps more practical means of intervention. In addition, this research demonstrates that the way in which one views one’s behavior, especially in terms of specialness, can significantly predict one’s subsequent licensing behavior. Armed with this information, future research may begin to explore the malleability as well as chronic tendencies of how individuals construe their
actions. Causing one’s actions to appear more or less special could have a significant impact on their likelihood to subsequently license themselves. These findings carry important implications, as I believe they can help guide the design of small yet powerful interventions to improve individuals’ everyday behaviors in situations that carry the risk for undesirable licensing effects.

Given the increasing interest of consumers and corporations to engage in prosocial, environmental, and ethical actions, it is important that these efforts be as impactful as possible. In order for these efforts to make a significant difference, it is critical that individuals do not counteract the progress they make in one domain by subsequently licensing themselves in another. Therefore, understanding the drivers of licensing behaviors and developing and testing interventions aimed at counteracting licensing behaviors is critically important. This research takes a first step at addressing this issue, by not only showing that the accessibility of individuals’ good deeds may be a necessary component in the licensing process, but also that a physical act of closure, individuals enclosing their good deeds in an envelope, can effectively remove those individuals’ license to misbehave.
Essay 2: Examining Self-Concept as a Mediator of Licensing Effects

Recent research on moral regulation suggests that when individuals feel they have done something positive, this in turn grants them ‘license’ to engage in more self-interested, immoral or asocial behaviors that would have discredited the individual otherwise (Monin and Jordan 2009). These dynamics appear robust and pervasive; as a number of studies in marketing, organizational behavior, psychology, and energy policy have found evidence of individuals’ licensing behavior (see Miller and Effron 2010, for a review). For example, individuals who purchased items from a ‘green’ store were more likely to cheat on a subsequent task and steal money from the experimenter as compared to individuals who purchased items from a conventional store (Mazar and Zhong 2010). In field studies, it was found that after purchasing environment-friendly products, such as high-efficiency washing machines (Davis 2008) or more economical cars (Ohta and Fujii 2009), individuals then licensed themselves to use these products more (e.g., doing more loads of laundry and increasing their driving). Across a number of domains of human behavior a similar regulatory pattern emerges: after engaging in an initial positive behavior individuals license themselves to subsequently engage in more self-serving behavior.

In spite of the fact that the licensing effect has been well established in the literature, our understanding of what causes these effects and our ability to predict when licensing behavior will occur is still rather limited. The majority of research examining licensing behavior thus far has primarily focused on establishing and demonstrating the phenomena itself. Only a small subset of studies on moral regulation have begun to explore the mechanism, and therefore what we
know about the licensing process is still rather limited. In order to better understand this effect, the purpose of this research is to more carefully examine the currently accepted driver of the licensing effect: changes in individuals’ self-concept. By exploring the relationship between individuals’ self-concept and their licensing behaviors, both theoretically as well as empirically, this paper seeks to advance our understanding of the licensing effect.

In the next section, I provide a brief review of the literature on licensing and self-concept. Then, across three studies, I empirically examine this relationship using each of the previously established self-concept measures that have been shown to mediate licensing effects. Finally, I conclude with a discussion of the contributions of this research, as well as next steps.

Theoretical Background

Licensing effects have been found to occur across a variety of behavioral domains including moral, health, environmental and prosocial domains (Monin and Miller 2001; Chiou, Yang, and Wan 2011; Sachdeva, Ilieve, and Medin 2009). These effects have been found to occur not only within each of these behavioral domains, but research also has found that licensing can occur across different, unrelated behavioral domains. For example, after participants imagined engaging in prosocial behaviors, they subsequently licensed themselves in an unrelated domain by indulging in luxury products over necessities (Khan and Dhar 2006).

The fact that individuals show licensing behaviors both within and across a number of different domains raises the question of why individuals engage in these moral regulation behaviors in the first place. The literature argues that licensing effects are mediated by changes
in individuals’ self-concept (Jordan, Mullen, and Murninghan 2011; Khan and Dhar 2006; see Figure 3). When individuals feel they have done a good deed, this boosts their self-concept and grants them ‘license’ to engage in more self-interested, immoral or asocial behaviors that otherwise would have discredited the individual. Conversely, when individuals behave in a way that lowers their moral self-concept, they are subsequently more likely to engage in compensatory behavior to re-establish a positive self-concept (Jordan et al. 2011).

In other words, individuals are not necessarily striving for moral perfection, but rather trying to maintain a reasonable level of moral self-concept (Nisan 1991). For the purposes of this research moral self-concept is defined as an individual’s perception of his or her degree of morality. To date, moral self-concept is the primary mechanism that has been put forth to explain licensing effects. Although self-concept has been shown to mediate the licensing effect, the empirical support for this mediation effect is both infrequent and rather inconsistent. Next, I carefully review the literature on self-concept in the context of licensing.

Self-Concept and Licensing

Self-concept can be conceptualized in a number of different ways, but is generally thought of as an individual’s perception of who they are. One’s self-concept is comprised of multiple facets including but not limited to one’s self-image and one’s ideal self (Markus and
Wurf 1987). Self-image concerns how one defines oneself, which includes their traits (e.g. generous), roles (e.g. student), and physical descriptions (e.g. tall). And one’s ideal self is who one would ideally like to be. An individual’s self-concept contains representations that are both central to their view of who they are, as well as representations that are more peripheral. In addition to being multifaceted, the self-concept is considered to be active and dynamic, and therefore is often considered in terms of an individual’s accessible self-concept, which contains the subset of representations that are accessible at a given moment (Markus and Wurf 1987).

In order for an individual’s self-concept to mediate their licensing behavior, it must be conceptualized in a relatively abstract and general manner. This is because licensing effects occur both within as well as across a variety of different domains of behavior. In addition, the self-concept needs to reflect representations of the individual that are important to them, such that they would feel that they earned license to subsequently act in a more self interested manner. For the purposes of this research moral self-concept is defined as an individual’s perception of his or her degree of morality at a given moment.

There is a considerable amount of research that supports the notion that the self-concept may be an important driving force in the licensing process. For example, research has shown that individuals only show licensing behaviors after having engaged in a good deed themselves. If individuals think of other people’s moral behavior, as opposed to their own moral behaviors (Sachdeva et al. 2009), or if rather than purchasing environmental products, they were simply exposed to them (Mazar and Zhong 2010), they do not subsequently license themselves. Similarly, if people attributed the reason for their actions to an external source (Khan and Dhar 2006), they no longer showed licensing effects. It is only in situations when individuals
willingly choose to engage in a good deed, that they will exhibit licensing effects. Together this research supports the idea that the self is critically implicated in the licensing process.

