Published in final edited form as:

Ethics Behav. 2013 ; 23(2): 133–147. doi:10.1080/10508422.2012.714246.

Threats to Moral Identity: Testing the Effects of Incentives and Consequences of One's Actions on Moral Cleansing

Lauren N. Harkrider,

Department of Psychology, University of Oklahoma

Michael A. Tamborski,

Department of Psychology, University of Oklahoma

Xiaoqian Wang,

Mobley Group Pacific Ltd

Ryan P. Brown,

Department of Psychology, University of Oklahoma

Michael D. Mumford,

Department of Psychology, University of Oklahoma

Shane Connelly, and

Department of Psychology, University of Oklahoma

Lynn D. Devenport

Department of Psychology, University of Oklahoma

Abstract

Individuals engage in moral cleansing, a compensatory process to reaffirm one's moral identity, when one's moral self-concept is threatened. However, too much moral cleansing can license individuals to engage in future unethical acts. This study examined the effects of incentives and consequences of one's actions on cheating behavior and moral cleansing. Results found that incentives and consequences interacted such that unethical thoughts were especially threatening, resulting in more moral cleansing, when large incentives to cheat were present and cheating explicitly harmed others. Implications are discussed in terms of ethics training, using incentives as motivators, and the depersonalized norms of science.

Keywords

moral cleansing; cheating; moral identity; incentives; consequences

Unethical conduct, and specifically cheating, remains a serious and pervasive problem among undergraduates (Crown & Spiller, 1998), engineering students (Harding, Carpenter, Montgomery, & Steneck, 2001), medical students (Baldwin, Daugherty, Rowley, &

Schwarz, 1996), business professionals (Harris & Bromiley, 2007), and research scientists (Fanelli, 2009; Steen, 2011). Not only can cheating result in negative consequences for oneself and others (Ayal & Gino, 2012), but it can also threaten a person's moral identity, or a person's belief that "certain moral traits are essential to his or her self-concept" (Aquino & Reed, 2002, p. 1425) and that he or she is in fact a moral person, identifying with higher-order values (Sachdeva, Iliev, & Medin, 2009). Because people strive to maintain positive self-concepts (Greenwald, 1980), mechanisms such as *moral cleansing*, a process in which people reaffirm their moral values (e.g., by contemplating moral acts), are used to maintain a moral self-image despite sometimes thinking about or actually engaging in immoral acts (Tetlock, Kristel, Elson, Lerner, & Green, 2000). Although moral cleansing serves a positive role by reaffirming a person's moral identity, too much affirmation can actually cause people to relax their moral strivings and subsequently engage in even more unethical behavior, including cheating (Brown et al., 2011; Jordan, Mullen, & Murnighan, 2011).

Whereas countless studies have uncovered factors that influence the likelihood of cheating behavior (Crown & Spiller, 1998), less research has examined what factors influence the act of moral cleansing when people are faced with the opportunity to cheat. Because reaffirming one's moral identity has the potential to lead to future unethical transgressions, a better understanding of how factors influence moral cleansing is needed to increase awareness of when a person might feel licensed to engage in more unethical behaviors in the future. Therefore, the purpose of this study was to examine the effects of two factors, (1) incentives and (2) the consequences of one's actions, on both unethical behavior (cheating) and the act of moral cleansing.

Moral Cleansing

Defined as a compensatory process used when one's moral self-concept has been threatened (Sachdeva et al., 2009), *moral cleansing* is an act that reaffirms one's core values and beliefs, resulting in the restoration of one's moral self-image as well as the reduction of the tension experienced (Ayal & Gino, 2012) after engaging in (Steele, 1988) or merely contemplating (Tetlock, 2003) immoral acts. For example, Carlsmith and Gross (1969) found that participants were significantly more likely to help another person after engaging in the immoral act of shocking a confederate compared to only watching someone shock a confederate or providing a confederate with negative feedback. By subsequently engaging in prosocial behaviors, participants were able to restore their moral self-image by reaffirming, through their helping behaviors, that they are in fact moral people, despite momentarily behaving in an immoral manner. Besides engaging in moral cleansing after an immoral behavior, people also moral cleanse after merely contemplating immoral acts. For example, when participants contemplated placing a monetary value on a human life compared to contemplating a more routine trade-off (e.g., placing a price on a house), participants were more likely to volunteer to fight legislation aimed at buying and selling adoption rights, thus restoring their moral self-image by opposing the monetization of human life (Tetlock et al., 2000). Similarly, when individuals contemplated an unethical behavior from their past, they volunteered to help more in order to reduce the threat to their moral self-image caused by remembering past immoral behavior (Zhong & Liljenquist, 2006). Because immoral

behavior threatens one's moral identity, resulting in increased moral cleansing, we tested the following hypothesis:

H1: Cheating behavior will be positively related to moral cleansing, such that greater cheating will result in more moral cleansing.

