For Whom Does Deterrence Affect Behavior? Identifying Key Individual Differences

Adam Fine
Department of Psychology and Social Behavior
School of Social Ecology
University of California, Irvine
FineA@uci.edu

Benjamin van Rooij
University of California, Irvine School of Law
University of Amsterdam Faculty of Law
BvanRooij@law.uci.edu


ComplianceNet is an international network of scholars from across the social and behavioral sciences who study compliance, broadly defined as the interaction between rules and individual and organizational behavior. The network publishes a working paper series that offers the latest work in this field. The papers are unpublished drafts or pre-published versions of publications. Submissions can be sent to the editors, Benjamin van Rooij, bvanrooij@law.uci.edu and Yuval Feldman, Yuval.Feldman@biu.ac.il

ComplianceNet.org
For Whom Does Deterrence Affect Behavior? Identifying Key Individual Differences

Disclaimer: © 2017, American Psychological Association. This paper is not the copy of record and may not exactly replicate the final, authoritative version of the article. Please do not copy or cite without authors permission. The final article will be available, upon publication, via its DOI: 10.1037/Ihb0000246
For Whom Does Deterrence Affect Behavior? Identifying Key Individual Differences
Adam Fine, Benjamin van Rooij

Abstract

Deterrence threats are essential mechanisms for affecting behavior, yet they are often ineffective. The literature is beginning to consider individual differences underlying differential susceptibility to deterrence. The present study sampled 223 adults from Amazon Mechanical Turk and used an experimental cheating paradigm to examine the role of three individual differences, including morality, self-control, and rule orientation, underlying differential susceptibility to deterrence. The results indicate that deterrence threats may be more influential for people who have low moral disengagement, who possess more self-control, or who are more rule oriented. These findings indicate that important individual differences underlie susceptibility to deterrence.
Introduction

Criminal justice policy relies heavily on the assumption that deterrence (Nagin, 2013) is an essential lever for affecting offending behavior. Considering deterrence is often ineffective (Paternoster, 1987; Pratt, Cullen, Blevins, Daigle, & Madensen, 2006), the focus has shifted to understanding for whom deterrence threats affect behavior (Piquero, Paternoster, Pogarsky, & Loughran, 2011; Pratt et al., 2006), though most research continues to ignore individual differences underlying differential susceptibility to deterrence (see Svensson, 2015). The present study used an experimental paradigm to examine the role of three individual differences, including morality (Bandura et al., 2001; Moore et al., 2012), self-control (Gottfredson & Hirschi, 1990), and rule orientation (Fine et al., 2016), that illuminate psychological processes underlying differential susceptibility to deterrence. By better understanding individual differences, law enforcement practitioners can better come to understand the limits of a deterrence approach, and try and seek alternative approaches for those who are less susceptible to deterrence threats.

Deterrence theory assumes that humans are rational actors who weigh the costs and benefits when deciding whether to offend (Becker, 1968; Bentham, 1988; Beccaria, 1986). A central tenant of the theory is that sanction threats inhibit offending behavior through increasing the costs of crime. However, as the field has long discussed (Tittle, 1969), threatening individuals with sanctions often weakly affects offending behavior (Paternoster, 1987; Pratt et al., 2006) and may depend on individual differences (Decker, Wright, & Logie 1993; Nagin & Peternoster, 2004; Svensson, 2015). First and foremost, deterrence is a perceptually-based phenomenon, in that in order to be affected, individuals must perceive the deterrence (Geerken & Gove, 1975; Minor & Harry, 1982). Fry (1951) posited that deterrence may operate differently among present-oriented versus future-oriented individuals. Fry noted, and Gottfredson and Hirschi (1990) later concurred, deterrence may be ineffective for those individuals whose present desire or present orientation is overwhelming. In effect, individuals who are present-oriented or who are unable to exhibit self-control may be unaffected by deterrence threats. Indeed, empirical research is beginning to support these propositions, yet results are not consistent across all studies (see Piquero et al., 2011). Some studies find that the influence of deterrence on offending behavior is greater on individuals with more self-control whereas others find the opposite effect or fail to detect an interaction (see Nagin & Pogarsky, 2003; Tittle & Botchkovar, 2004; Wright et al., 2004).
In addition to self-control, researchers have begun to consider morality as a potential individual difference underlying differential susceptibility to deterrence. Morality is a broad construct that includes many theoretical approaches and types of measurement strategies. When discussing morality, then, selecting the most appropriate measure is of particular importance. In this study, morality was operationalized as the propensity to morally disengage. The propensity to morally disengage refers to an individual difference in the way that people cognitively process decisions and behavior with ethical import (Bandura, 1986; Bandura et al., 2001). Individuals who are more morally disengaged are better able to behave unethically without feeling distress. In contrast, individuals who are less morally disengaged are less able to behave unethically without feeling distress (Bandura et al., 1996; Moore et al., 2012). Moral disengagement theory predicts that if individuals anticipate self-condemnation and distress at the thought of engaging in a behavior that conflicts with their internalized moral standards, the transgressive behavior should be deterred.