Although there is evidence that the self is implicated in the licensing process, very few studies have sought to empirically test the relationship between individuals’ self-concept and their licensing behavior directly. To date, only four individual studies have measured self-concept in the context of licensing (Khan and Dhar 2006, Study 5; Jordan et al. 2011, Study 1; Kouchaki 2011, Study 2; Cornelissen et al. 2013, Study 3). Also, a number of inconsistencies are present across these studies. For example, different items and measures have been used to measure self-concept. Additionally, the time at which self-concept was measured in the licensing process varies across studies. In order to better understand this relationship, I will discuss each of the four studies that have established a link between self-concept and licensing behavior, highlighting any inconsistencies.

Khan and Dhar (2006) were the first to test the self-concept as the underlying process for the licensing effect. In their research, participants were either assigned to imagine themselves doing a virtuous act (e.g. volunteering their time or helping children in a homeless shelter) or were in a control condition (completed a neutral scrambled sentence task). Subsequently, participants were given a hypothetical choice between a luxury product (e.g. designer jeans) and a necessity (e.g. vacuum cleaner). They demonstrated that those who had imaged themselves doing a virtuous act were significantly more likely to indulge in the luxury product compared to those in the control condition. Self-concept was tested as a mediator of the licensing effect in only one of their five studies. After recalling their virtuous act or completing the control questionnaire, participants completed a short filler task. Next, participants’ self-concept was measured by collecting their self-assessments on four personality traits. More specifically they
were asked to rate their agreement with four statements: I am compassionate, I am sympathetic, I am warm, and I am helpful. The ratings on the four self-assessments were averaged to form a self-concept scale (Cronbach’s $\alpha = .95$). Following a second short filler, participants chose between the luxury product and necessity. The results demonstrated that changes in participants’ self-concept mediated the licensing effect. More specifically, virtuous actions lead to higher self-concept ratings, which predicted subsequent self-interested behavior. Notably, self-concept was measured before individuals had the opportunity to license themselves, and balance out their good and bad deeds.

The second study to test changes in self-concept in the context of moral regulation did so in a very different way. Jordan and colleagues (2011) examined the changes in individuals’ moral self-concepts using the Moral Identity Scale (Aquino & Reed, 2002), which measures the importance individuals place on having and expressing specific moral traits. The moral identity scale is composed of two components – internalization and symbolization. Internalization measures the degree that these moral traits are central to one’s self-concept, while symbolization refers to the degree to which the moral traits are reflected in one’s actions. After reading nine moral adjectives (helpful, honest, caring, hardworking, compassionate, kind, fair, friendly, and generous) participants rated their agreement with a number of internalization and symbolization statements. Sample items included, “It would make me feel good to be a person who has these characteristics” (internal) and “The types of things I do in my spare time (e.g. hobbies) clearly identify me as having these characteristics” (symbolic). Responses to the internal and symbolic items were averaged separately to create measures of internal ($\alpha = .57$) and symbolic moral identity ($\alpha = .80$), respectively. Using this scale to examine moral regulation effects, Jordan and colleagues (2011) proposed that recalling past moral and immoral actions would not alter the value that individuals place on possessing moral traits (internalization) as individuals should
always find it important to have a strong moral self-concept. Rather, they suggested that recalling past moral and immoral actions should affect the degree to which individuals express their morality to others (symbolization).

Self-concept was examined in only one of their three studies (Jordan et al. 2011). In that study, participants were first asked to recall a time when they did something either ethical or unethical in a work setting. Following a short filler task, participants then completed the Moral Identity Scale. In line with their predictions, they found no significant differences in participant’s moral internalization scores across recall conditions. However, participants who recalled their immoral behavior, as compared to their moral behavior, reported significantly higher symbolic moral identities. In other words, those who recalled a bad deed rated that it was very important to them to demonstrate to others that they possess moral traits. In essence, they argued that after recalling their immoral behaviors, individuals bolstered their symbolic moral identity in order to protect their moral self-concept.

This pattern of results is quite different from the results of the previous paper. In Khan and Dhar’s (2006) research, good deeds led to higher self-concept. Conversely, in Jordan and colleagues’ (2011) study they found that recalling bad deeds led to higher self-concept (symbolic moral identity). In addition, no licensing behavior was tested after measuring self-concept. Jordan and colleagues (2011) established licensing effects in their subsequent two studies using a similar ethical recall task as in their first study, but these subsequent studies did not measure self-concept, and as such, mediation was not established in this paper.

The third paper to examine this relationship, directly tested self-concept as a mediator of the licensing effect (Kouchaki 2011). Kouchaki (2011) used the same Moral Identity Scale as the previous paper (Jordan et al. 2011). However, in this paper, only the moral internalization
sub-scale of the Moral Identity Scale was used to measure an individual’s moral self-concept, (Cronbach’s $\alpha = .77$). In her research, Kouchaki (2011) showed that individuals can engage in vicarious licensing through the moral behaviors of others. Once an individual observes their in-group’s members behaving morally (in this case, observing their group members select a Hispanic applicant in a previous task), this grants them license to engage in morally questionable behaviors themselves (giving more discriminatory ratings to the Hispanic applicant). In one of her five studies, Kouchaki (2011) tested whether self-concept mediated these effects, and found that these vicarious licensing effects were mediated by changes in individuals’ moral internalization scores. In other words, when an individual viewed their group acting in a non-discriminatory way, this increased their own internal moral identity, which drove subsequent discriminatory behavior. Again, in this study, self-concept was measured after the good deed and a filler task, and prior to the licensing task (rating the Hispanic applicant).

In comparing these two papers, which used the same Moral Identity Scale in the context of licensing behavior, there are a number of inconsistencies. First, Jordan et al. (2011) found no differences on internalized moral identity following a moral recall task. On the other hand Kouchaki (2011) only used this subscale and found it mediated licensing behavior after observing non-discriminatory behavior. Second, the Jordan et al. (2011) paper found that an unethical action led to increased moral identity. Conversely, Kouchaki (2011) found that positive actions (observing non-prejudiced behavior) increased moral identity, leading to subsequent licensing behavior.