Although moral cleansing can restore one's moral self-image, this compensatory process can also create the perception that a person has sufficiently established his or her moral identity and is licensed to refrain from engaging in moral behaviors in a future context (Merritt, Effron, & Monin, 2010). For example, when individuals imagined a virtuous act (e.g., volunteering for community service), participants' self-concepts became more positive, resulting in more self-indulgent behavior (e.g., buying designer jeans rather than a vacuum cleaner) in a later context (Khan & Dhar, 2006). Similarly, when individuals established their moral credentials as non-prejudiced, they were later more likely to make prejudiced choices and statements (Bradley-Geist, King, Skorinko, Hebl, & McKenna, 2010; Monin & Miller, 2001). Extended to the ethical domain, Sachdeva et al. (2009) found that participants engaged in fewer moral behaviors after reaffirming their moral self-concept by writing about themselves using positive language, compared to when they used neutral or negative language about themselves or when they used positive, neutral, or negative language to describe another individual. The authors concluded that "affirming a moral identity leads people to feel licensed to act immorally" (p. 523). Zhong, Strejcek, and Sivanathan (2010) found support for inflated moral self-image mediating the relationship between moral cleansing and harsher moral judgments. Finally, Jordan et al. (2011) found that contemplating moral behaviors not only led to future decreased prosocial behaviors but also led to increased cheating on a subsequent task. Thus despite the benefit of moral cleansing for restoring one's moral self-image, the potential negative effects this reaffirmation process can have on subsequent ethical decisions makes it increasingly important to understand how different factors influence engagement in moral cleansing, in hopes of preventing future unethical behavior caused from increased (illusory) perceptions of morality.

Incentives

Despite the powerful ability for incentives to motivate desired performance (Baldwin & Krotseng, 1985; Pinder, 2008), incentives can have negative effects, leading to increased unethical behavior (Batson, Kobryniewicz, Dinnerstein, Kampf, & Wilson, 1997). For example, Covey, Saladin, and Killen (2001) found that when college students were not high self-monitors, cheating on a visual maze test increased when they were incentivized for excellent performance with double extra credit. Similarly, when medical students were offered incentives for completing online quizzes, participation increased but so did cheating (Kibble, 2007). Although the presence of an incentive can increase cheating, larger and more valued incentives can lead to even more unethical conduct, as demonstrated by Harris and Bromiley (2007), who reported that the "percentage of CEO compensation delivered via stock option grants significantly influences financial misrepresentation" (p. 350). Others have also found a link between larger incentives leading to greater unethical conduct (Murdock & Anderman, 2006; Johnson, Ryan, & Tian, 2009).

Even if a person refrains from cheating, the mere presence of an incentive to cheat might be enough to damage that person's moral self-image (Murdock & Anderman, 2006), resulting in the need to engage in moral cleansing (Tetlock, 2003). Some incentives, however, might cause individuals to contemplate cheating even more than other incentives. Specifically, larger and more valued incentives can greatly increase the temptation to cheat (Harris & Bromiley, 2007). Varian (2002) notes that stock options among business professionals present a strong incentive, leading to increased temptation to inflate stock prices. Miller, Visser, and Staub (2005) also found that increased incentives are related to greater perceived temptation to engage in unethical behavior among undergraduates. Because individuals engage in greater moral cleansing as their thoughts become even more damaging to their moral self-concepts (Tetlock et al., 2000), individuals who are highly tempted to cheat by greater incentives should engage in greater moral cleansing, even if they do not actually engage in the actual cheating behavior; the greater the incentive, the more one contemplates and is tempted to cheat, resulting in greater threat to one's moral identity and, thus, a greater need to engage in moral cleansing. Therefore, we tested the following hypothesis:

H2: There will be a main effect for incentives, such that greater incentives will lead to (a) more cheating and (b) more moral cleansing.

Consequences of Cheating

Opportunities to cheat can not only vary in the level of incentives offered but can also differ in the degree to which one's actions harm others. Although unethical behavior typically results in negative consequences for oneself as well as for others (Thiel et al., in press), some situations make it increasingly difficult to recognize how the consequences of one's actions ultimately impact others, decreasing the moral implications felt. Ignoring, minimizing, distorting, or disbelieving how one's actions harm others can result in reduced self-regulatory mechanisms and increased immoral conduct (Bandura, 1990). When the consequences of one's actions for others are made explicit, however, people engage in more self-restraint and are less likely to engage in unethical conduct (Bandura, 2004). For example, Milgram (1974) found that as the victim's suffering became more personalized (e.g., individuals directly inflicted harm or could see and hear the suffering, compared to remotely inflicting harm on the victim), obedience to injure the victim decreased. Similarly, Bersoff (1999) found that when participants received extra payment for their participation in a study, individuals were more likely to return the money when they believed it was funded by the experimenter, compared to a pretend corporation.

Because awareness that one's actions will harm others limits one's ability to rationalize immoral behavior (Tsang, 2002), people should engage in less cheating behavior when they are explicitly aware that their actions will directly harm another person. When people fail to recognize that their cheating may harm others, however, the moral implications of cheating should be reduced, resulting in greater cheating behavior (Bandura, 2004). Even if people do not engage in cheating behavior, merely contemplating cheating that would result in harmful consequences for others might be enough to damage people's self-concepts (Tetlock et al., 2000). Thus, greater moral cleansing should occur when people contemplate engaging in behaviors that would directly bring harm to others, compared to when the negative consequences for others are not apparent; contemplating inflicting harm on others is more

damaging to one's moral self-concept than contemplating an immoral act in which the consequences for others are not recognized. Therefore, we tested the following hypothesis.