Some previous research has examined whether deterrence is more or less effective based on individual differences in morality, yet the results are conflicting (see Gallupe & Baron, 2014; Pauwels et al., 2011; Svensson, 2015). However, it is critical to note that studies have operationalized morality in a variety of ways, such as assessing moral values (Svensson, 2015), whether individuals view crime as moral rule breaking (Gallupe & Baron, 2014), attitudes towards rule breaking (Pauwels et al., 2011), or endorsement of conventional values and religious importance (Piquero et al., 2016). The present study specifically assessed moral disengagement, as the approach posits that individuals systematically differ in their propensities to use moral disengagement mechanisms when facing decisions. Further, a recent study found that beyond other established individual differences and associated morality measures, the propensity to morally disengage predicts self-reported unethical behavior and a decision to commit fraud (Moore et al., 2012), which are two behaviors that are closely aligned to the behavior in the present study. We hypothesized that because deterrence works though increasing the costs of crime, a deterrence threat would be particularly influential for individuals who are less morally disengaged. That is, among those who feel more distress at the thought of engaging in a behavior they perceive to be immoral, an explicit deterrence threat would be particularly effective because it increases the salience of the threat and triggers anticipatory distress. In contrast, individuals who are more morally disengaged (i.e., those who are better able to behave unethically without feeling distress) might not be as effected by a
For Whom Does Deterrence Affect Behavior? Identifying Key Individual Differences

deterrence threat. This study was the first to use the propensity to morally disengage to analyze cheating behavior both with and without an explicit deterrence threat.

Finally, rule orientation (Fine et al., 2016) may also underlie differential susceptibility to deterrence. Rule orientation assesses individual variation in the extent to which people accept conditions for violating legal rules. Rule orientation, which is distinct from morality and is differentially associated with the propensity to engage in offending behavior (Fine et al., 2016), captures whether people think about violation in grey terms (i.e., seeing more acceptable conditions) or in black and white terms (i.e., there are no acceptable conditions to break rules). It is likely the case that individuals who are more oriented to the rules would be more affected by deterrence threats, insofar as the deterrence threat makes salient the rule. It is also likely that individuals who are less oriented to the rules would engage in the offending behavior regardless of the deterrence threat, as they may not pay attention to the deterrence threat’s explicit declaration of the rule. However, researchers have not yet considered associations between rule orientation and deterrence as they pertain to actual offending behavior.

Present Study

Deterrence is an essential lever for affecting the decision to offend, however most studies continue to ignore individual differences underlying differential susceptibility. Little is known about for whom deterrence threats affect behavior. To better understand the psychological processes underlying differential susceptibility to deterrence, the present study took a nuanced approach to understanding why deterrence has varying effects on individuals’ decision to offend. It utilized an established paradigm (Mazar, Amir, & Ariely, 2008) to assess whether three individual characteristics (morality, self-control, and rule orientation) interacted with a deterrence threat to shape the decision to offend.