The final paper to test self-concept as a mediator of licensing (Cornelissen et al. 2013) used yet another scale to measure participants’ self-concept, the working self-concept scale (Jordan, Gino, Tenbrunsel, & Leliveld, 2012). This scale, developed by Jordan and colleagues
(2012), is adapted from the Aquino and Reed (2002) Moral Identity Scale used in the previous two papers. It aims to measure changes in individuals’ malleable working self-concepts, which the authors argue can drive licensing behavior, as opposed to that individual’s more stable global self-concept measured in the standard Moral Identity Scale. To assess a participant’s working self-concept, this scale examines the discrepancy of perceived self with the aspired self. Participants are asked to use a 9-point scale (1 = less honest than the person I want to be, 9 = more honest than the person I want to be) to indicate how closely they felt they currently rated compared with the type of person they would like to be on the nine moral traits from the Moral Identity Scale (helpful, honest, caring, hardworking, compassionate, kind, fair, friendly, and generous). The average of these traits was calculated as their working self-concept measure (Cronbach’s α = .68).

In their paper, self-concept was tested as a mediator in one of their three studies (Cornelissen et al. 2013). In this study participants were first asked to recall an act that they had recently engaged in that was either ethical or unethical. Participants then completed a cheating task, and finally, their working self-concept was measured after the cheating task. Consistent with their hypotheses, they found that after recalling their good deeds, individuals were significantly more likely to license themselves and cheat on the subsequent task. In addition, they showed that working self-concept mediated these licensing effects.

In their paper, self-concept was measured after participants had an opportunity to balance themselves out by licensing themselves. It is not immediately clear why, once individuals have had the opportunity to balance themselves out, say by cheating, they would retain a high self-concept from recalling their previous good deeds. Cheating should, in theory, reduce individual’s self-concept. However, these results suggest that self-concept can be measured at any point in
the licensing process and the effects will be observed. In line with Khan and Dhar’s (2006) and Kouchaki’s (2011) findings, Cornelissen and colleagues (2013) found that good deeds led to increased self-concept. However, this paper used a different self-concept measure from all of the previous papers. Self-concept, as conceptualized in their paper, deals with how you currently compare to your ideal self, in a dynamic way. This is quite different from the Moral Identity Scale. Self-concept, as conceptualized by Aquino and Reed’s scale (2002) is thought to be a more stable and enduring trait.

As I have argued, empirical support for self-concept as a mediator of licensing effects is rare and the support that does exist is inconsistent. Only four individual studies, out of the sixteen studies contained in these papers, examined self-concept directly. And critically, across these four papers there was little consistency in the methods used to measure self-concept in the context of licensing. First, different items were measured in these studies. For example, Khan and Dhar (2006) measured self-concept using the following traits: compassionate, sympathetic, warm, and helpful. Two of these traits, compassionate and helpful, were also used in the other papers, (Jordan et al. 2011; Kouchaki 2011; Cornelissen et al. 2013). However, the remaining papers also measured the following traits: honest, caring, hardworking, kind, fair, friendly and generous (Jordan et al. 2011; Kouchaki 2011; Cornelissen et al. 2013). Second, the measure of self-concept itself was different across these studies, tapping into different facets of the self-concept. For example, participants were either asked to 1) rate if they possessed certain traits (Khan and Dhar 2006), 2) rate if it would make them feel good to have those traits (Jordan et al. 2011; Kouchaki 2011), 3) rate if the types of things they do identify them as having those traits (Jordan et al. 2011), or 4) rate how they currently are compared to the type of person they would like to be on each of the traits (Cornelissen et al. 2013). The internal consistency of these measures varied from ($\alpha = .57$) to ($\alpha = .95$). Third, the point-in-time in the licensing process
when self-concept was measured also varied. For example, the majority of the studies measured self-concept before individuals had a chance to license themselves (Khan and Dhar 2006; Jordan et al. 2011; Kouchaki 2011), while Cornelissen and colleagues (2013) measured self-concept after the licensing behavior. Finally, there was even inconsistency in terms of the direction of the relationships between individuals’ deeds and their self-concept in these four studies. While most studies found increased self-concept ratings after a good deed (Khan and Dhar 2006; Kouchaki 2011; Cornelissen et al. 2013), Jordan and colleagues (2011) found increased self-concept ratings following a bad deed.

In sum, clear and consistent support for the self-concept as a mediator of licensing is lacking. The support that exists for this relationship remains tentative at best. In order to better understand this mediation process, the remainder of this paper seeks to empirically test the relationship between individuals’ self-concepts and their licensing behaviors. Across three studies, the relationship between self-concept (measured using each of the aforementioned techniques) and individuals’ licensing behaviors is tested. Study 1 tests this relationship using Khan and Dhar’s (2006) self-concept measures after participants licensing behavior. Study 2 measures self-concept using the Moral Identity Scale before participants licensing behavior, used by both Jordan and colleagues (2011) and Kouchaki (2011). And finally, Study 3 measures self-concept using the working self-concept scale used by Cornelissen (2013) after participants licensing behavior.
Study 1

The purpose of Study 1 was to empirically test self-concept as a mediator of licensing by testing the relationship between individuals’ recalled actions, their self-concept and their subsequent licensing behavior. It was predicted that, after recalling their good deeds, individuals would feel more licensed to engage in self-interested behavior, and thus would be less willing to expend time and energy to help others compared to those who recalled their bad deeds. In Study 1, self-concept was measured using Khan and Dhar’s (2006) four self-assessment measures. We tested whether self-concept would mediate the predicted licensing effects. Since previous research has found that self-concept can still mediate the licensing effect when it is measured after one licenses oneself (Cornelissen et al. 2013), in this study, self-concept was measured after participants’ licensing behavior.

Design and Procedure

Seventy-eight undergraduate students participated in the experiment in exchange for partial course credit. Participants were randomly assigned to one of two recalled action conditions (recalled action: environment-friendly vs. environment-unfriendly). Participants were instructed that they would be taking part in several unrelated studies over the course of the session. For the first study, all participants were given a questionnaire booklet. Within the questionnaire booklet all participants were asked to describe, in detail, an environment-friendly

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7 The data presented in Study 1 was collected as a part of larger research project. A number of conditions irrelevant to the current research question, are beyond the scope of this paper, and have been excluded from these analyses. All of the conditions in which self-concept as a mediator could be tested are included in this paper.
behavior or environment-unfriendly behavior they had engaged in within the last week, and also to think about how it made them feel when they engaged in that behavior. Once everyone had finished, the experimenter collected all participants’ booklets.

