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**Original Article**

# DOES MORAL CLEANSING MODERATE THE EFFECT OF EVOLUTIONARY ALTRUISM ON HELPING INTENTION? AN EXPLORATORY STUDY

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**Abstract**
There is strong evidence for social evolutionary motivations for helping (e.g., reciprocal altruism) and also growing support for the influence of the social cognitive theory of moral cleansing on prosociality. Where the former motivation is interpersonal, the latter is intrapersonal. This experimental study hypothesized that, in addition to main effects of evolutionary altruism and moral cleansing on helping intention, an interaction would occur between these theoretical motivations. Using three situational helping scenarios as dependent measures, the effect of participants' morally-valenced recalled behavior (moral/immoral/achievement/failure) and the effect of their social proximity to a helping target (cousin/colleague/stranger) on helping intention was determined. Overall, 616 Australian participants (90.1% female) completed the online experiment. Two-way ANOVA demonstrated a consistent main effect of social proximity on helping intention across all three helping scenarios, supporting evolutionary social psychological explanations for helping. However, instead of moral self-regulation effects, moral identity consistency effects were induced by the moral behavior recall manipulation. A main effect of behaviour recall on helping intention occurred, with moral recall increasing helping intention. The problem of theoretical ambiguity regarding moral identity consistency and moral self-regulation is discussed, as is the useful role of null result publications in informing effective experimental design.

**Keywords:** Helping, moral cleansing, evolutionary, reciprocal altruism, online, experimental, null result

## Introduction

Explaining the conditions under which individuals offer to help one another is an area revisited often by social psychologists. The most robust theoretical approach to date appears to be the evolutionary social psychological theories of helping, reciprocal altruism and kin selection. However, the social cognitive theory of moral self-regulation is gathering support amongst researchers of egoistic cost-benefit theories of helping. While the evolutionary theories posit interpersonal motivations to help, and the moral

self-regulation hypothesis posits an intrapersonal motivation to help, both theories incorporate motivations based on the "cost" associated with helping into their explanations.

*Evolutionary Social Psychological Theories of Helping Intention and Behavior*

The body of evolutionary psychological research to date has demonstrated that, in both humans and animals, the degree of relatedness between helper and target is a robust predictor of prosociality generally, and helping intention and behavior specifically (see Axelrod & Hamilton, 1981; Dovidio, Piliavin, Schroeder, & Penner, 2006; Essock-Vitale & McGuire, 1985; Sachs, Mueller, Wilcox, & Bull, 2004, for comprehensive theoretical and empirical justifications). Hamilton's (1964) theory of kin selection holds that individuals will sacrifice their resources for the reproductive success of their own genetic relatives. Trivers' (1971) reciprocal altruism hypothesis holds that we are most likely to help those with whom we frequently associate, and compliments kin selection theory. Here, "altruism" fulfills a self-preservation function, and helping others is conditional on the likelihood of this help one day being returned. These complimentary theories propose that helping is more likely to occur within reciprocal relationships – for example, between kin and friends – than within sporadic or chance relationships. Furthermore, preference will be given to a genetic relative within these reciprocal relationships. For simplicity, the present study will refer to the biosocial concept of social relatedness as *social proximity*, where a genetic relation has greater social proximity to the individual than a friend, and a friend has greater social proximity to the individual than a stranger.

Integral to the perspective that social proximity increases helping is the notion that it "costs" individuals to offer help in some way, by spending material resources, time, effort, or genetic opportunity (Griskevicius et al., 2007). Social evolutionary theories of helping often interpret costs of situational helping in terms of anticipated, explicit biosocial benefits to the helper, such as future reciprocity, or mate or leadership role acquisition and maintenance (Griskevicius et al., 2007; Liebe & Tutic, 2010; Miller, 2000; Trivers, 1971; Zahavi, 1975). While they are robust explanations for helping intention and behavior, these evolutionary theories have a purely interpersonal application and don't account for the intrapersonal processes that motivate individuals to willingly incur the "cost" of helping.

