

Another's punishment cleanses the self: Evidence for a moral cleansing function of punishing transgressors

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Abstract Separate lines of research show that individuals: (a) understand immorality metaphorically as physical contamination; (b) project undesirable self-attributes onto others; and (c) view punishment as eliminating a transgressor's immorality. Integrating these findings, we hypothesized that individuals project guilt over their own immorality—represented as physical contamination—onto another transgressor whose punishment restores their own moral and physical purity. In Study 1, personal immorality salience decreased felt physical cleanliness unless another transgressor was punished. In Study 2, personal immorality salience led participants to see another transgressor as physically dirtier, an effect mediated by guilt. Furthermore, the punishment of the contaminated transgressor restored participants' personal morality and eliminated restorative moral behavior. In Study 3, punishing a transgressor who served as a projection target for participants' immorality removed felt physical contamination indirectly through decreased guilt. These studies are the first to show that another's punishment can “cleanse” the self of “dirty” immorality feelings.

Keywords Conceptual metaphor · Punishment · Defensive projection · Morality

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Introduction

Members of many pre-modern cultures regularly participated in “rituals of purification” in which a target individual or non-human animal was punished to restore the community's moral standing (Victor 2003). For instance, ancient Israelites symbolically heaped their sins onto a goat that was exiled to expunge their collective guilt (Allport 1954/1979), while the Greeks stoned criminals burdened with the transgressions of others in order to remove the community's immorality (Frazer 1922/2002). This widespread cultural practice was based fundamentally on three interrelated beliefs: immorality is a tangible contaminant; it can be transferred from the self to others; and it can be eliminated by punishing those “contaminated” others (Douglas 1995).

Although these beliefs may sound archaic to modern ears, separate lines of research (reviewed shortly) show that they continue to shape people's thinking about morality: Individuals understand immorality metaphorically as a tangible contaminant (e.g., Rozin et al. 1994a); they project undesired aspects of the self onto others (e.g., Schimel et al. 2003); and they view punishment as a means of expiating the moral transgressions of the punished (e.g., Bastian et al. 2011).

Integrating and extending these findings, we hypothesized that individuals continue to see the punishment of other transgressors as a means of atoning for their own immoral actions. In what follows, we elaborate on the theoretical and empirical background for this hypothesis. Then we report three experiments that assess this novel hypothesis. We believe the findings illuminate the motives and belief systems underlying moral judgment.

Moral and physical purity

According to conceptual metaphor theory (CMT; Lakoff and Johnson 1980), people represent abstract concepts in terms of dissimilar, typically embodied concepts that are more concrete and easier to understand. A conceptual metaphor creates a systematic mental “map” between corresponding elements of the two concepts. This enables people to use knowledge of a concrete concept as a framework for interpreting and evaluating analogous elements of an abstract concept. This perspective suggests that common expressions such as “dirty deed” and “clean conscience” are more than ornamental figures of speech; instead, they reflect an underlying conceptual metaphor that people use to understand *morality* in terms of *physical cleanliness* (Lakoff and Johnson 1999).

Empirical evidence for this claim comes from recent studies showing that manipulating people’s experience of physical cleanliness affects their moral judgments in a metaphor-consistent manner, even when individuals are unaware of this influence. In one series of studies (Schnall et al. 2008b), participants exposed to foul odor (Study 1) or seated in an unclean physical environment (Study 2) judged a variety of morally dubious behaviors as more immoral, even though the behaviors were not directly relevant to cleanliness (e.g., falsifying a resume). In a related study, participants who washed their hands rated these behaviors as less wrong than those not given the opportunity to physically cleanse themselves (Schnall et al. 2008a). Similarly, Zhong et al. (2010) found that increasing participants’ perceptions of their own physical cleanliness increased ratings of their personal moral character. These studies indicate that people rely on perceptions of their physical cleanliness when thinking about morality.

Related research shows that morality concepts reciprocally affect perceived physical cleanliness. Studies show that moral violations can elicit disgust, an emotional response commonly evoked by unclean physical environments and associated with the avoidance and expulsion of physical contaminants (Chapman et al. 2009; Haidt et al. 1993; Moll et al. 2005; Rozin et al. 1994a). People also avoid contact with objects that have been previously owned by, or been in contact with, immoral others. In one study (Rozin et al. 1994b), participants were less willing to use an object (e.g., a sweater) if it was previously owned by a murderer. These findings further support the claim that people use knowledge of physical contaminants to render evil more tangible.

Beyond associating others’ misdeeds with physical disgust, recent studies support the contention that individuals can feel physically soiled by their own immorality. Zhong and Liljenquist (2006) showed that participants reminded of their own unethical (vs. ethical) behavior were more

likely to choose an antiseptic hand wipe over a pencil as a gift for participating in the study. Furthermore, participants who contemplated their own immoral actions reported increased feelings of guilt and an increased desire to engage in moral restoration behavior (e.g., volunteering to help another student in need), but these effects were eliminated if participants had an opportunity to physically cleanse themselves. Similarly, Lobel et al. (2014) found that participants donated less money to charity after they had bathed for religious purification. In sum, cleansing the self of physical contamination removes feelings of guilt and circumvents the need to take action to restore one’s moral identity.

In sum, the current research draws on a growing body of evidence showing that the association between morality and cleanliness is bidirectional (Lee and Schwarz 2012). This suggests that processes that reduce feelings of guilt reduce perceptions of physical dirtiness. We aim to bridge this finding with theory and research on projection.

Projection

Classic psychoanalytic accounts propose that people confronted with their own undesirable qualities (traits, thoughts, impulses) become motivated to see those faults in others and thereby expel them from the self (Freud 1936; Jung 1968). Drawing on this approach, current accounts (Govorun et al. 2006) define defensive projection as a (typically unconscious) effort to protect one’s self-image by attributing negative self-aspects to others.

Studies show that people told they possess an undesirable trait will ascribe that trait to others. For example, Schimel et al. (2003) found that participants responded to (bogus) feedback that they had high (vs. low) levels of repressed hostility by rating a target as more hostile. Projection was very specific: Participants were motivated to view the target as possessing the feedback-relevant trait (hostility), but not other negative traits (e.g., boringness). Thus, projection reflects an effort to rid the self of a specific undesirable trait, rather than to derogate a target in more global terms.

Subsequent studies provide stronger evidence that projection stems from self-esteem motivation and is not due to the mere salience of an undesirable quality. Govorun et al. (2006) showed that participants led to recall a personal intellectual failure (vs. a neutral topic) were more likely to believe that student athletes lacked intelligence, whereas those who wrote about a friend’s intellectual failure did not. Because these effects were observed only when participants were reminded of their own intellectual failure, these results also suggest that it is the threat of possessing an undesirable trait oneself, and not simply exposure to that trait in another, that elevates one’s tendency to defensively

project. Further, Govorun et al. replicated the finding that threatened individuals project a salient undesired trait specifically, and do not perceive a target in more globally negative terms. The salience of personal unintelligence did not affect participants' attributions to student athletes of negative stereotypic traits unrelated to intelligence (e.g., arrogance).

Hence, research on projection suggests that people sometimes see their own salient undesirable qualities in others when the possession of these qualities threatens the self. However, research on the effectiveness of projection in restoring a positive view of the self is mixed (for supporting evidence see Schimel et al. 2003; for evidence to the contrary see Halpern 1977; Holmes and Houston 1971). This raises the possibility that self-relevant threats to moral value may produce an increased tendency to see immorality in another transgressor without necessarily restoring a sense of moral worth. How can we make sense of these conflicting findings? Note that in pre-modern purification rituals, the projection target was not only freighted with the community's sins but subsequently was exiled, beaten, or killed. These observations lead us to propose that projection is not sufficient to alleviate one's own moral contamination; in addition, the projection target must also be punished.

Punishment

Punishment has long been described as a means of atoning for sin and alleviating the stain of immorality. As the Judeo-Christian Bible states: "punishment cleanses away evil" (Proverbs 20:30, NLT). Empirical evidence shows that people indeed view punishment as providing atonement. Nelissen and Zeelenberg (2009) found that participants induced to feel that they had harmed others, and deprived of a means to make reparations, self-punished by denying themselves a pleasurable reward (Study 1) or giving themselves point deductions on an ego-relevant task (Study 2). These self-punishment effects were presumably motivated by participants' desire to alleviate their increased feelings of guilt. Similarly, Bastian et al. (2011) found that participants reminded of a time they harmed others later chose to expose themselves to more physical pain in a cold pressor task. Furthermore, pain exposure reduced participants' guilt, but it did not affect other negative emotions (e.g., angry, distressed, afraid).

Inbar et al. (2013) focused on guilt's role in motivating self-punitive behavior. They found that participants reminded of a guilt-inducing experience (vs. a sad or a neutral experience) administered significantly stronger electric shocks to themselves. Furthermore, more intense self-shocking predicted decreased feelings of guilt. This study provides strong evidence that people are motivated to

receive punishment as a means of removing aversive feelings of guilt over their own immoral actions and, critically, that punishment reduces feelings of guilt. In sum, the research reviewed in this section shows that people perceive punishment as removing the immorality of a punished transgressor (in this case, the self).

Still, because prior studies have focused on self-administered punishment, we cannot disentangle the guilt-alleviating effects of being punished from the potential effects of administering punishment. This distinction is important in light of recent research showing that punishing others can bolster feelings of morality. Adams (2011) found that participants given the chance to punish a moral transgressor believed themselves to be more just in comparison to those who saw the transgressor go unpunished, as well as those who witnessed the transgressor's punishment by a third party. This suggests that the act of punishing others bolsters a punisher's self-perceived moral identity. Importantly, this is conceptually distinct from the idea that punishment atones for the immorality of the person who is punished, regardless of who is administering the punishment.