H3: Situations in which people's behavior directly results in harmful consequences for others will lead to (a) less cheating and (b) more moral cleansing, compared to situations in which the consequences of people's behavior do not explicitly harm others.

Finally, an interaction between the consequences of one's actions and incentives was expected. Because it becomes increasingly difficult to identify unethical situations when individuals fail to recognize how their actions will negatively harm others (Bandura, 2004), greater incentives to cheat might not lead to increased moral cleansing in situations where the consequences of one's actions on others are not identified. Even if larger incentives lead to greater contemplations to cheat, these thoughts should not be as damaging to people's self-concepts as thoughts concerning harming other should be (Bandura, 2000). When direct harm to a victim is apparent, however, individuals are contemplating an action that could directly harm others. As incentives increase the temptation (and, thus, the intention) to engage in this immoral behavior, the thoughts become even more damaging to one's moral identity. Therefore, when situations clearly describe the harmful consequences of one's actions on others, greater incentives might lead to even higher levels of moral cleansing in order to restore the damaged inflicted upon the self-concept caused by the consideration of harming another person. Therefore, we tested the following interaction between incentives and consequences of cheating:

H4: Incentives and consequences of cheating will interact, such that incentives will lead to even greater moral cleansing when the consequences of one's actions harm another person, compared to when the consequences do not explicitly harm others.

Method

Participants

One hundred ninety-one undergraduates (139 female, 52 male) from a large, Southwestern university participated in this study for partial fulfillment of a research exposure requirement in a psychology course. Demographic characteristics were representative of the larger university population.

General Procedure

Participants were escorted into a private cubical where they were informed that the purpose of the study was to explore how personality predicts verbal reasoning ability. To assess verbal reasoning, participants completed the Remote Associates Test (RAT), a normed word association test in which three words are listed and the participant provides the fourth target word that is related to the other three words (Mednick, 1962). To become acquainted with the measure, participants first completed several practice items with the proctor. For example, participants received the words "detergent," "basket," and "dirty," and were expected to respond with the target word "laundry" (i.e., "laundry detergent," "laundry basket," and "dirty laundry"). Following the practice items, participants received a test booklet with 22 RAT items and an answer sheet to record their responses. The proctor

instructed participants only to mark their responses on the answer sheet, not on the test booklet, because the booklets would be reused. Participants were told their score would be a combination of the number of items they answered correctly as well as how quickly they completed the RAT during the allotted 12 minutes. After the RAT, participants completed the moral cleansing task (described below), followed by a brief questionnaire used to assess their task engagement and motivation levels. Finally, participants were interviewed to assess their suspicion levels before being debriefed. During the debriefing, the proctor explained the true nature of the study and recorded participants' reactions. Because the deception was mild and students experience opportunities to cheat on a daily basis (McCabe, Trevino, & Butterfield, 2006), including opportunities with high incentives such as grades (Crown & Spiller, 1998) and consequences for others such as group projects (Gayton, 2008), no participants appeared distraught or demonstrated anger from the protocol.

Manipulations

A 4 (incentives: none vs. minimal vs. medium vs. large) $\times$ 2 (consequences: harm vs. no harm) between-subjects design was used to test how incentives to cheat and the interpersonal consequences of one's unethical behavior influence cheating and moral cleansing. Participants were randomly assigned to one of eight conditions. Incentive levels were manipulated by telling participants that they would either receive no incentive for achieving a certain score on the RAT, a minimal incentive (i.e., a ballpoint pen with a university logo), a medium incentive (i.e., a coupon for 10% off purchases at the university bookstore), or a large incentive (i.e., a \$90 parking permit for next semester). To manipulate consequences, participants were told in the harm condition that they were competing against a peer, such that only one person would receive the performance-based incentive; therefore, they were aware that cheating to improve their own score would directly harm another participant's chances of receiving the incentive. In the no harm condition, participants were informed that they would receive the incentive for reaching a specific level of performance; therefore, they had no indication that their cheating would directly harm another person.

Measures

Verbal reasoning ability covariate—The first eight items of the RAT were used to assess participants' verbal reasoning ability, which was used to control for participants' individual differences in verbal reasoning. These eight items were selected because normative data indicated these items are fairly easy, with 74.5% of individuals on average solving these items within 30 seconds (Bowden & Jung-Beeman, 2003).

Cheating—Cheating behavior was measured with the RAT. After completing the first eight items of the RAT (used as a verbal reasoning covariate), participants completed six moderately difficult items followed by eight extremely difficult items. For both the moderately and extremely difficult items, answers were lightly marked on the test booklet, as if someone had accidentally recorded their answers on the booklet instead of on the answer sheet and then tried to lightly erase the responses (answers were not marked for the verbal reasoning ability covariate items). The six moderately difficult items were included so that participants could judge the reliability of the marked answers. Although only 35.67% of individuals in the normative data answered these items within 30 seconds, the answers are

easy enough that participants would be able to identify that the answers marked in the test booklet were in fact correct (Bowden & Jung-Beeman, 2003). After the moderately difficult items, participants completed eight extremely difficult items, which only 6.67% of individuals in the normative sample could solve (Bowden & Jung-Beeman, 2003). Additionally, several of the final eight items were altered (either by changing one of the words in the set or by embedding an incorrect “answer”), thus reducing the possibility of participants responding with the provided target word either by chance or skill. Thus, these eight extremely difficult items presented the opportunity for participants to cheat by copying the lightly marked answers in the test booklet. Cheating was operationalized as the number of answers marked on the answer sheet that matched the answers lightly marked in the test booklet. Cheating scores ranged from 0 (did not cheat at all) to 8 (cheated on every item by copying every answer marked in the test booklet).