Participants were then given an ostensibly unrelated second study. They were instructed that the purpose of the second study was to obtain their evaluation of the website www.freerice.com. Before visiting the website participants were given a description of www.freerice.com, which is a website that poses multiple-choice questions. For every question an individual answers correctly, 10 grains of rice are donated to help fight world hunger (advertisements following correct questions pay for these rice donations). If the individual answers a question incorrectly, the correct answer is displayed, after which the question is repeated three turns later. Participants were then instructed to test the website for as long as they wanted, as the time they spent gave them the experience they needed to evaluate the website and, at the same time, for each question they answered correctly 10 grains of rice would be donated to help fight world hunger. This provided a trade-off for participants between earning more rice donations (doing good for others) and finishing the task earlier (self-interest). The amount of rice donated served as our measure of licensing behavior.

Following the website evaluation, participants rated their self-concept on the four measures used by Khan and Dhar (2006). They were asked to rate the extent to which they agreed or disagreed that they were compassionate, sympathetic, warm, and kind on scales ranging from 1 (strongly disagree) to 7 (strongly agree).
Results and Discussion

Consistent with moral licensing, a significant negative relationship between participants’ recalled actions and their licensing behavior was found (see Figure 4). Participants who recalled their environmentally friendly behavior subsequently donated less rice, as compared to participants who recalled their environmentally unfriendly behaviors ($b = -57.44, t = -2.74, p = .008$). Next, the four self-assessment measures were averaged to form a single self-concept measure ($\alpha = .84$). Using the standard bias-corrected bootstrapping method (Preacher and Hayes 2008), I tested whether the effect of recalled action (environmentally friendly vs. environmentally unfriendly) on licensing behavior (donation) is mediated by changes in self-concept. Recalled action did not lead to significant changes in self-concept ($b = .07, t = .69, p = .495$). And although the effect of self-concept on licensing behavior (b path) was marginally significant ($b = 42.65, t = 1.88, p = .063$), self-concept did not mediate these licensing effects. Contrary to the findings of Kahn and Dhar (2006), the indirect effect of recall on licensing behavior through self-concept was not significant with a confidence interval including zero (n boots$= 5,000, 95\%\) BCa CI[-4.04, 18.68]).\(^8\) In fact, the direct effect of recalled action on licensing behavior (c’ path) after the path through self-concept was accounted for remained statistically significant ($b = -60.50, t = -2.93, p = .005$).

Study 1 replicated the typical licensing effect. Specifically, after recalling their recent environmental actions, individuals subsequently donated less compared to individuals who recalled their environmentally unfriendly behaviors. However, contrary to the notion that self-

\(^8\) The indirect effect of recall on donation through self-concept was also not significant with a 90% confidence interval including zero (n boots$= 5,000, 90\%\) BCa CI[-2.59, 16.59]).
concept is a mediator of the licensing effect, in Study 1 self-concept was not found to mediate licensing behavior. Self-concept was not significantly affected by recalled action, and did not drive the licensing effects observed in this study.

There are a few possible reasons why I may have failed to replicate Khan and Dhar’s (2006) mediation effect. First, my design differs from Khan and Dhar’s (2006) original study design. Rather than having participants chose between hypothetical virtuous acts, participants in my study were asked to recall their own previous good and bad (environmental) deeds. In addition, I measured participant’s willingness to expend time and effort answering questions to donate rice and help others, whereas Khan and Dhar measured the likelihood of choosing a luxury product over a necessity. Finally, in my study self-concept was measured after participants had the opportunity to donate rice, whereas Khan and Dhar measured self-concept before participants licensing behavior. Having had the opportunity to license may have brought participants self-concept back to its normal level. Study 1 was designed as part of a larger study, and as such was not designed purely for replication purposes. However, these results suggest that we might not have the ideal measure of self-concept in the context of licensing effects. If subtle changes in the design hinder our ability to measure this construct, but we still observe licensing, we may not be properly measuring changes in self-concept. Another possible reason we failed to observe the mediation effect may be that, in Study 1, self-concept was measured at the end of the experiment. Although one previous paper has found self-concept to mediate licensing effects when measured after the licensing behavior (Cornelissen et al. 2013), it is possible that once individuals have ‘balanced out’ by engaging in licensing behaviors, then their self-concept would return to baseline. Study 2 seeks to extend these findings by testing another previously established measure of self-concept, and by measuring self-concept before individuals have a chance to engage in licensing behavior.
Study 2

The purpose of Study 2 was to extend the findings of Study 1 by testing a different measure of self-concept. In addition, self-concept was measured prior to individuals licensing behavior. In Study 2, I measure self-concept using another previously established measure used in the licensing domain, the Moral Identity Scale (Aquino and Reed 2002). Both Jordan and colleagues (2011) as well as Kouchaki (2011) found subscales of the Moral Identity scale to be implicated in the licensing process. Jordan and colleagues (2011) found that symbolic moral identity was significantly affected by recalling moral and immoral actions, although mediation was not tested in their study. Kouchaki (2011), on the other hand, found internal moral identity mediated vicarious licensing effects. In Study 2, I test whether either of these subscales mediates licensing effects in my study.

Design and Procedure

Sixty-seven undergraduate students participated in the experiment in exchange for partial course credit. Participants were randomly assigned to one of two recalled action conditions (recalled action: environment-friendly vs. environment-unfriendly). The procedure for this study was the same as in Study 1 except for a few minor changes. Participants first completed the

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9 The data presented in Study 2 was collected as a part of Essay 1. A number of conditions irrelevant to the current research question (e.g. closure), are beyond the scope of this paper, and have been excluded from these analyses. All of the conditions in which self-concept as a mediator could be tested are included in this paper.
behavior recall task from Study 1. Next, in order to reduce the risk of demand artifacts, which could arise from measuring participants’ licensing behaviors immediately following the recall task, a neutral filler task, circling the letter “e” in a short paragraph of Latin text, was included between the recall task and the self-concept measures. A number of the previous licensing and self-concept studies have also used filler tasks (Khan and Dhar 2006; Jordan et al. 2011; Kouchaki 2011). To measure participants’ self-concept, both the internalization and symbolic subscale of the Moral Identity Scale (Aquino & Reed, 2002) were administered. Finally, after completing the self-concept measures, participants completed the “website evaluation” task from Study 1. Again, the amount of rice donated served as the main dependent variable.