Overview of current research

The three lines of research just reviewed suggest that the beliefs underlying pre-modern moral purification rituals continue to shape people's moral perceptions and judgment: (a) guilt over one's immoral actions is a tangible contaminant; (b) one's own moral contamination can be symbolically transferred to others; and (c) immorality is eliminated through received punishment. At the intersection of these moral beliefs, we propose, lies a novel process: Witnessing another person being punished for a moral transgression may serve to "cleanse" the self of immorality. In other words, the punishment of a transgressor seen as possessing one's immoral qualities parallels the more direct cleansing effect of punishment for one's own transgression (Bastian et al. 2011; Inbar et al. 2013; Nelissen and Zeelenberg 2009).

Specifically, we hypothesize that when a person feels immoral, they are defensively motivated to project their moral contamination onto another transgressor. Furthermore, punishment expiating the projection target vicariously restores the person's own moral and physical purity. Three experiments tested components of this broad hypothesis. In Study 1, we predicted that focusing participants on their immorality would cause them to report feeling physically contaminated (replicating previous research). This effect would be attenuated if they were presented with another moral transgressor who was punished, but not if they were presented with an unpunished transgressor or a non-transgressor. In Study 2, we predicted that

participants whose own immorality was made salient would perceive a target transgressor as more physically contaminated, and that this effect would occur indirectly through participants' feelings of personal guilt. We also predicted personal immorality salience would decrease perceptions of personal morality and increase the desire to engage in compensatory moral behavior, but these effects would be attenuated if the target transgressor was punished by a third party. In Study 3, we predicted that participants reminded of their immorality would project immorality onto a target transgressor. Furthermore, we predicted that another transgressor's punishment would attenuate feelings of guilt and physical contamination, but only if the punished transgressor was the same target on whom participants had projected their immorality.

Study 1

Based on our claim that the punishment of another moral transgressor "cleanses" the self of moral contamination, we hypothesized that increasing the salience of personal immorality would cause participants to feel physically dirtier (following Zhong and Liljenquist 2006), unless they were additionally exposed to another transgressor who was punished.

In a critical comparison condition, participants were exposed to a non-punished transgressor, although the extent and severity of the target's wrongdoing was the same as that of the punished transgressor. Because we propose that punishment has a unique moral cleansing effect, we predicted that exposure to a non-punished transgressor would not attenuate the effect of personal immorality salience on felt dirtiness. By presenting equivalent transgressors and manipulating punishment, Study 1 sought to rule out an alternative explanation for the predicted effects based on the process of downward social comparison (Festinger 1954). If the predicted effects were simply due to participants feeling less immoral after self-comparison with the perpetrator of an egregious transgression, then we would expect participants to feel less guilty about their own immorality after observing another person's immoral action, regardless of whether that person was punished or not.

Methods

Participants were 153 American adults (76 female) ranging in age from 18 to 82 years ($M = 32.87$, $SD = 13.40$) recruited through Amazon's Mechanical Turk (Mturk) service for \$.35. The experiment was described as three short, unrelated studies investigating different aspects of memory, judgment, and personality. This cover story was

included in the brief description on Mturk, and reinforced by the informed consent and initial study instructions. The same cover story was used in Studies 2 and 3. Across the studies, participants' responses to post-experimental surveys did not reveal strong suspicions about the validity of this cover story or questions regarding the study's true purpose. It took participants, on average, 13.14 min ($SD = 5.22$) to complete all survey materials. Participants were randomly assigned to one of six conditions in a 2 (personal immorality salience) \times 3 (target type) design.

Personal immorality salience manipulation

The ostensible first study was presented as examining memory for personal experiences. Participants responded to a prompt asking them to write about a personal memory. Following Zhong and Liljenquist (2006) participants in the *immorality salient* condition were asked to describe a time when they acted "in an unethical way." Participants in the *immorality not salient* condition were asked to describe a time when they were "very bored," an aversive topic intended to control for the general negativity of the immorality salience induction. All participants were instructed to write three to five sentences describing the situation, how they acted, and how it made them feel. In this experiment, and all subsequent studies, we found that all that participants wrote at least one sentence in response to the writing prompt.

Target manipulation

The ostensible second study concerned impressions of others. Participants were presented with a report from an ostensible university misconduct hearing. The first half of the report, which was the same for all participants, provided a case description of an incident in which a student was accused of stealing money from a charity donation box on campus. The second half, which described the committee's final judgment and disciplinary action, differed by condition. Participants in the *non-transgressor* condition read that the student was found not guilty and that all the money was accounted for. Participants in the *non-punished transgressor* condition read that the student was found guilty of the offense, but no punitive action could be taken because the individual was no longer a student at the university. Participants in the *punished transgressor* condition read that the student was found guilty and was expelled for the offense.

All participants rated their perceptions of the accused student on three non-moral negative traits (stupid, lazy, close-minded) along a 6-point scale (1 = *not at all*, 6 = *very much*; $\alpha = .67$). These traits represent negative

characteristics that are not directly related to the transgressor's perceived morality. Hence, measuring them allowed us to test whether participants differed in their overall negative evaluations of the punished and non-punished transgressor. In light of evidence for the specificity of defensive projection (Govorun et al. 2006; Schimel et al. 2003), we did not expect ratings on these traits to vary as a function of personal immorality salience.

Personal physical cleanliness measure

The ostensible third study was presented as examining personality. Participants were asked to indicate their agreement with 4 statements about their current feelings of personal physical cleanliness: "I feel exceptionally clean"; "I feel very sanitary"; "I feel filthy" (reverse scored); "I feel polluted" (reverse scored). Responses were made on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*) and were averaged (after reverse-scoring) to form composite scores ($M_{grand} = 4.42$, $SD = .81$; $\alpha = .76$).

Results

Target ratings

To test our assumption that the punishment of a transgressor did not influence general negative attitudes toward the transgressor, we submitted composite negative trait ratings to a 2 (*immorality salient vs. immorality not salient*) \times 3 (*non-transgressor vs. non-punished transgressor vs. punished transgressor*) ANOVA. We observed only a main effect of target type, $F(2, 148) = 18.26$, $p < .001$, $\eta_p^2 = .20$. As expected, participants generally derogated the punished transgressor ($M = 4.52$, $SD = .84$) and the non-punished transgressors ($M = 4.37$, $SD = 1.03$) compared to the non-transgressor ($M = 3.29$, $SD = 1.31$; $ps < .001$). As important, participants rated the two transgressors as equally negative ($p = .58$).

Personal physical cleanliness

To test our primary hypotheses, we submitted ratings of personal physical cleanliness to the same personal immorality salience \times target ANOVA. This analysis revealed a main effect of immorality salience, $F(1, 148) = 4.68$, $p = .03$, $\eta_p^2 = .03$, which was qualified by the predicted two-way interaction, $F(2, 148) = 4.98$, $p = .01$, $\eta_p^2 = .06$ (see Fig. 1 for the pattern of means).

In line with previous research (e.g., Zhong and Liljenquist 2006), pairwise comparisons (Fisher's LSD) revealed that in the non-transgressor condition, participants primed with their own immoral actions reported feeling less

physically clean ($M = 4.07$, $SD = .73$) compared to participants whose personal immorality was not made salient [$M = 4.60$, $SD = .67$; $F(1, 148) = 5.63$, $p = .02$, $\eta_p^2 = .04$]. The same effect was observed when the other transgressed, but was not punished: participants felt less clean when their own immorality was salient ($M = 4.06$, $SD = 1.08$) compared to when their immorality was not salient [$M = 4.67$, $SD = .69$; $F(1, 148) = 7.60$, $p = .01$, $\eta_p^2 = .05$].

In contrast, when presented with another transgressor who *was* punished, participants' feelings of personal physical cleanliness did not differ according to whether their own personal immorality was made salient ($M = 4.62$, $SD = .50$) or not [$M = 4.32$, $SD = .93$; $F(1, 148) = 1.72$, $p = .19$, $\eta_p^2 = .01$]. Also supporting predictions, in the immorality salient condition, participants exposed to a punished transgressor reported feeling significantly cleaner than those exposed to a non-transgressor as well as those exposed to a non-punished transgressor ($F_s > 4.49$, $ps < .04$, $\eta_p^2 > .04$). No effect of target type on cleanliness was found in the immorality-not-salient condition ($F_s < 2.70$, $ps > .10$, $\eta_p^2 < .03$).

Discussion

Supporting predictions, the salience of personal immorality led participants to report feeling physically dirtier, but this effect was eliminated if participants were additionally presented with another transgressor who was punished, but not a non-transgressor or a transgressor who was not punished. These results are consistent with Zhong and Liljenquist's (2006) research suggesting that people can feel physically soiled by their own salient immoral actions, but they go further to support our claim that the punishment of another moral transgressor can eliminate that feeling of physical contamination.¹

Study 1 also helps to rule out social comparison processes as an alternative mechanism behind our observed effects. If these effects were simply due to comparing the self with someone who is morally reprehensible, we would have expected that exposure to the same transgressor would similarly influence participants' self-perceptions, regardless of whether or not that transgressor was ultimately punished. Yet the results of Study 1 show that punishment, and not simply downward social comparison,

¹ It is also worth noting that these findings provide what is, to our knowledge, the most direct evidence to date that people can feel soiled by their own moral violations. Zhong and Liljenquist (2006) indirectly assessing participant's felt physical contamination by measuring the accessibility of cleaning-related words (Study 1), or willingness to pay more for cleaning products (Study 2). The current study directly assessed participants' self-reported feelings of personal physical cleanliness.