Moral cleansing—To assess the degree to which participants engaged in moral cleansing after experiencing the opportunity to cheat, participants completed a moral cleansing task. Participants read four moral dilemmas, rating each on how likely they would behave in a prosocial fashion if they were to encounter the situation (0 = “not at all likely,” 8 = “extremely likely”). These scenarios were adapted from a measure developed by Barnes and Brown (2006) and were selected based on pilot data indicating that responses on these scenarios do not cluster around the endpoints of the scale (i.e., there are no ceiling or floor effects). Responses were summed across the four scenarios, with higher scores indicating greater moral cleansing. Thus, after cheating or merely being tempted to cheat on the RAT, participants could reaffirm their moral identity by indicating a higher likelihood to engage in prosocial behaviors in these moral dilemmas.

Results

Means, standard deviations, and correlations for all study variables are presented in Table 1. It is important to note that overall, cheating behavior was low, with only 37.7% of individuals cheating at least one time. This low rate of unethical behavior worked against our ability to obtain the predicted effects, making this study a rather conservative test of our hypotheses.

Cheating and Moral Cleansing

Hypothesis 1 predicted cheating behavior would positively relate to moral cleansing, such that greater cheating would result in a greater need to engage in the compensatory moral cleansing process. Linear regression analysis (using verbal reasoning ability as a covariate) indicated the amount of cheating did not significantly predict the degree to which participants morally cleansed ($\beta = -.33, p > .05$). Similarly, an ANCOVA comparing those who cheated at all (cheating score 1 or more) to those who did not cheat (cheating score of 0) with the verbal reasoning ability covariate yielded no significant differences in the amount of moral cleansing, $F(1, 188) = 2.26, p > .10$, partial $\eta^2 = 0.012$ (cheating $M = 25.29, SD = 5.53$ vs. no cheating $M = 24.06, SD = 5.42$). These results suggest cheating behavior did not lead to increases in moral cleansing.

Main Effects of Incentives

Separate ANCOVAs (using verbal reasoning ability as a covariate) were used to test hypothesis 2a and 2b, which predicted larger incentives would lead to greater cheating behavior and more moral cleansing, respectively. For cheating behavior, incentives did not reach conventional levels of significance (i.e., $p < .05$), $F(3, 186) = 2.13$, $p < .10$, $\eta^2_p = 0.03$, disconfirming Hypothesis 2a. Planned comparison tests did reveal that cheating behavior was significantly greater when a medium ($M = 1.53$, $SD = 2.68$, $p = .05$) or a large ($M = 1.66$, $SD = 2.32$, $p < .05$) incentive was offered compared to when only a minimal ($M = 0.74$, $SD = 1.36$) incentive was offered for good performance. Overall, however, it appears that incentives had little effect on actual cheating behavior. Hypothesis 2b was also disconfirmed, such that incentives did not yield a significant main effect on moral cleansing, $F(3, 186) = 0.89$, $p > .10$, $\eta^2_p = 0.01$.

Main Effects of Consequences

Separate ANCOVAs (using verbal reasoning ability as a covariate) were also used to test hypothesis 3a and 3b, which predicted consequences of one's actions which harm another person would lead to less cheating behavior and more moral cleansing, respectively, compared to when consequences do not explicitly harm others. With regard to cheating behavior, a significant main effect for consequences was not found, $F(1, 188) = 1.95$, $p > .10$, $\eta^2_p = 0.01$, disconfirming Hypothesis 3a. It appears whether consequences of one's actions explicitly harm another person or not had little impact on cheating behavior. Hypothesis 3b was supported, however. Participants engaged in significantly more moral cleansing when the consequences of their actions directly harmed another person ($M = 27.38$, $SD = 4.27$) compared to when it was not made explicit that another person would be harmed ($M = 23.66$, $SD = 5.15$), $F(1, 188) = 9.06$, $p < .01$, $\eta^2_p = 0.05$. As predicted, merely contemplating immoral behavior which could directly harm others leads to more engagement in the compensatory moral cleansing process than when it is not explicitly clear that one's actions could harm others.

Interaction of Incentives and Consequences

To test Hypothesis 4, that incentives and consequences of cheating would interact, a 4 (incentives: none vs. minimal vs. medium vs. large) $\times$ 2 (consequences: harm vs. no harm) ANCOVA with verbal reasoning ability as a covariate was conducted for moral cleansing. As seen in Figure 1, there was a significant interaction between incentives and consequences, $F(3, 182) = 2.77$, $p < .05$, $\eta^2_p = 0.04$, supporting Hypothesis 4. As predicted, specific comparisons (with the verbal reasoning covariate) as shown in Table 2 revealed that when a minimal incentive, a medium incentive, or a large incentive was offered, significantly more moral cleansing occurred when the consequences of one's actions to achieve the incentive harmed another person compared to when one's actions to achieve the incentive did not harm another person. Thus, when an incentive was offered, greater moral cleansing occurred when the consequences of one's actions to achieve that incentive would directly harm others compared to when one's actions did not explicitly harm others. The interaction was not significant for cheating behavior.