Methods

Participants

Participants were recruited through Amazon Mechanical Turk (Mason & Suri, 2012) that provides an online forum to access individuals interested in completing tasks such as surveys and questionnaires. Of those who began the survey, we excluded two participants for failing quality assurance questions drawn from Meade and Craig (2012). The final sample consisted of 223 adults in the United States who were on average 35.4 years old (SD = 11.5). The sample was approximately evenly split between males (48.4%) and females (51.6%). The
sample self-identified as majority White (74.4%), followed by Asian (7.2%), Hispanic or Latino (6.7), African American or Black (5.8%), and other race (5.8%). Race was dichotomized into White versus non-White because there were too few participants of other pan-racial categories to analyze separately. The study was approved by the Institutional Review Board at the University of California, Irvine.

**Measures**

**Matrix Task and Deterrence Contexts.** The Matrix Task is designed to elicit cheating behavior (Mazar, Amir, & Ariely, 2008). The task consists of 20 matrices, each with a different set of 12 numbers with two decimal points (e.g., 5.32). Participants were instructed to find two numbers per matrix that added up to 10, with the goal of completing as many as they could correctly in four minutes (see Mazar, Amir, & Ariely, 2008). Because matrices involved decimal math that could be easily mistakenly evaluated as correct under the time pressure (e.g., 2.64 + 7.46 could easily be mistaken as summing to 10), at the conclusion of the four minutes, the participants were directly told the number of matrices they solved correctly. This modification avoided the possibility of hindsight bias (Fischhoff & Beyth, 1975) or mistaken incorrect reporting.

**Rule Orientation.** To measure Rule Orientation, we utilized the 12-item survey that indicates the extent to which individuals perceive acceptable conditions for breaking the law in general (Fine et al., 2016). Participants responded to the items (e.g., “This legal rule makes unreasonable demands of you”; “Most of your direct colleagues and/or friends also break this legal rule”; “You do not understand this legal rule”) using a seven-point Likert scale (from strongly disagree to strongly agree). Rule Orientation is calculated as a mean score of the 12 items ($M = 4.31$, $SD = 1.04$; range 1-7; $\alpha = .88$), with higher scores indicating more Rule Orientation (i.e., the individual accepts fewer justifications for violating laws).

**Self-Control.** We assessed self-control using the 8-item subscale from the Weinberger Adjustment Inventory (Weinberger & Schwartz, 1990). The self-control subscale measures, on a scale ranging from one to five, the extent to which the individual moderates his impulses before acting (e.g., “I do things without giving them enough thought”). A composite self-control score was created by reverse-scoring seven of the eight items and averaging all eight such that higher scores indicate more self-control ($M = 3.64$, $SD = .87$; $\alpha = .85$).

**Mechanisms of Moral Disengagement.** Derived from Bandura’s work (e.g., Bandura, 1999; Bandura et al., 1996; Bandura et al., 2001), Moore and colleagues (2012) created an 8-item measure of the general
propensity to morally disengage. Using a seven-point Likert scale ranging from strongly disagree-strongly agree, participants rated their agreement with each statement (e.g., “People who get mistreated have usually done something to bring it on themselves”). A mean score was created, with higher values indicating more moral disengagement ($M = 2.60$, $SD = 1.04$; $\alpha = .89$).

**Procedure**

After providing consent, participants completed a demographics questionnaire and then, in random order, the matrix task and the psychosocial surveys. Participants were told that they were being given the opportunity to play the researchers’ colleagues’ online number search game and that based on their performance, they would gain additional money by doing well on the game (i.e., getting more correct). That is, the matrix task was presented to participants as an opportunity to gain an extra bonus for the time spent on the surveys. Participants were provided with a hyperlink to access the external game website. On that external game website, participants played the game and were told the number of matrices they solved correctly. Upon being told the number they solved correctly, the game window instructed participants to return to the study website. No participants reported any difficulty accessing the game website or returning to the study website.

Importantly, upon returning to the study website, all participants were told two things. First, they were reminded that they would receive additional bonuses for every problem they got correct. Second, they were told that because the game website is external to the study website, we were unable to access their game data. Therefore, they were told that they must self-report how well they did. This provided participants with the opportunity to cheat by lying about the number they solved correctly in the external game. At this point, before they reported their score, participants were randomly assigned to one of two conditions: no-threat ($N = 110$) or deterrence threat ($N = 112$). That is, each participant was randomly assigned to receive only one context.