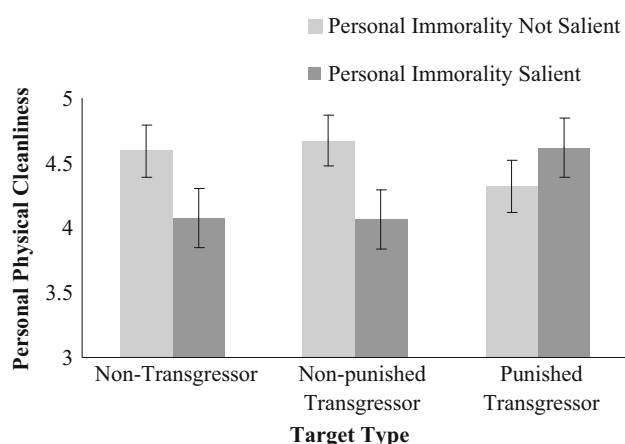


Fig. 1 Ratings of personal physical cleanliness as a function of personal immorality salience and target type (Study 1)

is necessary to cleanse the self of immorality. Still, the social comparison alternative has not been definitively ruled out. It is possible that despite equivalent descriptions and non-moral negativity ratings of the transgressor across both the punished and non-punished target conditions, participants judged the punished transgressor as *dirtier* or more *evil* than the non-punished transgressor. This leaves open the possibility that our effects are due to downward social comparison on these dimensions.

Supplemental study

To rule out this latter possibility, 64 undergraduate students (37 women) from a large Midwestern university were approached and asked to complete a survey. They were asked to read one of the three target descriptions used in Study 1 and rate the extent to which the target could be characterized as *dirty* and as *evil* (1 = *not at all*, 6 = *very much*). Dirty and evil scores were submitted to separate ANOVAs by target condition (see Table 1 for descriptive statistics). Results showed that the non-punished transgressor was rated as dirtier and more evil than the punished transgressor ($ps < .05$, $\eta_p^2 > .09$) and the non-transgressor ($ps < .02$, $\eta_p^2 > .13$). Ratings of the punished transgressor and non-transgressor did not differ on either characteristic ($ps > .70$, $\eta_p^2 < .02$).

Additionally, replicating Study 1, participants ascribed more negative, non-moral traits (stupid, lazy, close-minded; $\alpha = .77$) to the punished transgressor ($M = 3.72$, $SD = .85$) and the non-punished transgressor ($M = 3.86$, $SD = .92$) compared to the non-transgressor ($M = 2.65$, $SD = 1.06$; $ps < .01$, $\eta_p^2 > .18$), whereas they rated the two transgressors equally negatively ($p = .64$, $\eta_p^2 < .01$).

The results of this supplemental study do not support a downward comparison explanation for the effects found in

Study 1. Again, the supplemental study showed that participants viewed the non-punished transgressor as dirtier and more evil than the punished transgressor. This finding suggests that if social comparison processes had been operative in Study 1, we would have found a different pattern, namely that participants exposed to a non-punished transgressor (vs. the other targets) would have felt cleaner. In contrast, Study 1 showed that participants reminded of their immoral actions felt less clean when exposed to a non-punished transgressor and non-transgressor compared to a punished transgressor.

The supplemental study also supports our claim that punishment restores a transgressor's physical and moral purity—specifically, participants viewed a punished transgressor as no more dirty or evil than a non-transgressor. This evidence of punishment's moral cleansing effects support our broader claim that punishing another can cleanse the self when contamination elicited by one's own immoral actions is projected onto the punished target. Still, Study 1 did not assess the perceived cleanliness of the target, so we don't know whether or not immorality-salient participants projected their own felt contamination onto a target transgressor. We test this in Study 2.

Study 2

Study 2 had three primary goals. The first was to directly test whether people project their own salient immorality, which is experienced as physical contamination (Study 1), onto another transgressor. To do this, we asked all participants to evaluate the same moral transgressor in the absence of punishment-relevant information following the personal immorality salience manipulation.

Hypothesis 1 Participants reminded of their own immoral actions would perceive the transgressor as physically dirtier as the result of their own increased feelings of guilt.

Based on previous research on projection (Govorun et al. 2006; Schimel et al. 2003), we also hypothesized that personal immorality salience would not affect target ratings on negative traits unrelated to the target's moral standing. Null results on non-moral negative evaluations of the transgressor would help rule out the possibility that rating another transgressor as physically dirty is simply an attempt to derogate that person in global terms. This is an important distinction since previous research has shown that derogating stigmatized others is one response to threatened feelings of self-esteem (Fein and Spencer 1997).

Study 1 found that exposure to a punished transgressor effectively restored participants' perceived physical cleanliness following a salient personal transgression. Recall that there is strong evidence for a metaphoric

Table 1 Ratings of target as “evil” and “dirty” as a function of target type (Study 1’s Supplemental study)

Target type	Evil	Dirty
Non-transgressor	2.78 _a (1.39)	2.80 _a (1.36)
Non-punished transgressor	3.95 _b (1.33)	3.85 _b (1.54)
Punished transgressor	2.87 _a (1.34)	3.02 _a (1.21)

Scale ranged from 1 to 6, with higher scores indicating descriptor was more characteristic of transgressor target. Means that do not share a subscript within the same column differ at $p \leq .05$

association between morality and physical contamination. Hence, the second goal of Study 2 was to test whether this interactive effect held for perceptions of personal morality.

Hypothesis 2 Participants reminded of their immoral actions would perceive themselves as less moral unless they learned that the transgressor on whom they had projected their own moral contamination was punished.

As in Study 1, in all conditions a third party was responsible for punishing the transgressor target. This ensures that any effects of punishment are unlikely to be due to the moralizing effects of administering punishment to others (Adams 2011).

The third goal of Study 2 was to investigate the downstream consequences of the hypothesized moral cleansing process. Previous research has shown that people attempt to alleviate guilt over their own misdeeds by engaging in compensatory acts of prosocial behavior (Carlsmith and Gross 1969; Darlington and Macker 1966; Regan et al. 1972). As discussed in the Introduction, the desire to compensate for immoral actions by means of prosocial behavior is weakened when people can physical cleanse themselves (Zhong and Liljenquist 2006). Integrating this finding with our claim that punishment of another cleanses the self, yields our third hypothesis:

Hypothesis 3 Participants reminded of immoral actions would report an increased desire to engage in prosocial behavior (i.e., volunteer in a local blood drive), but this effect would be eliminated if they were additionally presented with a transgressor whose punishment could cleanse this threat to personal moral value.

Methods

Participants were 91 undergraduates (48 women) from a Midwestern university ranging in age from 18 to 23 years ($M = 18.79$, $SD = 1.08$). They participated in partial fulfillment of a course requirement. In addition to written instruction, the cover story was reinforced through the experimenter’s oral instructions. Participants were randomly

assigned to one of four conditions in a 2 (personal immorality salience) \times 2 (transgressor punishment) factorial design.

Personal immorality salience manipulation

Using the procedure and materials described in Study 1, participants wrote about a personal moral transgression or a morally-neutral but negative experience.

Guilt measure

Next, they were asked to indicate the extent to which they currently felt guilty (1 = *very slightly or not at all*, 5 = *extremely*). In addition to completing this single item measure of personal guilt ($M_{grand} = 1.56$, $SD = .88$), participants rated the extent to which they felt 19 other emotions included in Watson et al.’s (1988) Positive and Negative Affect Schedule (PANAS). Ten of these items were positive emotion words (interested, alert, excited, inspired, strong, determined, attentive, enthusiastic, active, proud) and the remaining nine were negative emotion words (angry, distressed, upset, nervous, ashamed, scared, hostile, jittery, afraid). Separate composite scores were computed for the positive emotion subscale ($M_{grand} = 2.49$, $SD = .87$; $\alpha = .91$) and the negative emotion subscale excluding guilt ($M_{grand} = 1.53$, $SD = .54$; $\alpha = .84$).

Target evaluations

As part of an ostensibly separate study participants were asked to read news story (fabricated by the experimenters) about a hit-and-run car accident in which a 25-year-old man drove through a red light and hit a pedestrian before fleeing the scene. The article concluded by saying that the driver had been identified but not yet apprehended. In addition to detailing the crime, the article included a photograph of the driver who represented the target transgressor in the current study.²

After reading the article, participants were presented with an ostensible memory test that asked them to recall information about the article they had read. As part of this test participants were asked to, “think back to the photograph of the perpetrator (that is, the driver who hit someone)” and rate their agreement with various statements about his appearance. Two of the items concerned the transgressor’s physical dirtiness: “The perpetrator appeared to be dirty”; “The perpetrator appeared to have poor hygiene.” Responses were made on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*) and were

² Data for 9 participants were excluded from all analyses for failing to correctly identify that the topic of the news article was a hit-and-run car accident.

averaged to form composite scores ($M_{grand} = 3.40$, $SD = 1.35$; $r = .78$).

To assess general negative evaluations of the transgressor, we also had participants rate the extent to which the transgressor was incompetent, stupid, and clever (reverse scored).³ Responses were made on a 6-point scale (1 = *not at all*, 6 = *very much*) and were averaged to form composite negative trait scores ($M_{grand} = 5.15$, $SD = 1.06$; $\alpha = .84$).

Target punishment manipulation

Next, all participants read a (fabricated) news article purported to have been written 6 months after the initial report of the hit-and-run accident. This article comprised our target punishment manipulation. Participants in the *punished transgressor* condition read that the driver had been apprehended, convicted of various charges, and was currently serving a 3 year prison sentence. Participants in the *non-punished transgressor* condition read that the driver had not been apprehended, but if caught, could face various charges and a 3-year prison sentence.

Personal morality measure

As part of an ostensibly unrelated third study participants then completed a questionnaire (adapted from Zhong et al. 2010) that asked them to rank themselves in comparison to other undergraduates at their university on eight dimensions: sense of humor, intelligence, moral character, creativity, physical attractiveness, physical fitness, social sensitivity, leadership. Responses were made in percentiles ranging from 0 (*worse than all others*) to 100 (*better than all others*). In line with Zhong et al. (2010), we used participants' response to the moral character item as a measure of their perceived personal morality ($M_{grand} = 80.55$, $SD = 9.90$).