Discussion

This study tested the effects of incentives and consequences of one's actions on (a) cheating and (b) moral cleansing to determine how these factors influence not only unethical behavior but also the compensatory process one engages in when one's moral self-concept is threatened (Tetlock et al., 2000). How factors influence moral cleansing is particularly important given that over-engaging in this process can cause individuals to feel licensed to engage in even more unethical behavior in the future (Sachdeva et al., 2009). Although incentives and social consequences had little impact on actual cheating behavior, these findings do suggest that thoughts concerning immoral behaviors that explicitly harm others (compared to thoughts that do not recognize how one's actions will impact others) might be particularly damaging to one's moral identity, resulting in greater moral cleansing to reaffirm the self's morality. Additionally, these results provide insight into the interaction between incentives and consequences of one's actions on moral cleansing. Specifically, for each level of incentive, individuals engaged in more moral cleansing when they had to harm another person to achieve the incentive compared to when it was not made explicit that their actions would harm another person. Additionally, the greatest moral cleansing occurred when individuals were highly incentivized to cheat and their actions would directly harm a peer.

These findings suggest that the more damaging people's thoughts are to their moral self-concepts, the more people need to reaffirm that they are in fact moral, and thus, the more moral cleansing required. Even if people do not actually harm others, merely contemplating harming a peer appears to be enough to greatly damage moral identities (Bandura, 2004; Tetlock, 2003). These thoughts are particularly damaging when people are highly incentivized to engage in this behavior. Past research has demonstrated that greater incentives increase temptation to behave immorally (Miller, Visser, & Staub, 2005), suggesting that as incentives for immoral behavior increase, thoughts of engaging in this behavior become stronger and more tempting, resulting in even greater damage to people's moral self-concepts and even more moral cleansing needed to restore moral identities.

Limitations

Before discussing the theoretical and practical implications of this research, some limitations are worth noting. First, overall cheating behavior was relatively low in this sample (37.7%). Future research should examine cheating behavior using a different paradigm (e.g. Covey, Saladin, & Killen, 2001) in which cheating behavior is more prevalent to reduce a potential floor effect. It is possible that incentives do have greater influence on actual cheating behavior in other contexts in which an opportunity to cheat is present.

Second, although past research supports the interpretation that increased temptation occurs from larger incentives and can result in a damaged moral identity, and therefore more moral cleansing (Miller, Visser, & Staub, 2005), temptation and moral identity were not directly assessed. Because the purpose of this research was to examine the effects of incentives and consequences on cheating behavior and moral cleansing, temptation and moral cleansing were not assessed directly. This follows the paradigm used by many other researchers, and our findings mirrored previous research concluding that greater incentives increase

temptations (Harris & Bromiley, 2007) and more moral cleansing occurs after exposure to situations that are more threatening to one's moral self-concept (Monin & Miller, 2001; Sachdeva et al., 2009; Tetlock et al., 2000; Zhong & Liljenquist, 2006), suggesting a threatened moral self-concept is a possible explanation. Additionally, direct assessment of temptation levels or moral identity would reveal the true purpose of the study, potentially causing participants to alter their behavior, making it difficult to draw conclusions about how individuals actually behave in these situations and reducing the importance of the practical implications derived. Despite temptation and moral identity being difficult to measure without participants understanding the true nature of the study, future research should attempt to measure these constructs more directly in order to empirically establish their mediations between opportunities to cheat and moral cleansing.

Third, this study assumes all individuals value morality (Tsang, 2002). Although moral identity might be a critical aspect of many people's self-concepts, some people might view moral identity as less important (Damon, 1984). For these individuals, thinking about or actually engaging in unethical behavior is unlikely to threaten one's self-concept and therefore should not spark the compensatory moral cleansing process to reaffirm morality. Future research should incorporate individual difference measures of moral identity (Aquino & Reed, 2002) as potential moderators, identifying which individuals would actually experience a threatened moral identity after thinking about or actually engaging in immoral acts and would be more likely to engage in moral cleansing. Finally, the use of undergraduates could limit the generalizability of these findings. However, research has found significant correlations between collegiate cheating and other unethical behaviors such as lying (Beck & Ajzen, 1991) and unethical behavior in other contexts such as the workplace (Sims, 1993). Therefore, factors that influence cheating behavior and moral cleansing in an academic setting might similarly influence unethical behavior in other contexts, such as the workplace.

Implications

Theoretically, these results provide an insight into the cognitive processes involved when individuals are provided the opportunity to cheat. Specifically, these results support Tetlock et al.'s (2000) Sacred Value Protection Model, suggesting that merely contemplating engaging in unethical behavior is enough to threaten one's moral identity and to promote moral cleansing in order to reaffirm one's morality; actually engaging in the unethical behavior is not necessary to threaten one's moral self-concept. These unethical thoughts are particularly damaging to one's identity when they involve directly harming another person and when individuals are highly tempted to engage in the behavior by incentives that could be obtained through immoral actions.