*The Moral Self-Regulation Hypothesis, Moral Cleansing, and Prosociality*

While not as robust as evolutionary explanations of helping, the desire to regulate one's moral self-image is a situational factor of current interest in helping research (Aquino & Reed, 2002; Conway and Peez, 2012; Jordan, Mullen, & Murnighan, 2011; Mazar, Amir, & Ariely, 2008; Monin & Jordan, 2009; Zhong, Liljenquest, & Cain, 2009). The moral self-regulation hypothesis is an extension of the moral-balance model (Nisan, 1991; Nisan & Horenczyk, 1990). It argues that moral intention and behavior are determined in part by situational intrapersonal factors – specifically, how closely one's prior, salient, behavior matches one's moral identity. Individuals regulate their moral identity by engaging in behaviors or intentions that counter-balance their most salient prior moral behavior, be it positive or negative (Jordan et al., 2011; Monin & Jordan,

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2009; Zhong et al., 2009). Moral self-regulation draws on processes of moral reasoning called *moral licensing* and *moral cleansing*.

Moral licensing occurs when individuals permit themselves to violate a moral norm after having engaged in a salient moral thought or behavior (Miller & Effron, 2010; for supporting studies, see Bradley, King, Heble, & Skorinko, 2010; Effron, Cameron, & Monin, 2009; Effron & Monin, 2010; Monin & Miller, 2001). Moral cleansing, which is of greater interest in relation to helping, occurs when individuals engage in moral intention or behavior after a salient immoral thought or behavior, which has undermined their values and hence moral self-concept (Jordan et al., 2011; Sachdeva, Iliev, & Medin, 2009; Zhong et al., 2009). Moral cleansing can take a literal form, such as hand washing (Bastian, Jetten, & Fasoli, 2011; Zhong & Liljenquist, 2006), a "self-punishment" form, such as self-inflicted pain (e.g., Sachdeva et al., 2009), or a symbolic form, such as general prosocial intention or behavior (e.g., Jordan et al., 2011; Tetlock, Kristel, Elson, Green, & Lerner, 2000; Zhong & Liljenquist, 2006).

Moral cleansing has demonstrated consistent moderate effects on prosocial intention in previous experimental studies. For example, in a study by Jordan et al. (2011), symbolic moral cleansing was induced by having participants recall a past immoral behavior, resulting in an increased intention to donate blood, to give money to charity, and to volunteer. Furthermore, this study demonstrated that the greater the magnitude of participants' immoral behavior, the greater their prosocial intention. This suggests that participants weighed their opportunity for prosociality against their moral deficit, and intended to act proportionately to "neutralize" their moral debt.

Kin selection and reciprocal altruism propose that social proximity is a robust predictor of helping intention. These evolutionary theories explain the decision-making process underlying the preference for socially proximate helping as an (interpersonal) cost-benefit driven one. Moral cleansing holds that a desire to regulate one's threatened moral identity is sufficient motivation to help an individual in need, and is also an (intrapersonal) cost-benefit driven decision. Where social proximity looks at whether the helping target is likely to return help in the future, moral cleansing looks at whether the positive moral self-appraisal derived from the helping intention itself is necessary to one's moral self-image at that point in time. If it is, then the magnitude of the helping intention (and the cost incurred to the helper) seems to be proportionate to the magnitude of the threat to one's moral identity.

While moral cleansing studies have looked at the cost of helping in terms of participants' likelihood to help *any* individual, existing studies have not explored whether the interpersonal usefulness of the helping target influences the effect of moral cleansing. Evolutionary theories predict that relatives are most, and strangers least, useful from an interpersonal perspective. Moral cleansing predicts that the magnitude of help offered is proportionate to the perceived imbalance in one's moral identity. An idea requiring exploration is whether these interpersonal and intrapersonal helping motivations interact in such a way that the magnitude of perceived imbalance in one's moral identity influences whether high-cost help (to a stranger) or low-cost help (to a relative) is most likely to be offered.