Prosocial behavior intention measure

Finally, participants read that the Psychology department was working with the university to help determine students' interest in different activities. Following these instructions was a description of a new community outreach program designed to engage college students in local volunteering opportunities. Participants were asked to indicate whether or not they would be interested in participating in a local blood donation drive by marking a *Yes* or *No* response box. Their response to this item provided a categorical

assessment of their willingness to engage in prosocial behavior.

Results

Hypothesis 1

Guilt We first conducted a univariate ANOVA on self-reported feelings of guilt by immorality salience condition. We did not include transgressor punishment as a factor in this analysis because this manipulation came after the guilt measure. However, a Levene's test for heterogeneity of variance indicated that responses to our measure of personal guilt violated the homogeneity of variance assumption, $F(1, 89) = 16.11$, $p < .001$, $\eta_p^2 = .15$. Accordingly, we conducted Welch's alternative ANOVA procedure, which Tomarken and Serlin (1986) identify as optimal under these circumstances. As predicted, participants focused on their immoral actions felt significantly more guilt ($M = 1.89$, $SD = 1.03$) compared to participants focused on another negative experience ($M = 1.20$, $SD = .51$), $F(1, 68.33) = 16.77$, $p < .001$. In contrast, immorality salience did not affect either subscale of the PANAS (positive subscale: $F < 1.00$, $p = .97$, $\eta_p^2 < .001$; negative subscale without guilt: $F < 1.16$, $p = .29$, $\eta_p^2 = .01$). Furthermore, the predicted effect of immorality salience on guilt remained significant when simultaneously controlling for the positive and negative subscale scores ($p < .001$).

Physical dirtiness of target transgressor Next we conducted a univariate ANOVA (immorality salience) on participants' ratings of the physical dirtiness of the target transgressor (Again, we did not include transgressor punishment as a factor because this manipulation came after target evaluations). As predicted, immorality-salient participants rated the transgressor as physically dirtier ($M = 3.74$, $SD = 1.26$) than immorality-not-salient participants [$M = 3.02$, $SD = 1.36$; $F(1, 89) = 6.92$, $p = .01$, $\eta_p^2 = .07$]. To test whether this effect reflects a tendency to globally derogate the target, we submitted non-moral negative trait ratings of the transgressor to the same ANOVA. As expected, we observed no significant effect of immorality salience ($F < 1.00$, $p = .79$, $\eta_p^2 < .01$).

Mediation of personal immorality salience on perceived transgressor dirtiness by guilt We then tested our mediation hypothesis that the effect of personal immorality salience on perceived transgressor dirtiness is mediated by participants' feelings of guilt.

Using Preacher and Hayes' (2008) bootstrapping procedure, we regressed perceived transgressor dirtiness onto personal immorality salience (coded: *immorality salient* = 1; *immorality-not-salient* = 0) with guilt scores entered as the proposed mediator. Five-thousand bootstrap resamples were performed. The 95 % confidence interval

³ In an effort to increase the internal reliability of our non-moral negative trait measure, for Study 2 we selected three negative traits that were all related to the target transgressor's perceived competence.

obtained for the indirect effects of immorality salience on perceived transgressor dirtiness scores through guilt did not contain zero (.04, .48). These results are consistent with the mediation hypothesis that the heightened perception of a transgressor's dirtiness following personal immorality salience occurred indirectly through a corresponding increase in feelings of guilt (see Fig. 2 for a graphical depiction of the model).

Hypothesis 2

Personal morality We then tested the prediction that the punishment of a transgressor imbued with one's own felt contamination can restore one's positive moral identity. We submitted participants' ratings of their own morality to a 2 (personal immorality salience) \times 2 (transgressor punishment) ANOVA. This analysis yielded significant main effects for both immorality salience [$F(1, 87) = 5.98, p = .02, \eta_p^2 = .06$] and transgressor punishment [$F(1, 87) = 5.51, p = .02, \eta_p^2 = .06$], which were qualified by the predicted two-way interaction, $F(1, 87) = 11.21, p = .001, \eta_p^2 = .11$.⁴

Pairwise comparisons and the pattern of means (Fig. 3) support predictions. Among participants presented with a non-punished transgressor, participants rated their moral standing lower after considering their immoral actions ($M = 73.20, SD = 10.19$) compared to a morally-irrelevant negative experience [$M = 84.05, SD = 8.61; F(1, 87) = 16.90, p < .001, \eta_p^2 = .16$]. In contrast, among those presented with a punished transgressor, moral self-evaluations did not differ as a function of personal immorality salience ($M = 83.86, SD = 8.85$) or no salience [$M = 82.17, SD = 7.66; F(1, 87) < 1.00, p = .53, \eta_p^2 < .01$].

Looked at differently, among participants whose personal immorality was made salient, exposure to a punished (vs. non-punished) transgressor increased their ratings of their own moral character [$F(1, 87) = 16.75, p < .001, \eta_p^2 = .16$]. In contrast, within the immorality-not-salient condition, transgressor punishment did not affect personal morality ratings [$F(1, 87) < 1.00, p = .49, \eta_p^2 = .01$].

Hypothesis 3

Prosocial behavior intentions See Table 2 for distribution of responses to the opportunity to engage in prosocial behavior (local volunteering). We regressed these responses onto personal immorality salience, transgressor punishment, and their interaction using a logistic regression

⁴ This interaction remained significant when controlling for participants' comparative rankings of their standing on morally-irrelevant positive traits ($p = .03$).

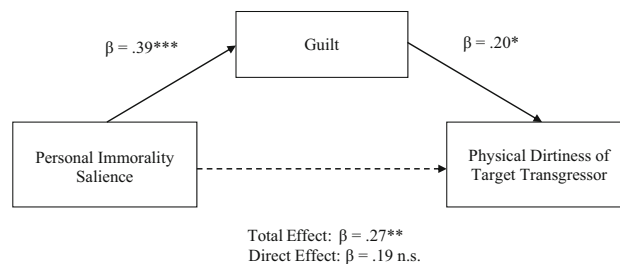


Fig. 2 Indirect effect of personal immorality salience on perceived physical dirtiness of target transgressor through feelings of guilt (Study 2). *Note:* Total adjusted R^2 for the model = .08, $F(2, 88) = 5.18, p = .008$. All path coefficients represent standardized regression weights. The direct effect coefficient represents the effect of personal immorality salience on the dependent variable after controlling for the effect of the proposed mediator. * $p < .05$; ** $p < .01$; *** $p < .001$

analysis. We observed a two-way interaction, $B = -2.46, SE = 1.00, Wald = 6.05, p = .01$.

Follow-up analyses and the pattern of odds ratios (Fig. 4) revealed that among participants exposed to a non-punished transgressor, the odds of reporting an interest in joining a blood donation drive when their own immoral actions were salient were 3.47 times the odds of expressing interest when personal immorality was not made salient, $B = -1.24, SE = .65, Wald = 3.66, p = .06$. In contrast, when exposed to a punished transgressor, differences in the odds ratios did not vary by personal immorality salience condition ($B = 1.22, SE = .76, Wald = 2.57, p = .11$).

Also as predicted, among immorality-salient participants, the odds of expressing pro-social interest when exposed to a non-punished transgressor were 6.86 times the odds of expressing interest when exposed to a punished transgressor, $B = -1.93, SE = .74, Wald = 6.79, p = .01$. In contrast, for participants whose personal immorality was not made salient, the odds ratios did not vary by transgressor punishment condition ($B = .54, SE = .67, Wald = .63, p = .43$).

Discussion

Supporting Hypothesis 1, the salience of personal immorality led participants to feel increased guilt, which in turn predicted their perception of another moral transgressor as physically dirtier. This finding supports our claim that people project their own immorality, which they represent as physical contamination. In contrast, immorality salience had no effect on negative emotions (excluding guilt) or non-moral negative ratings of the transgressor. These are very similar to the null results found in Study 1, and they are in accord with prior evidence for the trait specificity of projection. Hence, it is unlikely that the observed effects are merely due to

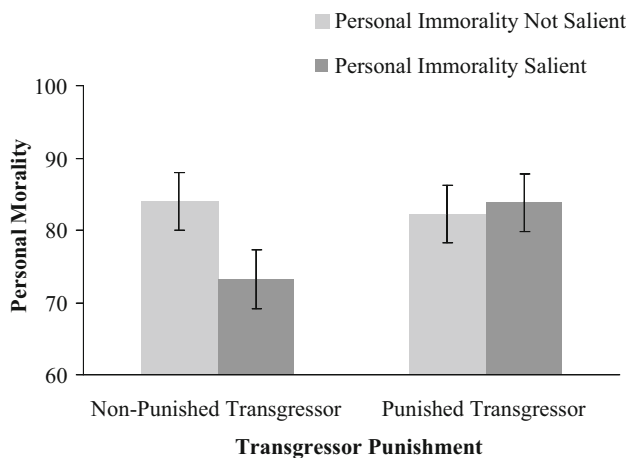


Fig. 3 Ratings of personal morality (relative to peers) as a function of personal immorality salience and transgressor punishment (Study 2)

variation in negative affect or global derogation of a target in response to a self-relevant threat.

Supporting Hypothesis 2, personal immorality salience led participants to rate themselves as less moral, but not if they first discovered that the transgressor they read about earlier had been punished for his immoral action. This finding supports our broader claim that the other transgressor served as a target for projected moral contamination and his punishment expunged participants' own moral failings. These results, which are consistent with the effects obtained in Study 1 on participants' perceived physical cleanliness, provide evidence that the punishment, but not mere salience, of another transgressor can alleviate one's own felt immorality. Distinguishing this phenomenon from more general self-esteem maintenance or enhancement effects, the primary findings remained significant when controlling for participants' self-evaluations in non-moral domains.