Both conditions utilized the same reporting method: a drop-down menu that listed possible scores and the associated bonus payment amounts. In the no-threat condition, participants simply reported their score using the drop-down menu. In the deterrence threat condition, participants received a message stating, “We’ve installed a system of spot-checks. A small percentage of participants’ answers are checked. Participants who are caught cheating may receive a warning.” They then reported their score using the same drop-down menu. This message was piloted against other messages (more detailed information available from the authors upon request).
using a group of 56 MTurk participants who rated the believability that we did not know their scores as high ($M = 3.47, SD = 1.39$, scale 1-5 with higher scores indicating more believable), the probability that they would get caught for falsely reporting their score was about 50% ($M = 47.48\%, SD = 35.84$), the probability of being punished if caught as moderately high ($M = 4.27, SD = 1.90$; scale 1-7 with higher scores indicating higher probability), and the impact of the punishment on them as moderate ($M = 2.34, SD = 1.24$, scale 1-5 with higher scores indicating higher impact). This was the most believable message and was selected because the moderate probability of being caught, moderate punishment impact, and high certainty of being punished are in line with the deterrence literature that shows the certainty matters more than the severity (Nagin, 2013). On average, individuals who reported honestly got 5.75 matrices correct ($SD = 3.39$), whereas those who cheated reported significantly more ($t = -6.61, p < .001, d = -1.08, 95\% CI$ for $d = -1.41, -.74$) at an average of 10.54 matrices ($SD = 7.11$).

**Plan of Analysis**

We examined how context and psychosocial characteristics affect cheating behavior. Because the amount of cheating is a count variable with a skewed distribution, ordinary least squares regression would not be appropriate (Long, 1997; Long & Freese, 2003). Rather, negative binomial regression is employed because it has several advantages over ordinary least squares and poisson regressions, such as being suited for analyzing skewed dependent variables, overdispersed data (i.e., when the variance of the dependent variable exceeds its mean), and data where there are a large number of “0” values for the dependent variable. A series of negative binomial regression models were analyzed. In the first model, only the covariates (age, race, and sex) and a dichotomous indicator of context (with the no-threat condition as the reference group) were included. In the second set of models, using the same set of covariates in each model, interactions between Rule Orientation, self-control, and moral disengagement with the dichotomous indicator of the deterrence context were each included individually and sequentially to examine whether individual characteristics affect cheating across contexts.

**Results**

A correlation matrix between key study variables is presented in Table 1. Results indicate significant associations between rule orientation, self-control, and mechanisms of moral disengagement. Individuals who
are more oriented to the rules report more self-control ($r = .26, p < .001$) and less moral disengagement ($r = -.49, p < .001$). Individuals who have more self-control also report less moral disengagement ($r = -.51, p < .001$).

In the first negative binomial regression model, only the control variables (age, race, and sex) and a dichotomous indicator of context (with the no-threat condition as the reference group) were included ($\chi^2 (4) = 19.46, p < .001$; Table 2). Results indicated that older individuals engaged in less cheating. Compared to those in the control condition, individuals in the deterrence threat condition cheated at a rate approximately 50% less ($IRR = .50, SE = .17, p = .043, 95\% CI = .25, .97$).

### Psychosocial Moderators of the Effect of Deterrence Contexts

The second set of models examined whether the effects of each context may be moderated by psychosocial characteristics, accounting for the same set of covariates (Age, race, and sex).