Results and Discussion

In line with moral licensing, a significant negative relationship between participants’ recalled actions and their licensing behavior was found, such that participants who recalled their environmentally friendly behaviors subsequently donated less rice, as compared to participants who recalled their environmentally unfriendly behaviors ($b = -88.9$, $t = -2.69$, $p = .009$; see Figure 5). Next, the internalization measures and the symbolization measures of the Moral Identity Scale (Aquino and Reed, 2002) were each averaged to form an internalization self-concept measure ($\alpha = .75$) and a symbolic self-concept measure ($\alpha = .78$) respectively. Using the standard bias-corrected bootstrapping method (Preacher and Hayes 2008), I tested whether the effect of recalled action (environmentally friendly vs. environmentally unfriendly) on donation is mediated by changes in internal self-concept and/or symbolic self-concept. Recalled action did not lead to significant changes in internal self-concept ($b = .05$, $t = .58$, $p = .565$), but did lead to
significant changes in symbolic moral identity ($b = .29, t = 2.49, p = .015$). However, this relationship was in the opposite direction of Jordan and colleagues’ (2011) findings, such that in my study recalling previous environmental good deeds led to higher (as opposed to lower) symbolic moral identities. Also, neither the effect of internal self-concept on licensing behavior ($b = -21.1, t = -.45, p = .652$) nor the effect of symbolic self-concept on licensing behavior ($b = 29.9, t = .83, p = .408$) was significant.

Contrary to the self-concept model, the indirect effect of recall on donation through self-concept was not significant with a confidence interval including zero for both the internalization subscale (n boots= 5,000, 95% BCa CI[-22.96, 4.63]) as well as the symbolic subscale (n boots= 5,000, 95% BCa CI[-9.24, 47.44]). In fact, the direct effect of recalled action on licensing behavior ($c'$ path) after the path through both internal and symbolic self-concept were accounted for remained statistically significant ($b = -96.60, t = -2.77, p = .007$).

In contrast to the findings by Kouchaki (2011), who found that internal moral identity mediated licensing effects, no significant relationship was found between participants’ recalled actions and their internal moral identities, nor was any significant relationship found between their internal moral identities and their subsequent licensing behavior. In line with the findings by Jordan and colleagues (2011), after participants recalled their previous positive or negative behaviors, their symbolic moral identities were affected. However, I found that positive actions were associated with higher moral self-concepts, whereas Jordan and colleagues (2011) found the opposite. In addition, I found no significant relationship between participants’ symbolic

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10 The indirect effect of recall on donation through self-concept was also not significant with a 90% confidence interval including zero for both the internalization subscale (n boots= 5,000, 90% BCa CI[-16.64, 3.22]) as well as the symbolic subscale (n boots= 5,000, 90% BCa CI[-4.79, 37.10]).
moral identity and their subsequent licensing behavior. This failure to support the self-concept model was found even though self-concept was measured before the licensing behavior took place.

Across two studies, I found licensing effects, such that after recalling their recent environmentally friendly behaviors, individuals subsequently donated less as compared to individuals who recalled their environmentally unfriendly behaviors. However, across both studies I failed to replicate the finding that self-concept mediates these licensing effects. Although, a significant relationship between one’s actions and their symbolic self-concept emerged in Study 2; these changes in participants’ self-concept did not drive their subsequent behavior. Again, Study 2 was designed as part of a larger study (Essay 1), and as such was not designed purely for replication purposes. Therefore, a number of differences in this study’s design emerged compared to the original study. However, these results support the notion that we may not have the ideal measure of self-concept in the context of licensing effects. Thus far, I have failed to replicate the finding that self-concept mediates licensing effects using two previously established measures of self-concept, and measuring self-concept both before and after licensing behavior. Study 3 seeks to extend these findings by testing the final remaining measure of self-concept used in the context of licensing behavior (working self concept).

Study 3

The purpose of Study 3 was to extend the findings of Studies 1 and 2 by examining the final measure of self-concept in the context of licensing, the working self-concept (Cornelissen et al. 2013). In addition, this study sought to test the self-concept model of licensing by comparing
participants who recalled their good deed to those who recalled a neutral action. This ensures that the effects being observed are due to licensing, and are not being driven by individuals compensating following a negative action. In order to more closely follow the design applied by Cornelissen and colleagues (2013), who previously found working self-concept to mediate licensing effects, self-concept was measured after participants licensing behavior.

**Design and Procedure**

Ninety-five undergraduate students participated in the experiment in exchange for partial course credit. Participants were randomly assigned to one of two recalled action conditions (recalled action: environment-friendly vs. neutral control).

Participants were instructed that they would be taking part in several unrelated studies over the course of the session. For the first study, all participants were randomly assigned to one of two recall conditions. Participants in the environmentally friendly condition completed the same recall task as used in Studies 1 and 2. Participants in the neutral control condition were asked to describe the day in the life of a bee. Next, in order to reduce the risk of demand artifacts, which could arise from measuring participants’ licensing behaviors immediately following the recall task, a neutral filler task, circling the letter “e” in a short paragraph of Latin text, was included between the recall task and the licensing behavior.

As an ostensibly unrelated study, participants then were told that they were going to take place in a lottery, and that one participant from our studies would win $25. Participants were then informed that our lab is supporting the Canadian Cancer Society, and they were then given the opportunity to commit to donate some of their money (up to $25), provided they were the
winners of the lottery. The amount of their potential winnings donated served as our measure of licensing behavior.

Finally, to measure participants’ self-concept, I adapted three of Cornelissen and colleagues (2013) measures from the Working Self-concept Scale (Jordan et al. 2013). Participants were asked to rate themselves compared to their ideal selves, on the three items adapted from the working self-concept scale. The items chosen were those deemed to be most relevant to environmental actions (generous, compassionate, and environmentally-friendly). More specifically participants were asked three questions: compared to the (generous, compassionate, environmentally friendly) person that they want to be, were they 1: much less (generous, compassionate, environmentally friendly) to 9: much more (generous, compassionate, environmentally friendly) than the person that they want to be.

Results and Discussion

Consistent with licensing, a significant negative relationship between participant’s recalled action and their licensing behavior was found, such that that participant who recalled their environmentally friendly behavior subsequently donated less money, as compared to participants who recalled their neutral behaviors ($b = -2.15, t = -2.31, p = .022$, see figure 6). Next, the three working self-concept measures were averaged to form a single self-concept measure ($\alpha = .55$)\(^{11}\). Using the standard bias-corrected bootstrapping method (Preacher and

\(^{11}\) Although the consistency between the measures ($\alpha$ value) appears quite low, it is similar to that obtained in previous studies measuring working self-concept in the context of licensing which obtained an $\alpha = .68$ (Cornelissen et al. 2013). To ensure our conclusions were not being affected by the low consistency, all analyses were re-run with
Hayes 2008), I tested whether the effect of recalled action (environmentally friendly vs. neutral) on donation is mediated by changes in self-concept. Recalled action did not lead to significant changes in self-concept ($b = .11, t = .90, p = .372$). In addition, the effect of self-concept on licensing behavior ($b$ path) was non-significant ($b = -.84, t = -1.03, p = .308$).