Supporting Hypothesis 3, personal immorality salience increased participants' willingness to engage in prosocial behavior (replicating prior research), but this effect disappeared if a target transgressor was ultimately punished. These results mirror Zhong and Liljenquist's (2006) finding that physical cleansing alleviated people's willingness to compensate for personal immorality by engaging in prosocial behavior. But, again, here the key factor was not cleansing the self, but witnessing the punishment of another person who had earlier received the burden of one's own moral "dirt." This suggests that like physical cleansing, the punishment of a transgressor perceived to possess one's own contamination can "cleanse" the self of immorality.

Summarizing the evidence so far: people confronted with their own evil deeds feel physically unclean and less

moral, and they project this felt contamination onto other moral transgressors, supporting the metaphoric association between immorality and uncleanness. We have shown this effect to be uniquely driven by feelings of guilt (Study 2) and to be restricted to the perceived cleanliness of a transgressor (rather than more global evaluations; Studies 1 and 2). The third-party punishment of a transgressor is perceived to remove the moral and physical contamination of both the transgressor target (Study 1's supplemental study) and the self (Study 2).

While these findings are consistent with the notion that participants' abolished sense of personal contamination is due to punishment cleansing away projected contamination, a number of plausible alternative explanations remain. For instance, it is possible that participants' restored feelings of personal morality and cleanliness after witnessing another transgressor punished reflects participants' tendency to re-evaluate or rationalize their own immoral behavior to avoid the kind of punishment they see meted out to others. Additionally, recent research by Adams and Mullen (2014) found that witnessing the third-party punishment of another transgressor can lead participants to feel that justice had been restored, which decreased their desire for victim compensation. This raises the possibility that the current effects of witnessing another transgressor's punishment are due to an increased belief in a just world, rather than the vicarious cleansing of projected contamination. We attempted to rule out these alternative explanations in Study 3.

Study 3

One goal of Study 3 was to replicate the projection effect. As in Study 2, in Study 3 participants were given the opportunity to evaluate a transgressor who could serve as a projection target. However, rather than rating the target's physical dirtiness, participants judged the immorality of the transgressor target. Based on the findings of Study 2 and the theorized trait specificity of projection (Govorun et al. 2006; Schimel et al. 2003), we hypothesized that:

Hypothesis 1 Participants whose own immorality was salient (vs. not) would perceive the target transgressor as more evil (negative moral trait), but not more incompetent (negative non-moral trait).

This hypothesized results would support our claim that the effect of confronting one's own immorality on ratings of another transgressor's immorality is not merely due to a general tendency to derogate others following self-relevant threats.

A second goal of Study 3 was to directly test our claim that punishment of a projection target removes the

Table 2 Reported interest in joining blood drive as a function of personal immorality salience and transgressor punishment (Study 2)

Transgressor punishment	Personal immorality salience			
	Immorality salient		Immorality not salient	
	No	Yes	No	Yes
Non-punished transgressor	12 (48 %)	13 (52 %)	16 (76 %)	5 (24 %)
Punished transgressor	19 (86 %)	3 (14 %)	15 (65 %)	8 (35 %)

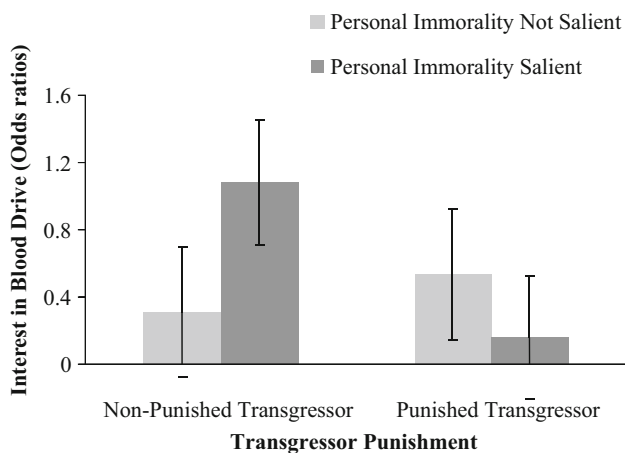


Fig. 4 Odds ratios of reported interest in joining a blood drive as a function of personal immorality salience and transgressor punishment (Study 2)

individual’s feelings of guilt when his or her own moral transgressions are salient. Also, given the well-established metaphoric association between immorality and physical contamination, we expected similar patterns on perceived personal dirtiness. More specifically:

Hypothesis 2 The punishment of the projection target would attenuate the effect of personal immorality salience on feelings of guilt and physical dirtiness.

Hypothesis 3 Under personal immorality salience, the punishment of the projection target would reduce feeling of personal physical dirtiness indirectly through decreased feelings of guilt. That is, the other’s punishment would eliminate feelings of moral guilt, which participants will metaphorically represent as the cleansing of physical dirt.

A third goal of Study 3 was to rule out the possibility that the apparent “cleansing effects” evidenced in Studies 1 and 2 resulted from participants’ tendency to downplay the severity of their own transgressions when confronted with a punished transgressor to avoid or deny potential censure over their own unethical behavior. We exposed all participants to the punishment of a transgressor but we varied whether the punishment was administered to the same transgressor on whom they had projected their own

immorality (the projection target), or some other transgressor (a non-projection target). Holding punishment constant and manipulating the punishment target allowed us to disentangle the hypothesized moral cleansing effect (afforded by punishment of the projection target, specifically) from a more general re-evaluation of one’s actions in light of information about any transgressor’s punishment.

Study 3 addressed another alternative explanation: Perhaps witnessing a transgressor’s punishment bolstered one’s own felt cleanliness (Study 1) and moral character (Study 2) not because of the symbolic cleansing of one’s projected immorality (as we hypothesize), but rather because that punishment strengthens a more general belief in a just world (BJW)—that is, the conviction that the world is an orderly place in which bad people suffer. To test this possibility, we measured participant’s BJW. We hypothesized that the predicted moral and physical cleansing effects would remain when statistically controlling for variations in BJW.

Methods

Three hundred and sixty-eight American adults were recruited via Mturk (compensation = \$.60). We excluded from analyses the data from 84 participants who failed a series of key attention checks items.⁵ The remaining 284 participants (168 female) ranged in age from 18 to 75 years ($M = 34.50, SD = 12.27$). It took participants, on average, 15.99 min ($SD = 5.56$) to complete all survey materials. Participants were randomly assigned to one of four conditions in a 2 (personal immorality salience) \times 2 (punishment target) factorial design.

⁵ To ensure the validity and reliability of our findings we included a series of key attention check items following the two articles describing the transgression targets. These items required participants to identify (a) the nature of the transgressions described in the articles, (b) whether or not the transgressor described in the article was punished, and, (c) whether or not both articles described the same transgressor or different transgressors.

Personal immorality salience manipulation

Personal immorality salience was manipulated as in Studies 1 and 2.

Target evaluations

Participants read the same news story used in Study 2 about a hit-and-run car accident in which the driver had not been apprehended. In order to assess participants' tendency to project immorality onto the driver (the projection target), participants were asked to rate the extent to which the driver described in the article was "evil". Responses were made on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*; $M = 4.66$, $SD = 1.25$). Furthermore, to ensure that any increase in the tendency to ascribe immorality to the driver reflected trait-specific projection, rather than a general derogation effect, participants also rated the extent to which the driver was "incompetent" along the same 6-point scale ($M = 5.20$, $SD = 1.13$).

Punishment target manipulation

Next, all participants were presented with another fabricated news article. Participants randomly assigned to the *projection target punishment* condition read that the driver described in the previous article had been apprehended, convicted of various charges and was currently serving a prison sentence for his crimes. Participants randomly assigned to the *non-projection target punishment* condition read about a separate event in which a different transgressor fled the scene after accidentally burning down an office building in which a woman was seriously injured. The article went on to say that the arsonist (the non-projection target) had been apprehended, convicted of various charges and was currently serving a prison sentence for his crimes.

Importantly, while participants in the non-projection target punishment condition read about a separate incident, both punishment target conditions described the injury of an innocent victim and the administration of equivalent punishment to the respective transgressor.

Belief in a just world measure

As part of an ostensibly separate study on different aspects of personality, participants were given a questionnaire instructing them to indicate their agreement with six statements assessing their BJW (e.g., "I think basically the world is a just place"; Dalbert et al. 1987). Responses were made on a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*) and were averaged to form composite BJW scores ($M = 3.56$, $SD = .96$; $\alpha = .79$).

Guilt measure

Participants were then asked to indicate the degree to which they currently felt guilty (1 = *very slightly or not at all*, 5 = *extremely*; $M = 1.18$, $SD = .48$). In an effort to conceal the true nature of the study and avoid potential demand effects, this single item measure of guilt was embedded among other emotion items in the PANAS (Watson et al. 1988).

Personal physical dirtiness measure

In a similar effort to avoid suspicion we also used a single-item measure to assess participant's feelings of personal physical contamination. Specifically, participants were asked to indicate their level of agreement with the statement "I feel filthy" along a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*; $M = 1.67$, $SD = 1.00$). This particular item was selected as the most face-valid item from the original 4-item physical cleanliness measure used in Study 1 that directly assessed participants' felt physical dirtiness.