**Contexts and Rule Orientation.** The first model tested the interaction between rule orientation and the categorical indicator of the context ($Model \chi^2 (6) = 39.44, p < .001$). Results indicated a significant interaction between context and rule orientation (Figure 1, $\chi^2 (1) = 15.75, p < .001$; $IRR = 2.61, SE = .81, p = .002, 95\% CI = 1.41, 4.80$). Contrasts of predicted means indicated that individuals in the control condition cheated the same amount as those in the deterrence threat context if they had low (-1 SD) rule orientation ($dydx = -.01, SE = .93, p = .996, 95\% CI = -1.83, 1.82$). Compared to individuals in the deterrence threat condition, individuals cheated more in the control condition if they were moderately (mean) ($dydx = 1.34, SE = .54, p = .014, 95\% CI = .28, 2.41$) or highly (+1 SD) rule oriented ($dydx = 1.70, SE = .70, p = .01, 95\% CI = .34, 3.07$). These results indicate that individuals who had moderate-to-high rule orientation cheated less if there was an explicit deterrence threat. In contrast, individuals who were less rule oriented cheated the same regardless of the deterrence threat. These results suggest that the deterrence threat was particularly useful for individuals with moderate-to-high rule orientation but ineffective for individuals with low rule orientation.

**Contexts and Self-Control.** The second model tested the interaction between self-control and the categorical indicator of the context ($Model \chi^2 (6) = 28.73, p < .001$). Results indicated a significant interaction between context and self-control (Figure 2, $\chi^2 (3) = 11.89, p = .008$; $IRR = 3.60, SE = 1.60, p = .004, 95\% CI = 1.51, 8.62$). Contrasts of predicted means indicated that individuals in the no-threat condition cheated the same amount as those in the deterrence threat context if they had low (-1 SD) self-control ($dydx = -.23, SE = .61, p = 10
.703, 95% CI = -1.42, .96), but cheated more if they possessed moderate self-control (dydx = 1.25, SE = .53, p = .018, 95% CI = .21, 2.28) or high (+1 SD) self-control (dydx = 2.77, SE = .38, p = .044, 95% CI = .07, 5.47). That is, the results indicated that individuals who had moderate-to-high self-control cheated less if there was an explicit deterrence threat. In contrast, individuals with low self-control cheated the same amount regardless of the deterrence threat.

Context and Mechanisms of Moral Disengagement. The third model tested the interaction between moral disengagement and context (Model $\chi^2(6) = 26.18, p < .001$). Results indicated a significant interaction between context and moral disengagement (Figure 3, $\chi^2(3) = 7.91, p = .048$; IRR = .47, SE = .18, p = .049, 95% CI = .22, .99). Contrasts of predicted means indicated that individuals in the no-threat condition cheated more than those in the deterrence threat context if they had low (-1 SD) moral disengagement (dydx = 1.85, SE = .90, p = .040, 95% CI = .09, 3.61) or moderate moral disengagement (dydx = 1.27, SE = .62, p = .039, 95% CI = .07, 2.48). Individuals with high (+1 SD) moral disengagement, however, cheated the same amount in the no-threat as in the deterrence condition (dydx = .22, SE = .86, p = .799, 95% CI = -1.47, 1.90). These results indicate that individuals who have low-to-moderate moral disengagement cheat more if there is no explicit deterrence threat. Individuals with high moral disengagement cheat the same with and without a deterrence threat. That is, a deterrence threat may be particularly useful for individuals with low or moderate moral disengagement and less effective among individuals with high moral disengagement.

Discussion

Although deterrence threats are an essential lever for affecting offending behavior, few studies consider individual differences underlying differential susceptibility to deterrence threats. Using an experimental paradigm, this study took a nuanced approach to understanding why deterrence threats have varying effects on behavior. Although there were no within-person comparison, in general, the results indicated that individuals with low rule orientation, with low self-control, or with high moral disengagement cheated the same amount regardless of whether there was a deterrence threat. However, compared to the no-threat condition, individuals cheated less in the deterrence-threat context if they were moderately-to-highly rule oriented, possessed moderate-to-high self-control, or exhibited low-to-moderate moral disengagement. These individuals were more
For Whom Does Deterrence Affect Behavior? Identifying Key Individual Differences

likely to abide by the deterrence threat. The findings suggest that deterrence threats may be more effective for particular individuals.