*Aim and Hypotheses of the Present Study*

The present study aimed to compare the relative influence of moral cleansing and social proximity on helping intention, and to explore whether an interaction emerged

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between recalled behavior and social proximity. Four hypotheses were proposed. A main effect of behavior recall was predicted, where recalling an immoral behavior would increase subsequent intention to help, and recalling a moral behavior would decrease helping intention (H1). It was also predicted that the moral magnitude of participant's recalled behavior would be negatively correlated with intention to help, where increased moral behavior would be associated with decreased helping intention (H2). A main effect of social proximity was predicted, where the closer the participant's social proximity to the person in need, the greater the participant's intention to help (H3). Finally, an interaction was predicted between recalled behavior and social proximity, where participants in the recalled immoral behavior condition would be more likely to help a stranger than relative (H4).

## Method

### Participants

Adult Australian participants were recruited using a paid advertisement on Facebook, which directed them to the study's Deakin University website. Participation was voluntary, and no incentives were offered.

Initially, 676 participants (90.2% female) completed the online experiment. After cleaning the data of incomplete cases, 616 participants remained (555 females (90.1%), 57 males, 4 unknown), with an age range of 18-83 years ($M = 36$ years, $SD = 13.8$ years). This sample had sufficient power to replicate moral cleansing effects from previous studies. An a priori power analysis showed a minimum of 459 participants were required to replicate the moderate effect size ($f = 0.215$) of immoral behavior recall on prosociality demonstrated by Jordan et al. (2011), with 90% statistical power.

### Design

A 4 (recalled behavior) x 3 (helping target) between-groups factorial design was used. The four conditions for the *recalled behaviour* factor were *moral behavior*, *immoral behavior*, *achievement behavior*, and *failure behavior*. The moral and immoral behavior conditions were used to induce morally-valenced emotions and evaluations in participants, while the achievement and failure behavior conditions were used to induce morally "neutral" emotions and evaluations in participants.

The social proximity of participants to an individual in need of help was operationalized as having helping targets presented to participants within the helping scenario as a cousin, colleague, or stranger. "Cousin" was chosen as a target who was a relative but not necessarily someone close or loved; "colleague" was chosen as someone with whom the participant often associated but was not necessarily friends with; and "stranger" was chosen as someone unknown to the participant. The dependent variable, helping, was operationalized as "self-reported helping intention," and assessed by participants' written indication of how likely they would be to help a particular target requiring assistance.

### Procedure

Limited deception was used to mask the true intent of the study. The plain language statement (PLS) informed potential participants that the purpose of the study

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was to investigate the effect of visual imagery ability on decision-making, and offered feedback on their visual imagery ability in return for completing the study. To support the experimental cover story, all participants initially completed one task from the visual subscale of the Betts QMI Vividness of Imagery Scale, and the 10-item Gordon Test of Visual Imagery Control (Richardson, 1969). Participants were then randomly assigned to one of the four recalled behavior conditions and asked to recall and visualize a time they had behaved accordingly (see Table 1). This manipulation was adapted from Jordan et al. (2011). As manipulation checks, participants were asked to write a few sentences about the situation, and then to rate their current mood and moral self-appraisal.

Upon being randomly assigned to a helping target condition (cousin/colleague/stranger), all participants were asked to read the three hypothetical helping scenarios and to rate their intention to help in each. After a brief visual mood amelioration exercise, demographic information was also collected. Participants were fully debriefed and given access to true feedback on their visual imagery ability, before giving their consent for their data to be used by the researchers.