Results

Hypothesis 1

Target evaluations To test the prediction that participants reminded of their own immorality would perceive another transgressor as more immoral, we conducted a univariate (immorality salient vs. not) ANOVA on ratings of the target transgressor as evil. We did not include punishment target in this analysis because this manipulation came after participants evaluated the projection target. As predicted, this analysis revealed that participants in the immorality salient condition rated the transgressor as more evil ($M = 4.85$, $SD = 1.10$) than participants in the immorality-not-salient condition [$M = 4.48$, $SD = 1.35$; $F(1, 282) = 6.64$, $p = .01$, $\eta_p^2 = .02$]. To test the projection hypothesis that changes in the evaluation of the projection target should be specific to the salient negative trait of immorality, we also submitted trait ratings of the transgressor's incompetence to the same ANOVA. As expected, we observed no significant effect of immorality salience on incompetence ratings ($F < 1.00$, $p = .79$, $\eta_p^2 < .001$). Furthermore, the immorality salience effect on evil ratings of the transgressor remained significant when statistically controlling for ratings of the projection target's perceived incompetence ($p < .01$).

Hypothesis 2

Guilt We then tested the prediction that only punishment of the projection target (vs. non-projection target) can reduce

personal immorality salience induced feelings of guilt. We submitted participants' self-reported ratings of their own guilt to a 2 (personal immorality salience) \times 2 (punishment target) ANOVA. This analysis yielded significant main effects for both immorality salience [$F(1, 280) = 11.02, p = .001, \eta_p^2 = .04$] and punishment target [$F(1, 280) = 7.60, p = .01, \eta_p^2 = .02$], which were qualified by the predicted two-way interaction, $F(1, 280) = 6.48, p = .01, \eta_p^2 = .02$ (see Fig. 5 for the pattern of means).

Pairwise comparisons revealed that participants primed with their own immoral actions reported feeling guiltier ($M = 1.42, SD = .79$) compared to those whose personal immorality was not made salient ($M = 1.10, SD = .30$), when exposed to the punishment of the non-projection target [$F(1, 280) = 15.80, p < .001, \eta_p^2 = .05$]. In contrast, participants' self-reported feelings of guilt did not differ according to whether their personal immorality was made salient ($M = 1.13, SD = .38$) or not ($M = 1.08, SD = .28$), when exposed to the punishment of the projection target ($F < 1.00, p = .57, \eta_p^2 < .001$). Also consistent with the primary predictions, for participants whose personal immorality was made salient, exposure to the punishment of the projection target (vs. non-projection target) reduced guilt [$F(1, 280) = 13.71, p = .001, \eta_p^2 = .05$]. No effect of punishment target on guilt was found in the immorality-not-salient condition ($F < 1.00, p = .88, \eta_p^2 < .001$).

To assess the possibility that these effects were due to changes in participants' general belief in a just world, we also conducted a personal immorality salience \times punishment target ANCOVA on self-reported guilt, controlling for BJW scores.⁶ This analysis found just world beliefs to be unrelated to self-reported guilt ($F < 1.00, p = .80, \eta_p^2 = .001$), and the primary interaction effect on guilt remained significant when BJW scores were included as a covariate [$F(1, 279) = 6.65, p = .01, \eta_p^2 = .02$]. This demonstrates that the observed interaction is not due merely to difference in the general belief that the world is just.

⁶ Submitting participants' BJW scores to a 2 (personal immorality salience) \times 2 (punishment target) ANOVA did yield a marginal two-way interaction, $F(1, 280) = 3.22, p = .07, \eta_p^2 = .01$. However, in contrast to the pattern of effects on guilt and personal physical dirtiness scores, significant differences in BJW scores only emerged for participants in the immorality-not-salient condition. Specifically, pairwise comparisons revealed that when immorality was not made salient, participants exposed to the punishment of the projection target reported significantly greater BJW scores ($M = 3.74, SD = .93$) than those exposed to the punishment of a non-projection target ($M = 3.33, SD = .99$). In contrast, when immorality was made salient, BJW scores did not differ between those exposed to the punishment of the projection target ($M = 3.56, SD = .95$) and those exposed to the punishment of the non-projection target ($M = 3.56, SD = .96$).

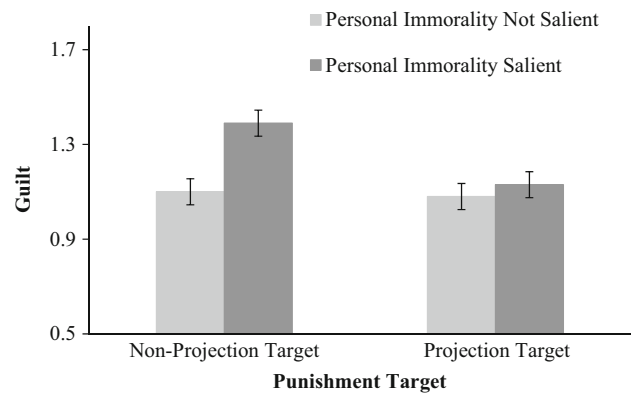


Fig. 5 Ratings of guilt as a function of personal immorality salience and punishment target (Study 3)

Personal physical dirtiness We tested the prediction that punishment of the transgressor imbued with one's own immorality (vs. punishment of the non-projection target) would also serve to cleanse felt personal physical contamination. We submitted participants' ratings of their own physical dirtiness to the personal immorality \times punishment target ANOVA. Although there were no significant main effect for immorality salience ($F < 1.00, p = .55, \eta_p^2 < .01$), this analysis yielded a marginal effect for punishment target [$F(1, 280) = 3.48, p = .06, \eta_p^2 = .01$] which was qualified by the predicted two-way interaction, [$F(1, 280) = 6.96, p = .01, \eta_p^2 = .02$] (see Fig. 6 for the pattern of means).

Pairwise comparisons revealed that when exposed to the punishment of the non-projection target, participants primed with their own immoral actions reported feeling filthier ($M = 1.97, SD = 1.20$) compared to those whose personal immorality was not made salient [$M = 1.59, SD = .87; F(1, 280) = 4.80, p = .03, \eta_p^2 = .02$]. By contrast, when exposed to the punishment of the projection target, participants' self-reported feelings of personal physical dirtiness did not differ according to whether their personal immorality was made salient ($M = 1.44, SD = .84$) or not ($M = 1.68, SD = 1.01; F = 2.29, p = .13, \eta_p^2 < .01$). Also, consistent with the primary predictions, for participants whose personal immorality was made salient, exposure to the punishment of the projection target (vs. non-projection target) reduced perceived dirtiness [$F(1, 280) = 9.90, p = .002, \eta_p^2 = .03$]. No effect of punishment target on felt personal physical dirtiness was found in the immorality-not-salient condition ($F < 1.00, p = .58, \eta_p^2 < .01$).

To assess the possibility that these effects were due to any changes in participants' general belief in a just world, we repeated this analysis controlling for BJW scores. As predicted, the primary interaction effect remained significant when BJW scores were included as a covariate [$F(1, 279) = 8.01, p = .01, \eta_p^2 = .03$].

Hypothesis 3

Indirect effect of personal immorality salience × punishment target on personal dirtiness by guilt We then tested our hypothesis that the perceived physical cleansing effect of the punishment of the projection target reflects an underlying moral cleansing effect. Using Preacher and Hayes' (2008) bootstrapping procedure, we regressed felt personal dirtiness scores onto the interaction of personal immorality salience (coded: immorality salient = 1; immorality-not-salient = 0) and punishment target (coded: projection target = 1; non-projection target = 0), with guilt scores entered as the proposed mediator and main effects as covariates. Five-thousand bootstrap resamples were performed. The 95 % confidence interval obtained for the indirect effects of immorality salience × punishment target interaction on perceived personal dirtiness scores through guilt did not contain zero (−.39, −.04). These results are consistent with the hypothesis that, following the punishment of a projection target, participants' decreased feelings of personal physical dirtiness occurred indirectly through a corresponding decrease in guilt (see Fig. 7 for a graphical depiction of the model).⁷

Discussion

Supporting Hypothesis 1, the salience of personal immorality led participants to perceive another moral transgressor as more evil, but had no effect on perceptions of the transgressor's incompetence. These findings support our contention that participants were motivated to project their own salient feelings of immorality onto a projection target just as they did with physical contamination in Study 2. Also in line with Study 2, the null effects of immorality salience on non-moral negative ratings of the projection target are consistent with the proposed trait specificity of defensive projection and allows us to rule out the possibility that the obtained effect represents a more general derogation.

Supporting Hypothesis 2, the salience of personal immorality led participants to report increased feelings of guilt and physical dirtiness, unless they read that the transgressor who served as a projection target had been punished for his crimes. These results, which are consistent with the effects on perceived physical cleanliness (Study 1) and personal moral character (Study 2), provide further evidence that the punishment of a transgressor serving as a

⁷ We also tested a reversed mediated moderation analysis but switching the mediator (guilt) and outcome variable (personal physical dirtiness). The 95 % confidence interval obtained for the indirect effects of immorality salience × punishment target interaction on guilt through perceived personal dirtiness scores through guilt did not contain zero (−.20, −.02).

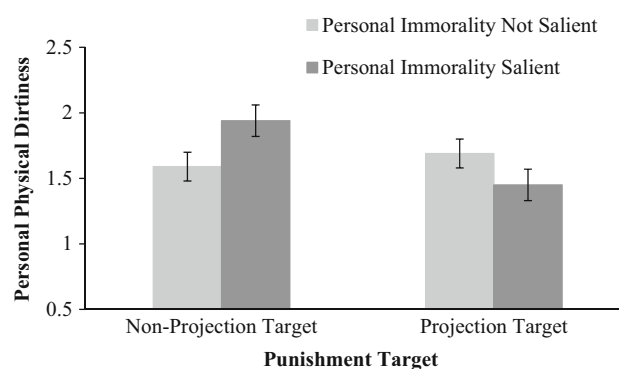


Fig. 6 Ratings of personal physical dirtiness as a function of personal immorality salience and punishment target (Study 3)

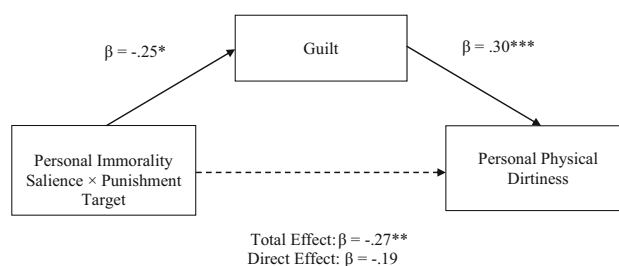


Fig. 7 Indirect effect of personal immorality salience by punishment target interaction on felt physical dirtiness through feelings of personal guilt (Study 3). *Note:* Total adjusted R^2 for the model = .10, $F(4, 279) = 9.17, p < .001$. All path coefficients represent standardized regression weights. The direct effect coefficient represents the effect of personal immorality salience × punishment target interaction on the dependent variable after controlling for the effect of the proposed mediator and main effects. * $p < .05$; ** $p < .01$; *** $p < .001$

projection target can function to alleviate both moral and physical contamination.