Besides theoretical implications, these findings have several important practical implications. First, these findings have direct implications for ethics training. In hopes of reducing ethical misconduct, many universities have implemented ethics training programs for students (Rabins, 1998). Although not all ethics training programs have proven effective (Antes et al., 2009), training that specifically recognizes human biases and judgment errors that prevent people from making ethical decisions (e.g., rationalizations, thinking you will

engage in more ethical behavior than others, black-and-white-thinking, diffusion of responsibility) and that provides strategies for overcoming these biases has demonstrated significant improvement in trainees' ethical decision-making (Mumford et al., 2008). The present study provides insight into another critical bias, moral cleansing, that could facilitate future unethical behavior (Jordan et al., 2011). Specifically, this study suggests that people are particularly likely to engage in this self-affirmation process when they recognize that their actions might harm others or when they are tempted by performance-based incentives to engage in the unethical behavior. Increasing trainees' awareness that they might engage in this process, especially during these situations, represents the first step for overcoming the potentially negative effects that moral cleansing can have on future unethical behavior (Sachdeva et al., 2009). Just because individuals engage in moral cleansing to reaffirm their morality does not negate the unethical behavior they previously were considering or might consider in the future. By incorporating this bias into ethics trainings, trainees could become more aware of this dangerous process and take steps to reduce the potentially negative effects of this subtle process.

Equally important are the practical implications of incentives. The use of incentives among students (Kibble, 2007), academic professors (Franck & Opitz, 2006), research scientists (Jauch, 1977), and business professionals (Rynes, Gerhart, & Parks, 2005) to motivate and reward desired behaviors is ubiquitous (Pinder, 2008; Taylor, 2003). Indeed, incentives can have strong, positive effects on employee performance and productivity (Rynes et al., 2005). Although incentives can motivate desired behaviors, they can also have a dark-side, increasing the temptation to engage in unethical behaviors (Miller, Visser, & Staub, 2005). The present study showed that incentives can damage one's moral self-concept and increase engagement in moral cleansing, especially when achieving the incentive causes harm to others. Additionally, even minimal levels of incentives led to increased moral cleansing in situations where the consequences of one's actions could harm another. Although the largest incentive damaged one's moral self-concept the most in situations that harmed others, incentives as small as a ballpoint pen still threatened one's moral identity by enhancing the temptation to behave unethically. Despite incentives not leading to significant increases in cheating behavior in the present investigation, the increase in moral cleansing is still important, given that moral cleansing can cause increases in future unethical behavior, creating a potential gateway to later unethical acts (Brown et al., 2011; Merritt et al., 2010). Because incentives are a common motivator, awareness of the powerful role that even small incentives can have in threatening the self-concept and facilitating immoral behaviors is extremely important.

Finally, these findings have direct implications for the importance of recognizing how one's actions influence others. Although not always apparent, unethical behavior does have serious consequences for other people directly and indirectly involved in an ethical dilemma (Thiel et al., in press). When the suffering of others is not visible or when the causes of unethical behavior are physically or temporally distant from the consequences, it becomes increasingly difficult to recognize one is even in an unethical situation, increasing the chances of acting unethically (Bandura, 1990; Gino, Schweitzer, Mead, & Ariely, 2011; Milgram, 1974). In the present study, individuals' moral identities were not as strongly threatened when it was not explicit how their actions could harm another person, suggesting

that they were less aware of the ethical situation they were experiencing when they could not see how their actions directly hurt others. These findings are especially problematic given the depersonalized norms of science (Cleminson, 1990), making it increasingly difficult for scientists and researchers to directly see how their actions will impact others, thus decreasing moral awareness and potentially increasing unethical behavior (Gino et al., 2011). Therefore, scientists should be vigilant in identifying the implications of their actions for others both in the short- and long-term in order to increase moral awareness and decrease ethical misconduct.

Conclusion

Overall, this study shows that a person does not have to actually engage in unethical behavior to threaten his or her moral identity. Merely contemplating unethical acts can be enough to damage the self-concept, resulting in a compensatory moral cleansing process in order to reaffirm one's moral standing. Incentives, even when they are small, can increase temptation to engage in unethical conduct, leading to more unethical thoughts, greater harm to one's self-concept, and a greater need to engage in moral cleansing after contemplating actions that could directly harm others. Ethics training programs should strive to increase awareness among trainees that they might engage in moral cleansing in order to reduce the potentially negative effects too much moral cleansing can have on future ethical decision-making. Additionally, individuals should be aware of the potential negative effects of incentives and take time to recognize how their actions could negatively impact others.

Acknowledgments

This research was made possible through funding from the National Institute of Health grant No. 5R01NR010341-02.