Contrary to the findings from Cornelissen and colleagues (2013), self-concept did not mediate these licensing effects, as the indirect effect of recall on donation through self-concept was not significant with a confidence interval including zero (n boots= 5,000, 95% BCa CI[-.68, .07]).\footnote{The indirect effect of recall on donation through self-concept was even not significant with a 90% confidence interval including zero (n boots= 5,000, 95% BCa CI[-.55, .04]).} In fact, the direct effect of recalled action on licensing behavior ($c'$ path) after the path through self-concept was accounted for remained statistically significant ($b = -2.07, t = -2.21, p = .030$).

Study 3 replicated our previous findings. After recalling their recent environmentally friendly behaviors, individuals donated less money to charity as compared to individuals in a neutral control condition. Again, in spite of finding licensing effects, self-concept was not found to mediate these effects.
General Discussion

Across three studies I find evidence of moral licensing behavior, such that after recalling their positive behaviors, individuals were subsequently more likely to license their own self-interested behaviors. More specifically, I find that once individuals recalled their environment-friendly behaviors, they donated less money, and spent less time and effort helping others. The standard model of licensing suggests that licensing behavior is caused by changes in individuals’ self-concept. However, in spite of the fact that licensing effects were repeatedly observed in my studies, no significant relationship between individuals’ self-concept and their licensing behavior was found.

Contrary to the accepted mechanism where self-concept mediates licensing effects, self-concept did not mediate licensing behavior in any of my three studies. Self-concept was measured in a number of ways, using all three of the previously established measures of self-concept in the licensing literature including self-assessments, moral identity, and working self-concept. Regardless of which measure of self-concept was used, and at which point self-concept was measured during the licensing process, self-concept never mediated the licensing effects in my studies. In fact, self-concept was never even significantly correlated with participants licensing behavior.

There are a few possible reasons why I may have failed to replicate the mediation effect. First, my designs differ from those of the original studies. It is possible the self-concept measures used would produce mediation effects had I more closely replicated the original designs. If that were the case, it would suggest that these measures are extremely sensitive to the design of the study. Given that licensing is found to occur across a variety of domains of
behavior, such a sensitive measure would not be ideal in the context of licensing effects. An ideal measure would include items general enough to span different domains of behavior. Some items used previously (e.g. hardworking), may have been too domain specific, and therefore did not mediate licensing effects in my modified designs. Ideally subtle changes in the study design would not hinder our ability to measure the self-concept construct in the context of licensing. My empirical findings, along with the theoretical issues raised in the introduction, call into question our current self-concept measures.

Alternatively, the findings from this paper could also suggest that self-concept might not be the sole driver of licensing effects. Given that only a limited number of studies have found self-concept to mediate licensing effects, it is possible that self-concept is just a small portion of what drives these behaviors. Therefore, future research needs to explore other potential mediators in order to gain a better understanding of what drives moral licensing effects. For example, it is possible that it is not how an individual views themselves per se, but rather how much they feel deserving or entitled to behave in a self-interested manner that leads them to license themselves. Exploring other potential mediating constructs is an important next step in advancing our understanding of what causes licensing behavior in the first place.

One could argue that there was not enough power to detect mediation in my studies, and that I may have found self-concept mediating the licensing effects with more subjects. There is no current standard in the literature for measuring power of a mediation design (Preacher & Kelley 2011). In order to more convincingly conclude that these effects represent a failure to replicate the self-concept model of licensing, the next steps would be to 1) run pure replication studies, which follow the exact designs from the previous papers to see whether the effects replicate, and 2) run a meta-analysis on the results from all of these studies in order to more
powerfully estimate the effect size and test the self-concept model. Together this would provide more conclusive evidence about the role self-concept plays in driving moral licensing effects. They would help to tease apart whether there is a lack of support for self-concept as a mediator (if we fail to replicate the mediation using more pure replication designs), or whether we simply lack a consistent measure (if we find that we can replicate when the design closely matches those of previous studies).

Based on both the theoretical and empirical findings from this paper, I propose that the self-concept as a mediator of licensing needs to be more carefully examined. From the current paper, the results suggest that the current self-concept measures do not capture the mediation effect in all instances when we observe licensing. Although the self-concept mediator conceptually fits with a number of findings in the literature, empirical support for this mediator is tentative at best. By carefully reviewing the literature on licensing and self-concept, I showed that the few studies that do find a relationship between licensing and self-concept each use a different measure for self-concept and find inconsistent patterns with respect to the relationship between self-concept and licensing. In addition, I presented three licensing studies, each of which failed to replicate the mediation effect of self-concept on licensing. This paper takes a first step at advancing our understanding of licensing by carefully examining the process. In order to better predict when licensing effects will occur, and to design interventions to counteract licensing, a strong understanding of the drivers is necessary. It is clear, from the current research, that more work is needed in this regard, as we still lack a clear understanding and a good measure of what causes these effects.
Discussion

Summary of Findings

Numerous studies spanning a number of different disciplines have found evidence of individuals’ licensing behavior (see Miller and Effron 2010, for a review). In spite of the fact that the licensing effect has been well established in the literature, our understanding of what causes these effects, our ability to predict when licensing behavior will occur, and our ability to counteract these effects is still rather limited. In my dissertation, I study consumers’ licensing behavior in order to further our understanding of what drives these effects and to determine how to best counteract them.

In my first essay, I develop and test an intervention aimed at counteracting the licensing effect. Across three experiments I demonstrate that having participants engage in a physical act of closure – enclosing a written recall of their good deeds within an envelope – counteracts their licensing behavior. My intervention targets what I propose to be a critical condition for moral licensing to occur: the accessibility of one's previous good deeds. Furthermore, this research contributes to our understanding of moral licensing by examining a novel moderator of the licensing effect, the actor-perceived specialness of their good deed.