Supporting Hypothesis 3, the observed changes in participant's perceptions of their personal dirtiness occurred indirectly through changes in personal guilt. These findings are consistent with the idea that the cleansing effect of witnessing the punishment of a projection target is the metaphorical consequence of moral expiation. These results provide further support for the link between felt moral and physical contamination.

Importantly, Study 3 supports our contention that the reduced sense of self-contamination is due to punishment cleansing away projected contamination, rather than other potential reactions to the punishment of wrongdoers. Specifically, only punishment of the transgressor on whom they had projected their immorality reduced participants' feelings of physical and moral contamination, despite the fact that those in the comparison condition read about equivalent levels of harm and punishment. This evidence helps rule out the possibility that the primary cleansing

effects in Studies 1 and 2 reflected participants' tendency to re-evaluate or rationalize their own sins after learning about the punishment of wrongdoers.

Finally, Study 3 found that the primary effects on felt moral and physical contamination remained when controlling for participants' BJW. This helps rule out the possibility that the observed effects were driven by a heightened sense that the world is just after exposure to a moral transgressor's punishment.

General discussion

Three studies supported the broad hypothesis that when people feel tainted by their immoral actions, they are motivated to see moral contamination in another transgressor and the punishment of that transgressor serves to restore their own moral and physical purity.

Study 1 found that when participants contemplated their immorality they felt less physically clean, unless they were exposed to another wrongdoer who was punished for his transgression. Study 2 found that participants who contemplated their immorality perceived another wrongdoer as physically dirtier via increased feelings of personal guilt, and were more willing to engage in moral restoration behavior unless they learned that the contaminated transgressor had been punished. Similarly, Study 3 found that participants who contemplated their own immorality perceived another wrongdoer as more evil, and felt guiltier and dirtier unless they learned that the transgressor on whom they had projected their salient immorality was punished. Importantly, the increased feelings of physical and moral contamination elicited by personal immorality salience were not mitigated by exposure to a moral transgressor who was not punished (Study 2), or the punishment of a transgressor who had not served as the primary projection target (Study 3). These studies suggest that personal immorality induces feelings of contamination that individuals are motivated to project onto a target and whose punishment is perceived to remove their own contamination.

We attempted to rule out a social comparison explanation for our primary effects by exposing participants to equivalent transgressors and only manipulating whether or not the transgressor was punished. Although perceptions of the transgressor were not directly assessed in Study 1, a supplemental study found that participants rated the punished transgressor as cleaner and less evil than the non-punished transgressor. Thus, if participants were engaged in a social comparison with the target transgressor, they should have felt comparably cleaner when exposed to the non-punished (vs. punished) transgressor. However, Study 1 found that participants in the personal immorality

salience condition reported feeling physically cleaner when exposed to a punished (vs. non-punished) transgressor. Study 2 attempted to ensure that participants' did not engage in downward social comparison with the target transgressor by having participants rate their moral character in comparison with a different target, their student peers. Study 3 helped rule out downward comparison as an alternative explanation by exposing all participants to the same projection target.

To further establish discriminant validity, we took steps to distinguish the phenomenon of trait-specific projection from that of defensive derogation of others (e.g., Fein and Spencer 1997). In Studies 2 and 3 we did this by having participants rate the target transgressor on both relevant moral and irrelevant (e.g., competence) dimensions. In line with predictions, personal immorality salience affected perceptions of the projection target's perceived physical and moral contamination, but had no effect on non-moral negative trait ratings. In this way, the current research meets an empirical criterion established in prior research (Govorun et al. 2006; Schimel et al. 2003) for distinguishing defensive projection from threat-induced derogation: the increased salience of an undesirable trait in the self, influenced evaluations of a target individual specifically with regard to that trait, and not with regard to other negative traits.

Study 3 provided evidence to rule out two alternative explanations for the findings of the previous two studies. First, by holding exposure to transgressor punishment constant and manipulating whether the target of punishment was the target on whom they had projected their salient immorality or another target, the findings of Study 3 suggest that that participants' renewed feelings of physical and moral self-perceptions was not a response to the mere salience of punishment itself. Furthermore, the fact that the primary moral and physical cleansing effects remained when statistically controlling for just world beliefs suggest that participants own perceived moral restoration was not merely the result of a general belief that the punishment of another transgressor made the world more just.

Taken together, the results of the present studies provide evidence for a moral cleansing mechanism that guides moral attitudes and interpersonal perceptions in a similar manner as it appears to have done in the past. Prior research on metaphor, projection, and punishment suggested that the core assumptions of pre-modern cleansing rituals remain relevant in contemporary culture. Our data go further to specifically show that motivations to see one's own immorality in others—and to see those others punished—continue to play an important role in the pursuit and maintenance of moral cleanliness. In addition to providing initial evidence for a practically important self-serving process involved in moral reasoning, the current research

broadens the theoretical and empirical scope of the three research areas it builds upon.

Advancing conceptual metaphor theory and research

Research investigating CMT has provided a wealth of evidence that people draw on their knowledge of a familiar, concrete concept to understand superficially unrelated abstract concepts (see Landau et al. 2010). Studies have shown that manipulating experience with a concrete concept (e.g., inducing sensory and motor states) produces metaphor-consistent effects on perceptions related to an abstract concept (e.g., Lee and Schwarz 2011; Schnall et al. 2008b; Zhong et al. 2010) as well as the reverse (Lee and Schwarz 2010a; Zhong and Liljenquist 2006). Lee and Schwarz (2012) claim that these effects are ultimately due to a bidirectional relationship between concepts that emerges through the co-activation of abstract and metaphorically associated concrete concepts. However, since investigations of concrete-to-abstract effects and abstract-to-concrete effects have generally been studied in isolation, there is a dearth of evidence directly assessing this co-activation hypothesis.

The present studies included measures assessing both the concrete (physical cleanliness) and abstract (moral guilt) experiences in a cleanliness metaphor for morality. In support of Lee and Schwarz's (2012) co-activation hypothesis, we found that the manipulation of the abstract concept produced parallel effects on both moral and physical cleanliness outcome measures. Specifically, Study 2 found that a personal immorality prime elicited both feelings of guilt and perceptions of physical contamination, and that these were related. Furthermore, while Studies 1 and 2 found identical interaction effects on participants' perceptions of their own physical cleanliness (Study 1) and personal morality (Study 2), Study 3 showed that the physical cleansing effect of another transgressor's punishment was directly tied to reduced feelings of guilt.

The present studies also contribute to research on metaphoric cognition in morality by showing that the punishment of others viewed as immoral represents a strategy for symbolically "cleansing" the self of moral wrongdoing. These studies provide a novel interpretation of previous research showing that exposure to unclean physical conditions can motivate people to make harsher moral judgments. Schnall et al. (2008b) proposed that this effect represents people's tendency to misattribute physical disgust induced by an unclean environment (Study 2) or a foul smell (Study 1) as moral disgust caused by another transgressor. Despite a recent failure to replicate these studies (Johnson et al. 2014), consistent with Schnall et al.'s (2008b) findings, the present research showed that a salient personal transgression induced feelings of physical

contamination and led to participants to see another moral transgressor as more evil. However, the present research suggests that the harsh judgments of a moral transgressor found in Schnall et al.'s original studies may represent a motivated desire to purge one's own felt contamination by projecting it onto a punishable transgressor. In contrast, an attempt to explain the results of the current studies as a tendency to misattribute the cause of disgust over one's own immoral actions to the physical contamination of a target transgressor does not explain why the punishment of that transgressor "cleanses" the self.

More broadly these studies contribute to the growing body of literature on the wide-ranging effects of physical cleansing (Kaspar 2013; Lee and Schwarz 2010b; Xu et al. 2012). This literature suggests that the physical/moral cleansing effect shown in the present studies may be one instantiation of a more global effect of cleansing on emotions or moods. Further research is needed to see whether the punishment of another transgressor may influence other processes shown to be sensitive to cleansing effects.

Advancing projection theory and research

Although a number of recent studies have found evidence that the desire for a positive self-image can motivate individuals to see in others the undesirable traits they fear they themselves possess, support for the defensive function of projection has been mixed (Halpern 1977; Holmes and Houston 1971; Schimmel et al. 2003).

The present research sheds new light on this controversy by demonstrating that when it comes to immorality, projecting an undesirable trait onto a target other may be necessary, but not sufficient to restore one's positive moral identity. In addition, the person needs to observe the *punishment* of the projection target. This is consistent with Freud's (1915/1957) observation that projection is often accompanied by a desire to aggress against the projection target. The present studies add to Freud's theorizing by showing that aggression towards the projection target can be realized in punishment meted out by a third-party which serves a moral cleansing function.