References

- Antes AL, Murphy ST, Waples EP, Mumford MD, Brown RP, Connelly S, Devenport LD. A meta-analysis of ethics instruction effectiveness in the sciences. *Ethics and Behavior*. 2009; 19:379–402. [PubMed: 19838311]
- Aquino K, Reed A II. The self-importance of moral identity. *Journal of Personality and Social Psychology*. 2002; 83:1423–1440. [PubMed: 12500822]
- Ayal, S.; Gino, F. Honest rationales for dishonest behavior. In: Mikulincer, M.; Shaver, PR., editors. *The social psychology of morality: Exploring the causes of good and evil*. Washington, DC: American Psychological Association; 2012. p. 149-166.
- Baldwin DC Jr, Daugherty SR, Rowley BD, Schwarz MD. Cheating in medical school: A survey of second-year students at 31 schools. *Academic Medicine: Journal of the Association of American Medical Colleges*. 1996; 71:267–273. [PubMed: 8607927]
- Baldwin RG, Krotseng MV. Incentives in the academy: Issues and options. *New Directions for Higher Education*. 1985; 51:5–20.
- Bandura A. Selective activation and disengagement of moral control. *Journal of Social Issues*. 1990; 46:27–46.
- Bandura, A. Selective exercise of moral agency. In: Thorkildsen, TA.; Walberg, HJ., editors. *Nurturing morality*. Boston: Kluwer Academic; 2004. p. 37-57.
- Barnes, CD.; Brown, RP. Behavioral forecasting and the value-congruent bias. Poster presented at the meeting of the Society for Personality and Social Psychology; Palm Springs, CA. Jan. 2006

- Batson CD, Kobrynowicz D, Dinnerstein JL, Kampf HC, Wilson AD. In a very different voice: Unmasking moral hypocrisy. *Journal of Personality and Social Psychology*. 1997; 72:1335–1348. [PubMed: 9177020]
- Beck L, Ajzen I. Predicting dishonest actions using the theory of planned behavior. *Journal of Research in Personality*. 1991; 25:285–301.
- Bersoff DM. Why good people sometimes do bad things: Motivated reasoning and unethical behavior. *Personality and Social Psychology Bulletin*. 1999; 25:28–39.
- Bowden EM, Jung-Beeman M. Normative data for 144 compound remote associates problems. *Behavior Research Methods, Instruments, and Computers*. 2003; 35:635–639.
- Bradley-Geist JC, King EB, Skorinko J, Hebl MR, McKenna C. Moral credentialing by association: The importance of choice and relationship closeness. *Personality and Social Psychology Bulletin*. 2010; 36:1564–1575. [PubMed: 20947773]
- Brown RP, Tamborski M, Wang X, Barnes CD, Mumford MD, Connelly S, Devenport LD. Moral credentialing and the rationalization of misconduct. *Ethics and Behavior*. 2011; 21:1–12. [PubMed: 21503267]
- Carlsmith JM, Gross AE. Some effects of guilt on compliance. *Journal of Personality and Social Psychology*. 1969; 11:232–239. [PubMed: 5784264]
- Cleminson A. Establishing an epistemological base for science teaching in the light of contemporary notions of the nature of science and of how children learn science. *Journal of Research in Science Teaching*. 1990; 27:429–445.
- Covey MK, Saladin S, Killen PJ. Self-monitoring, surveillance, and incentive effects on cheating. *The Journal of Social Psychology*. 2001; 129:673–679.
- Crown DF, Spiller MS. Learning from the literature on collegiate cheating: A review of the empirical research. *Journal of Business Ethics*. 1998; 17:683–700.
- Damon, W. Self-understanding and moral development from childhood to adolescence. In: Kurtines, W.; Gewirtz, J., editors. *Morality, moral behavior and moral development*. New York: Wiley; 1984. p. 109-127.
- Fanelli D. How many scientists fabricate and falsify research? A systematic review and meta-analysis of survey data. *PLoS ONE*. 2009; 4:e5738. [PubMed: 19478950]
- Franck E, Opitz C. Incentive structures for professors in Germany and the United States: Implications for cross-national borrowing in higher education reform. *Comparative Education Review*. 2006; 50:651–671.
- Gayton JT. Academic libraries: “Social” or “communal?” the nature and future of academic libraries. *The Journal of Academic Librarianship*. 2008; 34:60–66.
- Gino F, Schweitzer ME, Mead NL, Ariely D. Unable to resist temptation: How self-control depletion promotes unethical behavior. *Organizational Behavior and Human Decision Processes*. 2011; 115:191–203.
- Greenwald AG. The totalitarian ego: Fabrication and revision of personal history. *American Psychologist*. 1980; 35:603–618.
- Harding, TS.; Carpenter, DD.; Montgomery, SM.; Steneck, NH. The current state of research on academic dishonesty among engineering students. Paper presented at the 31st ASEE/IEEE Frontiers in Education Conference; Reno, NV. 2001.
- Harris J, Bromiley P. Incentives to cheat: The influence of executive compensation and firm performance on financial misrepresentation. *Organization Science*. 2007; 18:350–367.
- Jauch LR. Tailoring incentives for researchers. *Compensation & Benefits Review*. 1977; 9:65–69.
- Johnson S, Ryan H, Tian Y. Managerial incentives and corporate fraud: The sources of incentives matter. *Review of Finance*. 2009; 13:115–145.
- Jordan J, Mullen E, Murnighan JK. Striving for the moral self: The effects of recalling past moral actions on future moral behavior. *Personality and Social Psychology Bulletin*. 2011; 37:701–713. [PubMed: 21402752]
- Khan U, Dhar R. Licensing effect in consumer choice. *Journal of Marketing Research*. 2006; 43:259–266.