**Table 1.** Behavior Recall Manipulation Statements

| Behavior Recall Condition | Manipulation Statement |
| --- | --- |
| Moral | Recall a situation in the recent past when you helped somebody resolve a difficult situation, even though you felt no obligation to do so. Though you were not rewarded for your actions, your altruistic act really made your day. |
| Immoral | Recall a situation in the recent past when you used someone to benefit yourself but caused them emotional hurt or actual harm. Because of your actions, you gained something unfairly while they lost out. |
| Achievement | Recall a situation in the recent past when you achieved a goal you had worked long and hard towards. Your dedication and focus had finally paid off. |
| Failure | Recall a situation in the recent past when you failed to achieve a goal you had worked long and hard towards. Despite your dedication and focus, you just didn't make the grade. |

*Measures*

**Moral Self-Regulation Checks and Measures.** To ensure the internal validity of the moral self-regulation manipulation, participants rated their current mood (1 = *depressed*, 7 = *elated*) and moral self-appraisal (1 = *ashamed*, 7 = *proud*) immediately after the behavior recall manipulation. One-way ANOVA found a significant effect of recalled behavior on mood ($F(3, 603) = 44.15$, $p < .001$, $\eta_p^2 = .18$) and moral self-appraisal ($F(3, 605) = 79.65$, $p < .001$, $\eta_p^2 = .28$), and all conditions differed significantly for each analysis (both $p<.05$). The most positive mood emerged in the achievement recall condition and least in the immoral behavior recall condition, and recalled achievement induced the most positive moral self-appraisal (pride), and immoral recall induced the most negative self-appraisal (shame). While moral self-appraisal and mood

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were strongly positively correlated (Pearson's $r(607) = + .60$, $p < .01$, two-tailed), they were nonetheless significantly different ($F(6, 594)= 57.17$, $p< .01$, $\eta_p^2 = .37$).

To ensure the external validity of participants' morally-valenced recalled behaviors, two external raters who were blind to the experiment's hypotheses and design rated the moral magnitude of each participant's recalled behavior on a 7-point bipolar scale (-3 = *very immoral* to +3 = *very moral*). Coder interrater reliability was quite high (ICC= .97), and a large, significant effect of recalled behavior on moral magnitude rating was found ($F(3, 607) = 614.69$, $p < .001$, $\eta_p^2 = .75$). All conditions significantly differed from each other ($p < .001$), except the achievement and failure conditions ($p = .94$). Participants in the moral behavior recall conditions were rated as most moral, and participants in the immoral recall condition were rated as least moral, as expected.

**Helping Scenarios and Helping Intention.** For the dependent measure, participants were presented with three helping scenarios and rated their likelihood to help the featured target (either a cousin, colleague, or stranger, depending on which social proximity manipulation group they were assigned to after completing the behavior recall manipulation). Intention to help was rated on a 5-point scale (1 = *definitely would not help*; 5 = *definitely would help)*.

Three unique scenarios were created to present the participant with the sort of authentic cost-benefit pressures real-life helping opportunities might entail. Scenario One presented participants with the opportunity to offer their target money to pay for some purchases at a supermarket checkout, despite having limited funds themselves. Scenario Two presented participants with the opportunity to help their target search for their lost puppy, despite having a pressing appointment. Scenario Three gave participants the opportunity to help their target by chasing after them and returning money which had fallen from their pocket, despite the target being unaware they had even dropped the money.

**Demographics and Impression Management as Potential Covariates.** Participants provided their sex and age, as well as demographic information associated with helping intention, namely population of home region and income level (Dovidio et al., 2006). The median population of participants' home region was the size of a capital city (100,000 to 1,000,000 people), and the median income was $40,000 to $49,000. To control for response bias, the Impression Management (IM) subtest of Paulhus' (1994) Balanced Inventory of Desirable Responding, Version 6 (BIDR-6), was also completed. The IM subtest consists of 20 self-statements about which the participant can lie in order to manage how others perceive their communal values (Paulhus, 2002). Participants responded to each item (e.g., "I sometimes tell lies if I have to") on a 7-point Likert-type scale (1 = *not true*, 7 = *very true*). Total IM score was used for subsequent analyses, with participants falling within an acceptable range (*M*=78.38, *SD*=16.98).

## Results

*Preliminary Analyses*

While it was intended that the three scenarios would contribute to a MANOVA, results of the three dependent measures were significantly but only weakly correlated (*r*s ranging from .15-.22, $p < .01$, two-tailed), making the use of MANOVA inappropriate (Tabachnick & Fidell, 2001). Age, population of home region, income, and IM scores were assessed as possible covariates via two-way ANOVA (recalled behavior by helping target) yielding nonsignificant results ($p > .05$).