This enhanced conception of defensive projection, including both projection onto and punishment of the target other, represents a significant contribution to the existing theory and future research on projection. This proposed two-part process provides a useful way to distinguish projection from two mechanisms that are superficially closely related: social comparison processes and threat-induced derogation. This enhanced concept also highlights the need to consider the role of post-projection processes such as the punishment of a projection target, at least with respect to moral projection. Furthermore, in addition to conceptually replicating the effects of defensive projection

provided by past research, the mediational analysis presented in Study 2 offers even more direct evidence of this process. Ultimately, the present research sets a new agenda for taking a fresh empirical look at projection as a unique and practically important process that guides moral attitudes and interpersonal perception.

Advancing moral punishment theory and research

Recent studies have shown that punishment allows individuals to atone for personal moral guilt (Bastian et al. 2011; Inbar et al. 2013; Nelissen and Zeelenberg 2009). However, as discussed in the Introduction, because this literature focuses primarily on self-punishment, these studies confound the expiating effect of being punished with the act of administering punishment. This is particularly problematic in light of recent research showing that the opportunity to administer punishment to another transgressor bolsters one's own perceived moral identity (Adams 2011).

To our knowledge, the present research provides the strongest evidence to date that punishment is specifically perceived to reduce the immorality associated with the punished target. These studies accomplished this by exposing participants to a target transgressor punished by a third party. Results of the supplemental study showed that participants perceived a punished transgressor to be significantly less evil than an equivalent non-punished transgressor, and on par with a non-transgressor. The punishment of the transgressor not only reduced his perceived immorality, but appeared to effectively absolve the transgressor of sin. Study 2 also found indirect evidence that punishment removes the punished transgressor's moral taint by showing that the third-party punishment of the target transgressor on whom participants had projected their own moral contamination served to vicariously restore participants' perceived moral identity. At the same time, consistent with Adams (2011) findings, in the absence of personal immorality salience, reading that a target transgressor had been punished by a third party had no effect on participants' perceived morality.

Importantly, Study 3 found that exposure to the punishment of a transgressor other than the primary projection target did not alleviate participants' guilt or perceived physical dirtiness. This suggests that mere exposure to punishment alone is not sufficient to remove one's own feelings of moral and physical contamination. In other words, just as research on projection should consider the role of punishment, research on the moral restoration function of punishment should consider the importance of projection processes.

Limitations and future directions

Although the current studies provide initial evidence for the hypothesized moral cleansing function of punishing moral transgressors, there are notable limitations that must be addressed by future research before firm conclusions can be drawn. For instance, Study 3 found that the moral and physical cleansing effects only occurred when punishment was administered to a transgressor on whom participants had projected immorality; however, because we measured, rather than manipulated, participants' tendency to project, we are limited in our ability to draw firm conclusions about the hypothesized role of projection in the moral cleansing process. Furthermore, since we intentionally did not assess participants' evaluations of the non-projection target's moral standing in an effort to reduce the likelihood that they would project onto this target, we cannot rule out the possibility that participants spontaneously engaged in projection in this condition of Study 3. These methodological limitations leave open the possibility that the punishment of a target other may serve to bolster one's perceived personal morality and physical cleanliness regardless of whether they have engaged in defensive projection. Although this possibility seems highly unlikely given Study 3's pattern of results, directly testing the role of projection would require a more direct means of manipulating participants' ability to project their own felt contamination onto a target other.

How could this be achieved? Research by Govorun et al. (2006) suggests that the ability to project onto a target other is moderated by whether the target can be perceived as justifiably having the unwanted trait in question. Specifically, Govorun and colleagues found that participants reminded of their own intellectual failures were only able to project the undesirable trait of incompetence onto a target who belonged to a group stereotyped as being unintelligent. This suggests that future research could attempt to manipulate participants' ability to project their own salient immorality onto a target other by manipulating that target's ability to be justifiably perceived as immoral. Manipulating participants' ability to engage in defensive projection while holding punishment of the target constant could help to better elucidate the importance of projection in the moral cleansing process.

The present studies attempt to test a complex psychological process whereby the punishment of another serves to vicariously cleanse the self by removing the contamination projected upon the target. The current research endeavored to do so by testing different aspects of the hypothesized phenomenon. While this deconstructive approach allows us to find cumulative support for the hypothesized phenomenon, it limits our ability to draw firm

conclusions about the process. For instance, we find evidence that people project moral contamination onto another transgressor (Study 2), that punishment is perceived to restore a punished transgressor's moral standing and physical cleanliness (Supplemental Study), and that the punishment of another transgressor on whom one has projected immorality alleviates one's own feelings of moral and physical contamination (Study 3). However, these findings do not directly assess whether one's own moral restoration occurs specifically as a result of punishment removing the immorality projected onto another transgressor. Furthermore, while the findings of Study 3 are consistent with the idea that perceived restoration of physical purity is the result of vicarious expiation, it is also possible that the alleviated guilt is a consequence of restored feelings of physical purity. Although it is difficult to empirically capture all aspects of a complex psychological phenomenon, the current studies cover a great deal of initial ground and provide the starting point for future research on each of the hypothesized sub-processes.

The moral cleansing phenomenon tested in the present studies is proposed to be a motivated elimination of a perceived threat to one's own moral identity. In support of this conceptualization, the primary cleansing effects occurred in response to a personal moral value threat. However, our ability to draw firm conclusions about this process is limited by various methodological factors. For instance, these studies did not include a comparison condition where participants were primed with non-self-relevant immorality salience. While it is possible that the salience of any immorality could result in similar effects, we find this unlikely given prior work on the importance of self-relevance for projection (Govorun et al. 2006).

Additionally, manipulating the third-party punishment of a transgressor allowed us to isolate the unique moral cleansing effect of punishment but did not allow us to assess whether participants were actually motivated to see the transgressor punished. Investigating this possibility would require giving participants the opportunity to voice support for another transgressor's punishment (e.g., choosing a sentence). Insofar as participants are motivated to see a moral transgressor punished to eliminate their own felt moral contamination, we would expect a personal immorality salience induction to drive increased support for punishing a target transgressor via increased feelings of personal guilt. We would also expect that having an alternative means of alleviating one's own felt moral or physical contamination (e.g., physical cleansing, self-punishment, engaging in compensatory moral behavior) would eliminate this effect.

Finally, the present studies provide tentative evidence of a novel phenomenon but remain silent on an array of potential boundary conditions for the observed effects. Future

research is needed to investigate how factors such as the perceived similarity with a punished transgressor, the type of transgression, and the severity of punishment administered may moderate the effectiveness of this cleansing process. Future research might extend our findings by attempting to measure or manipulate the perceived overlap between participants and the projection target, or between their own transgressions and the transgression of the target other. Additionally, more research is needed to isolate exactly *why* punishment is perceived to cleanse a moral transgressor. Is a punished transgressor seen as having learned a moral lesson that is shared by those who have projected their own felt immorality onto the transgressor? Or is punishment perceived more as a symbolic means of balancing the moral scales?

Broader theoretical and practical implications

In addition to integrating and extending previous lines of research as well as posing questions for future research, the current studies also have broader implications about the motivation, function, and consequences of punishing moral transgressors. In particular, these studies shed new light on people's age-old fascination with punishment, ranging from public executions (Foucault 1977) to Court TV. Much of the existing psychological literature suggests that the urge to see a transgressor punished is grounded in the desire to see the world as a just place where people get what they deserve (Lerner 1980). From this perspective, an unpunished transgressor poses a threat to one's belief in a just world which is ameliorated by the transgressor's punishment.

The current research offers a complementary perspective pointing to another motive underlying people's desire to see a transgressor punished; the desire to expunge personal guilt. This is consistent with Alexander and Staub's (1956) analysis of criminology and penology, claiming that individuals' urge to see criminal offenders punished can reflect their own internal moral conflicts. Supporting this contention, recent research has shown that reminding people of their own group's culpability for illegitimate harm-doing increases support for punishing another perceived harm-doer (Rothschild et al. 2013). Importantly, the current studies go beyond this research by showing that the punishment of a moral transgressor alleviates people's feelings of physical and moral contamination from their immoral actions. This process may have particularly serious consequences in real-world contexts in which people make punitive judgments of others, such as in a court of law.

The current research also has important implications for people's general willingness to engage in both prosocial and antisocial behavior. A litany of research has shown that

threats to people's moral identity can motivate compensatory efforts to engage in moral behaviors (e.g., Carlsmith and Gross 1969; Darlington and Macker 1966; Regan et al. 1972). The current research found that exposure to a punished transgressor bolstered people's perceived personal moral identity in response to a moral value threat and reduced their willingness to engage in such compensatory behavior. This suggests that the punishment of a single moral transgressor may serve to reduce the willingness of countless other people to engage in prosocial behavior.

Other research has shown that boosting people's perceived moral self-concept can provide them with the "moral license" to engage in immoral behavior without experiencing aversive feelings of guilt (e.g., Merritt et al. 2010). If exposure to a punished transgressor boosts people's own perceived morality, this suggests that the punishment of a single moral transgressor may ultimately increase others' willingness to engage in antisocial behavior. Thus, although institutions may seek to publicize the punishment of a moral transgressor to promote moral behavior and deter others from transgressing, in certain contexts this type of exposure may inadvertently have the opposite effect. In a world saturated with sensationalized stories of crime and punishment, the present research highlights the potentially negative impact such information can have on people's thoughts and actions.

Conclusion

The current studies provide tentative evidence of an overlapping psychological process linking pre-modern rituals of atonement with a modern psychological phenomenon in which the punishment of a moral transgressor serves to morally cleanse the self. Future research is needed to illuminate the specific conditions under which this process is deployed and when, specifically, it effectively eliminates feelings of moral guilt. Given the critical importance of observations of punishment in contemporary society, we believe that these results provide initial and intriguing evidence for the continued role of moral cleansing phenomena.

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