For certain people, deterrence threats simply might not work. For instance, the results of this study indicate that they might not work for people with low self-control, a finding that finds resonance with Van Gelder and de Vries (2013) who found that people in a “hot” emotional state are not susceptible to threat of punishment. This is not surprising, as the premise of deterrence is that people must weigh the deterrence costs before acting. Doing so requires a self-regulatory capacity, and those who lack self-control may be less able to control themselves while performing this cost-benefit calculation. At the same time, low self-control likely makes people succumb more easily to temptation, in this case of earning extra money through cheating. What this also shows is that deterrability is not simply dependent on the extent to which one is a committed offender (Pogarsky 2002) or the inclination to avoid detection (Jacobs 2010), but also of the capacity one has to control one’s self to weigh the risks of getting caught in relation to the rewards of deviant behavior.

Furthermore, the results show that the effectiveness of a deterrence threat also varies based on other individual characteristics. What rule orientation and moral disengagement share is not so much a certain set of substantive morals, but rather the extent to which a person generally lets the rules guide their behavior, and the extent to which a person engages with moral questions at all. The findings indicate that deterrence is more effective for people who are prone to see fewer acceptable conditions to break rules to start with, and for those who are more inclined to engage with moral questions. This shows that there is a link between deterrence and a morality beyond shame and embarrassment (Braithwaite, 1989; Grasmick & Bursik, 1990, 1991; Nagin & Pogarsky, 2001; Van Erp, 2011). The data suggest that deterrence does not work for individuals with low rule orientation or high moral disengagement, as they cheat the same regardless of the amount of deterrence. Identifying such characteristics, therefore, may be crucial for enhancing compliance both with and without deterrence threats.

Limitations and Future Directions

Despite these strengths, the study is limited in several important ways. First, this study utilized a sample derived from a crowd-sourcing website. Due to the platform’s design, a response rate is not possible to calculate because the platform does not tabulate the number of individuals who elected not to participate in the study. As
such, response or non-response bias is not possible to calculate. However, accumulating evidence suggests that
data obtained from these types of sources is sufficiently reliable and highly similar to data acquired from
traditional samples (Buhrmester, Kwang, & Gosling, 2011; Casler, Bickel, & Hackett, 2013; Lutz, 2016;
Paolacci & Chandler, 2014), especially in judgment and decision making research (Goodman, Cryder, &
Cheema, 2013; Horton, Rand, & Zeckhauser, 2011) and particularly if best practices are followed (Rouse, 2015;
Shank, 2015). Further, the present population was well-suited to the study’s experimental paradigm as the
population from which this sample was derived regularly uses online platforms and participates in similar online
tasks to earn money. Considering online methods of data collection may allow for greater self-disclosure
(Joinson, 1999; Locke & Gilbert, 1995), this type of online administration is particularly appropriate for a study
of behavior in which disclosure and self-presentation are potential concerns. However, importantly, the
representativeness of the online participant pool is not well known (Paolacci & Chandler, 2014). Considering the
limited demographic heterogeneity in this sample, replication efforts with more diverse samples that are more
representative of the US population is clearly necessary.

Second, the study used multiple comparisons to thoroughly analyze the associations between individual
characteristics and susceptibility to a deterrence threat. However, though multiple comparisons were clearly
necessary, they do raise the potential of familywise error rates. Subsequent studies using larger sample sizes are
clearly necessary. Third, this study utilized a single deterrence message. Future research is necessary to establish
whether the same individual characteristics identified here operate similarly within varying contexts. This is
particularly important as deterrence threats, including subjective perceptions of the threat, clearly vary within
offending decision-making contexts. Fourth, it is possible that there may be a confound in the deterrence
message manipulation. Specifically, when participants were threatened with punishment, the message also
specifically titled the behavior “cheating.” The mere labeling of the behavior as cheating could have potentially
confounded the effect of the deterrence message, thus future research should disentangle the two components.
Finally, although the present study assessed actual behavior rather than the intention to engage in a behavior, it is
possible that our measure of offending decision making, cheating, might not be generalizable to other behaviors.
Subsequent work would benefit from examining other types of offending behaviors.
For Whom Does Deterrence Affect Behavior? Identifying Key Individual Differences

The study has several practical implications, both for policymakers and law enforcement personnel. Specifically, the results indicate that a deterrence threat should not be expected to work the same for everyone. The findings demonstrate that certain people, in particular those with lower self-control, lower rule orientation, and higher moral disengagement, may be less deterred through threats alone. The study therefore provides a warning to policymakers that deterrence threats should not be viewed as a catch-all solution. This idea should feature in broader debates about criminal justice reform, and offer a clear signal that reliance on deterrence threats may not work uniformly.