In my second essay, I examine self-concept as a mediator of licensing effects. By carefully reviewing the literature on licensing and self-concept, I showed there is limited empirical support for self-concept as a mediator, and that the evidence that does exist is rather inconsistent. In addition, I present three licensing studies, each replicating the standard licensing effect but failing to replicate self-concept as a mediator of these effects. Self-concept failed to
mediate in spite of the fact that in each of my studies I used measure of self-concept that other have found to mediate licensing effects. These findings are important as they draw attention to the fact that more work is needed, as we seem to lack a good self-concept measure or a clear understanding and of what causes licensing effects.

Contributions

My dissertation broadly contributes to the moral licensing literature by advancing our theoretical understanding of what drives these effects. In Essay 1, I present evidence supporting the idea that the accessibility of one’s good deeds, i.e. the ease with which relevant instances come to mind, is an important construct in the licensing process. My findings suggest that in order to observe licensing behavior, one’s initial good deed needs to be both easily accessible in memory as well as be perceived as special. In addition, in Essay 2, I carefully examine and critically evaluate self-concept as a mediator of licensing. Currently in the field, self-concept is what is commonly believed to mediate licensing effects. I highlight that that the empirical evidence for this model is limited and rather inconsistent. In addition, across three studies, I find licensing effects in the absence of self-concept mediating these effects. It is critical to develop a better understanding of the drivers of moral licensing behavior, as it better enables us to predict when licensing effects will occur and better equips us to counteract their undesirable consequences.

To date, research on moral licensing seems to assume that all good deeds are equally likely to lead individuals to license themselves. However, in my dissertation, I provide evidence that this may not be the case. In Essay 1, I present a novel moderator of licensing effects, the
self-perceived specialness of the action. I find that behaviors judged to be less special did not lead to licensing effects. When individuals are making moral decisions, they do so in the context of their previous actions. Having a special deed accessible in memory can provide individuals some wiggle room to engage in self-interested behavior that would have discredited the individual otherwise. My research suggests that if an initial behavior is nothing special, it will not earn the individual the right to misbehave.

In addition to advancing our theoretical understanding of licensing effects, this research is the first to try and counteract licensing in the very situations in which it is most likely to occur. In Essay 1, across three experiments, I successfully test and replicate the effectiveness of an intervention designed to counteract licensing. I show that having an individual engage in a physical act of closure counteracts licensing effects. Closure is successful at removing licensing in a variety of domains of behavior, such that after engaging in a good deed, individuals with closure express lower intentions to engage in immoral behaviors, show increased prosocial behavior and donations, and reduced cheating. Closure is also found to counteract individuals’ compensation behaviors (doing good after having done something bad). Thus, to the extent that one seeks to encourage good deeds, one should exercise caution to not increase closure toward individuals’ bad deeds.

**Directions for Future Research**

The possibilities for application from this research are broad and very important. Licensing effects occur in many important domains of human behavior, including sustainability, health, waste, ethics, etc., and counteract positive progress made by individuals. Translating
what we have shown in the lab setting about counteracting licensing using physical closure, into practical applications is an important next step. An interesting implication from my research is that some techniques currently being used in psychotherapy, mediation, and even cell phone applications may actually be very useful in curbing undesirable licensing effects. Individuals often use manipulations of physical closure to help them gain psychological closure with the death of loved ones, lost jobs, breakups, etc. For example, one can download the God Box app for the I-phone. This application allows users to write down their thoughts, concerns, worries, etc. and then place these in a virtual box, put a lid on them, and as the app describes “let it go”. In my research, I find that having individuals engage in acts of closure – physically enclosing their good deeds in an envelope – counteracts licensing. Leveraging the recent trend of gamification, perhaps we could encourage individuals to log their deeds in an app such as the God Box, and have them gain virtual closure with their deeds. In doing so, we may be able to provide individuals with a self-help tool, in order to curb their own counterproductive licensing behavior.

In addition to physical acts of closure, I would predict that any manipulation that reduces the accessibility of one’s behavior in memory should also be effective in counteracting licensing effects. For example, following an individual’s good deed, I would predict that making other unrelated information more salient and top-of-mind would reduce the accessibility of the initial good behavior, and in turn inhibit licensing effects. Furthermore, my model would predict that if we can manipulate how special an individual’s behavior feels, we can also impact their subsequent likelihood to show licensing effects. For example, by making good deeds seem more like the norm (as opposed to something special), we may be able to prevent licensing effects. Armed with this information, future research may begin to explore developing practical applications of these findings.
One question that arises from the current research is how closure reduces the accessibility of one’s good deeds. For example, is closure 1) preventing individuals from recalling their good deed, 2) reducing how well the good deed is recalled, or 3) having its effect by reducing the emotions generated from recall. It is possible that closure is acting on any one of these mechanisms. Subsequent research should try to tease apart these alternative mechanisms, as doing so would shed more light on what specifically is counteracting licensing and, in turn, further our understanding of the mechanism driving moral licensing.