- Kibble J. Use of unsupervised online quizzes as formative assessment in a medical physiology course: Effects of incentives on student participation and performance. *Advances in Physiological Education*. 2007; 31:253–260.
- McCabe, DL.; Treviño, LK.; Butterfield, KD. Academic dishonesty in graduate business programs: Prevalence, causes, and proposed action. New York: Academy of Management Learning and Executive; 2006.
- Mednick SA. The associative basis of the creative process. *Psychological Review*. 1962; 69:220–232. [PubMed: 14472013]
- Merritt AC, Effron DA, Monin B. Moral self-licensing: When being good frees us to be bad. *Social and Personality Psychology Compass*. 2010; 4/5:344–357.
- Milgram, S. Obedience to authority: An experimental view. New York: Harper & Row; 1974.
- Miller DT, Visser PS, Staub BD. How surveillance begets perceptions of dishonesty: The case of the counterfactual sinner. *Journal of Personality and Social Psychology*. 2005; 89:117–128. [PubMed: 16162048]
- Monin B, Miller DT. Moral credentials and the expression of prejudice. *Journal of Personality and Social Psychology*. 2001; 81:33–43. [PubMed: 11474723]
- Mumford MD, Connelly S, Brown RP, Murphy ST, Hill JH, Antes AL, Waples EP, Devenport LD. Sensemaking approach to ethics training for scientists: Preliminary evidence of training effectiveness. *Ethics and Behavior*. 2008; 18:315–339. [PubMed: 19578559]
- Murdock TB, Anderman EM. Motivational perspectives on student cheating: Toward an integrated model of academic dishonesty. *Educational Psychologist*. 2006; 41:129–145.
- Pinder, CC. Work motivation in organizational behavior. New York: Psychology Press; 2008.
- Rabins M. Teaching engineering ethics to undergraduates: Why? What? How? *Science and Engineering Ethics*. 1998; 4:291–302.
- Rynes SL, Gerhart B, Parks L. Personnel psychology: Performance evaluation and pay for performance. *Annual Review of Psychology*. 2005; 56:571–600.
- Sachdeva S, Iliev R, Medin DL. Sinning saints and saintly sinners: The paradox of moral self-regulation. *Psychological Science*. 2009; 20:523–528. [PubMed: 19320857]
- Sims RL. The relationship between academic dishonesty and unethical business practices. *Journal of Education for Business*. 1993; 69:207–211.
- Steele, CM. The psychology of self-affirmation: Sustaining the integrity of the self. In: Berkowitz, L., editor. *Advances in experimental social psychology*. San Diego, CA: Academic Press; 1988. p. 261–302.
- Steen RG. Retractions in the scientific literature: Do authors deliberately commit research fraud? *Journal of Medical Ethics*. 2011; 37:113–117. [PubMed: 21081306]
- Taylor J. A higher education perspective on linking performance indicators to extrinsic rewards: An empirical analysis. *Journal of Public Affairs Education*. 2003; 9:13–31.
- Tetlock PE. Thinking the unthinkable: Sacred values and taboo cognitions. *Trends in Cognitive Sciences*. 2003; 7:320–324. [PubMed: 12860191]
- Tetlock PE, Kristel OV, Elson SB, Lerner JS, Green MC. The psychology of the unthinkable: Taboo trade-offs, forbidden base rates, and heretical counterfactuals. *Journal of Personality and Social Psychology*. 2000; 78:853–870. [PubMed: 10821194]
- Thiel CE, Bagdasarov Z, Harkrider L, Johnson J, Mumford MD. Leader ethical decision-making in organizations: Strategies for sensemaking. *Journal of Business Ethics*. (in press).
- Tsang JA. Moral rationalization and the integration of situational factors and psychological processes in immoral behavior. *Review of General Psychology*. 2002; 6:25–50.
- Varian, HR. The New York Times. 2002 Mar 14. Economic scene; p. C1
- Zhong CB, Liljenquist K. Washing away your sins: Threatened morality and physical cleansing. *Science*. 2006; 313:1451–1452. [PubMed: 16960010]
- Zhong CB, Strejcek B, Sivanathan N. A clean self can render harsh moral judgment. *Journal of Experimental Social Psychology*. 2010; 46:859–862.

Figure 1.
The effects of incentives and consequences on moral cleansing.

Table 1

Means, Standard Deviations, and Correlations Among Measured Variables

Variable	<i>M</i>	<i>SD</i>	Min	Max	1	2	3	4
1. Cheating	1.25	2.14	0.00	8.00				
2. Cheating/No Cheating	0.38	0.49	0.00	1.00	.75**			
3. Moral Cleansing	24.82	5.51	4.00	35.00	-.13	-.11		
4. Verbal Reasoning Ability	5.39	1.94	0.00	8.00	.23	.31**	-.02	

Note. Cheating/no cheating dichotomized variable (no cheating = 0, at least one instance of cheating = 1). Verbal Reasoning Ability used as a covariate.

* $p < .05$,

** $p < .01$ (two-tailed). $N = 191$.

Table 2

Means, Standard Deviations, and Comparison Tests of Conditions

	Consequences						Significance			
	Harm		No Harm							
	Incentives	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>df</i>	η^2_p		
None		24.08	4.81	25.44	4.41	1.06	1, 47	.02		
Minimal		26.73	5.10	22.84	6.43	4.70*	1, 44	.10		
Medium		26.04	5.15	22.08	6.70	4.99*	1, 44	.10		
Large		27.38	4.27	24.26	5.15	4.63*	1, 44	.10		

Note. η^2_p = partial eta squared.

* $p < .05$ (two-tailed). $N = 191$.