The ideas here, although based on one cheating study, could be applied to educate law enforcement, prosecutors, and judges that deterrence threats are unlikely to reduce offending of certain groups of people. Indeed, for large groups of individuals, such as those with low rule orientation, low self-control, and high moral disengagement, deterrence threats may be less effective at changing offending behavior. Other approaches may be more effective to reduce offending. For instance, the restorative justice approach seeks to hold individuals accountable for their behavior on one hand, but also help them manage behavior more effectively in the future on the other. Evidence suggests that restorative justice approaches can increase procedural justice (Barnes et al., 2015) and reduce reoffending (Sherman, Strang, Mayo-Wilson, Woods, & Ariel, 2015). What remains to be seen is whether restorative justice approaches also affect individuals differently based on individual differences.

In sum, the present study used an experimental paradigm to examine whether the effects of a deterrence threat depends on individual characteristics. Findings demonstrate how individual characteristics affect behavior both within and across deterrence contexts. Deterrence threats may be more effective for people who are more rule oriented, who possess more self-control, or who have low moral disengagement. These findings indicate that individual differences underlie susceptibility to deterrence threats.
References


For Whom Does Deterrence Affect Behavior? Identifying Key Individual Differences


For Whom Does Deterrence Affect Behavior? Identifying Key Individual Differences


Svensson, R. (2015). An Examination of the Interaction Between Morality and Deterrence in Offending A


Table 1.

Bivariate Correlations between Study Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td></td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cheating Amount</td>
<td>-.15**</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Rule Orientation</td>
<td>.20**</td>
<td>-.15*</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>4. Self-Control</td>
<td>.32***</td>
<td>-.07</td>
<td>.26***</td>
<td>–</td>
</tr>
<tr>
<td>5. Mechanisms of Moral Disengagement</td>
<td>-.32***</td>
<td>.16*</td>
<td>-.49***</td>
<td>-.51***</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001.
For Whom Does Deterrence Affect Behavior? Identifying Key Individual Differences

Table 2

Negative Binomial Regressions Results of Cheating

<table>
<thead>
<tr>
<th></th>
<th>b (SE)</th>
<th>b 95% CI</th>
<th>Incidence Risk Ratio (SE)</th>
<th>IRR 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.06** (0.02)</td>
<td>-0.10, -</td>
<td>0.94 (.02)</td>
<td>0.90, 0.98</td>
</tr>
<tr>
<td>White^A</td>
<td>0.28 (0.39)</td>
<td>-0.50, 1.05</td>
<td>1.31 (.52)</td>
<td>.61, 2.86</td>
</tr>
<tr>
<td>Sex^B</td>
<td>0.12 (0.36)</td>
<td>-0.58, 0.82</td>
<td>1.13 (.40)</td>
<td>0.56, 2.27</td>
</tr>
<tr>
<td>Condition</td>
<td>Deterrence vs Control</td>
<td>-1.37, -</td>
<td>0.25, .98</td>
<td>- .02, .50 (.17)</td>
</tr>
</tbody>
</table>

^AReference group is all other races

^BReference group is female.

*p<.05, **p<.01, ***p<.001
Figure 1

Interaction between Rule Orientation and Context on Cheating
Figure 2

Interaction between Self-Control and Context on Cheating
Figure 3

Interaction between Mechanisms of Moral Disengagement and Context on Cheating

![Graph showing the interaction between mechanisms of moral disengagement and context on cheating. The graph plots the amount of cheating against the mechanisms of moral disengagement, with two conditions: No Threat (dashed line) and Deterrence Threat (solid line). The data points show an increasing trend as the mechanisms of moral disengagement increase, with the deterrence threat condition having a higher amount of cheating at the extremes compared to the no threat condition.]