Another important avenue for future licensing research is developing a better understanding of the dynamics of licensing effects. In Essay 1, I presented evidence that deeds rated as more moral led to larger licensing effects. I observe this magnitude effect in the immediate subsequent action. What would happen if I were to present individuals with yet another opportunity misbehave? Or what if there was a delay between their initial action and the subsequent one? Would this impact their likelihood of showing licensing behaviors? Given my findings that the accessibility of an action is necessary in order to observe licensing effects, I would predict that the strength of these effects diminishes over time in parallel to the accessibility. I would also predict that more special actions would be more salient, and their effects would endure longer than more routine actions. Some research has found that when a household engages in actions to reduce their water consumption (after being presented with norm information from their neighbors), these same individuals increased their electricity consumption over the same time period (Tiefenbeck et al. 2013). This finding suggests that it may not only be one single action leading to one offsetting action, but that a series of actions can lead to a series of offsetting actions. In the literature, there is little discussion of the duration of licensing effects, or the dynamics over a larger series of actions. Building off these findings, future research should explore these dynamics in more detail.
One question that may arise when looking at licensing behavior is: when does an initial good deed lead to licensing effects (balancing) versus when does it cause individuals to behave consistently (engage in further good deeds)? Although we do not observe consistency effects in our studies, there is a body of research that finds moral consistency, whereby performing moral actions or viewing oneself as moral led individuals to subsequently behave more morally (Reed, Aquino, & Levy 2007). For example, findings from moral identity research demonstrated that individuals who view themselves as more moral tend to act in a pro-social manner (see Shao, Aquino, & Freeman, 2008 for a review). One moderator that has been proposed is the costliness of an individual’s initial behavior. In their research, Gneezy and colleagues (2012) found that when individuals engage in a behavior that involves some cost to the person, this leads to morally consistent future behaviors, as opposed to moral licensing behavior. A second moderator that has been proposed is the level at which individuals construe their behavior. Recent research by Conway and Peetz (2012) argued that recalling past moral actions in a more abstract (vs. concrete) manner activates individuals’ moral self-concept, making it more salient and causing them to behave in line with their moral values. More recently, research building on the goal literature suggests that when people think of progress towards their personal goals they will license themselves, whereas if they think of commitment to their personal goals they will behave consistently (Susewind & Hoelzl 2014). Taken together, the above studies seem to suggest that the more important one’s moral self-concept is and the more committed one is to the goal, the more likely one is to behave in a morally consistent manner. Given my findings in Essay 2, that we still lack a good measure and understanding of how self-concept can drive licensing effects, more work would help verify that self-concept importance will lead to consistency effects.
Finally, in Essay 2 I highlight that we still lack a good measure and clear understanding of what mediates licensing effects. Previous research has provided conceptual support for self-concept as a mediator of licensing. In fact, in Essay 1, my model is built upon the idea that an action needs to seem subjectively good to an individual in order to provide him or her with the moral license to misbehave, as though there were some self-credit earned from good deeds. Although conceptually the self-concept model provides a coherent explanation for licensing effects, no standard measure for self-concept exists, and empirical support for these measures is weak at best. Finding a new measure is important, but may prove challenging. In order to better understand and predict when licensing effects will occur, a meta-analysis on licensing, and on the self-concept model of licensing in particular, would be an important future direction. One challenge I foresee is that it is unclear whether the experience of having earned moral license is something individuals can consciously report on. It is possible that these ‘moral credits’ operate outside of conscious awareness. Take, for example, the finding that licensing can occur across behavioral domains, such that purchasing environmental products can lead individuals to cheat on a math task (Mazar and Zhong 2010). The fact that such diverse actions can impact one another suggests that licensing may be a very abstract process. Arguably, it would be difficult to consciously justify one’s bad behavior from such an unrelated good behavior. However, we may see licensing across domains if moral credits are earned outside of conscious awareness, and operate more like a feeling of deservingness. On the other hand, it is also possible that licensing requires conscious justification. For example, there is research that suggests that individuals can strategically license themselves, doing a bad deed now knowing they will do good later (Merritt et al. 2012), which would almost entirely rely on a more conscious process. The extent to which licensing is a conscious versus unconscious process is not currently well understood. It is
possible that there are both conscious and non-conscious processes at play. Future work should explore these possibilities.

Conclusion

Given that consumers and corporations are increasingly motivated to engage in and promote prosocial, healthy, environmental, and ethical actions, it is important that these efforts be as impactful as possible. In order for these efforts to make a significant difference, it is critical that individuals do not counteract any positive progress they make in these domains by subsequently licensing themselves. My dissertation advances our understanding of moral licensing, and takes a first step at counteracting these effects. In addition, I show that having individuals engage in an act of closure can effectively remove individuals license to misbehave. These findings carry important implications as I believe they can help guide the design of small yet powerful interventions to improve individuals’ everyday behaviors in situations that carry the risk for undesirable licensing effects.
References


Survey, (March 2013), (accessed April 6, 2013), available at


FIGURE 1.

DONATIONS AS A FUNCTION OF CLOSURE (CLOSURE VS. NO CLOSURE) AND RECALLED ACTION (ENVIRONMENT-FRIENDLY, -UNFRIENDLY, VS. NEUTRAL) IN ESSAY 1, STUDY 2

[Bar chart showing donations as a function of closure and recalled action.]
FIGURE 2.
CHEATING LIKELIHOOD AS A FUNCTION OF CLOSURE (CLOSURE VS. NO CLOSURE) AND PERCEIVED SPECIALNESS OF OWN SELFLESS ACTIONS (+1 SD VS. -1SD SPECIALNESS) IN ESSAY 1, STUDY 3

![Graph showing the likelihood of cheating as a function of closure and perceived specialness.](image-url)
FIGURE 3.

SELF-CONCEPT AS A MEDIATOR OF LICENSING BEHAVIOR (ESSAY 2)
FIGURE 4.

EFFECT OF RECALLED ACTION ON LICENSING BEHAVIOR, MEDIATED (N.S.) BY SELF-CONCEPT (ESSAY 2, STUDY 1)
FIGURE 5.

EFFECT OF RECALLED ACTION ON LICENSING BEHAVIOR, MEDIATED (N.S.) BY SELF-CONCEPT (ESSAY 2, STUDY 2)
FIGURE 6.

EFFECT OF RECALLED ACTION ON LICENSING BEHAVIOR, MEDIATED (N.S.) BY SELF-CONCEPT (ESSAY 2, STUDY 3)
APPENDIX A. IMMORAL INTENTIONS SCALE (ESSAY 1, STUDY 1)

Please imagine yourself in the following situations. For each scenario please indicate your likely response.

1. You have the opportunity to copy another student’s answers during an exam. How likely are you to do it?

   I am not at all likely to copy the answers
   1 2 3 4 5 6 7

   I am very likely to copy the answers

2. You are drunk and need to get home. How likely are you to drive your car?

   I am not at all likely to drive my car
   1 2 3 4 5 6 7

   I am very likely to drive my car

3. You have the opportunity to take an item (e.g. merchandise, money) that doesn’t belong to you. How likely are you to do it?

   I am not at all likely to take the item
   1 2 3 4 5 6 7

   I am very likely to take the item

4. You have the opportunity to allow another student to copy your answers during an exam. How likely are you to let the student copy your answers?

   I am not at all likely to let the student copy my answers
   1 2 3 4 5 6 7

   I am very likely to let the student copy my answers

Please continue on next page.
5. A friend of yours is drunk and wants to drive home with his/her car. How likely are you to let your friend drive home his/her car?

I am not at all likely to let my friend drive his/her car
1 2 3 4 5 6 7

I am very likely to let my friend drive his/her car

6. You find an item that does not belong to you (e.g. wallet, cellphone). How likely are you to return the item?

I am not at all likely to return the item
1 2 3 4 5 6 7

I am very likely to return the item

7. A cashier returns more money to you than what is owed. How likely are you to return the extra money?

I am not at all likely to return the extra money
1 2 3 4 5 6 7

I am very likely to return the extra money

8. You have the opportunity to volunteer with a local organization. How likely are you to do it?

I am not at all likely to volunteer
1 2 3 4 5 6 7

I am very likely to volunteer

Thank You! Please wait for the next study.