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*Helping Intention*

A two-way (recalled behavior by helping target) ANOVA was conducted on helping intention across the three scenarios. A significant main effect of helping target on helping intention occurred in Scenario One ($F(2, 603) = 41.22$, $p < .001$, $\eta_p^2 = .12$), Two ($F(2, 604) = 8.41$, $p < .01$, $\eta_p^2 = .03$), and Three ($F(2, 604) = 8.09$, $p < .001$, $\eta_p^2 = .03$). For each scenario, post hoc comparisons revealed significantly less helping intention in the stranger condition than in both the cousin and colleague conditions (all $p < .01$; refer to Table 2).

No interactions between helping target and recalled behavior occurred for the three helping scenarios (all $p > .05$). Furthermore, a significant main effect of recalled behavior on helping intention was found only for the third scenario, $F(3, 604) = 4.70$, $p < .01$, $\eta_p^2 = .02$. Contrary to expectations, post hoc comparisons for recalled behavior showed significantly more helping intention in the moral recall ($p < .01$) than in the immoral recall condition (refer to Table 2). Consistent with the recalled behavior main effect for scenario three, significant, small positive correlations were found between helping intention and the moral magnitude of the recalled behavior ($r(615)$, $+.12$, $p < .01$, one-tailed), and between helping intention and moral self-appraisal ($r(608)$, $+.10$, $p < .01$, one-tailed). While a significant but negligible positive correlation was also found between helping intention and moral self-appraisal for Scenario Two ($r(608)$, $+.08$, $p < .05$, one-tailed), no such correlation was found for Scenario One ($p > .05$).

**Table 2.** Descriptive Statistics for Helping Scenarios Relating to Significant Main Effects

| Measure | Main effect | Condition (ranked) | *M* | *SD* | *n* |
|---|---|---|---|---|---|
| Helping scenario 1 | Helping target | Cousin | 4.65 | 0.69 | 212 |
| | | Colleague | 4.51 | 0.69 | 214 |
| | | Stranger | 3.94 | 0.97 | 189 |
| | | Total | 4.38 | 0.84 | 615 |
| Helping scenario 2 | Helping target | Cousin | 3.49 | 1.21 | 212 |
| | | Colleague | 3.15 | 1.18 | 215 |
| | | Stranger | 2.99 | 1.17 | 189 |
| | | Total | 3.22 | 1.20 | 616 |
| Helping scenario 3 | Recalled behaviour | Moral | 4.61 | 0.75 | 181 |
| | | Achievement | 4.47 | 0.93 | 161 |
| | | Failure | 4.37 | 0.93 | 155 |
| | | Immoral | 4.23 | 1.00 | 119 |
| | | Total | 4.44 | 0.91 | 616 |
| | Helping target | Cousin | 4.56 | 0.81 | 212 |
| | | Colleague | 4.51 | 0.83 | 215 |
| | | Stranger | 4.22 | 1.04 | 189 |
| | | Total | 4.44 | 0.91 | 616 |

*Note:* Scores can range from 1-5, where 1 = *not at all likely to help*, and 5 = *100% likely to help*.

## Discussion

The present study aimed to compare the relative influence of moral cleansing and social proximity on helping intention, and to explore whether an interaction emerged between recalled behavior and social proximity. While the expected moderate-large main effect of social proximity of target on helping intention was demonstrated for each

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helping scenario (H3), a small main effect of recalled behavior occurred only in helping scenario three (H1), and in an unexpected direction. Instead of moral cleansing effects, immoral recall decreased helping intention, and moral recall increased helping intention. The validity of this unexpected effect was supported by the small positive correlation found between helping intention and the moral magnitude of the recalled behavior, and between helping intention and moral self-appraisal (H2). Finally, no significant interactions occurred across helping scenarios to support the hypothesis that the motivation for moral cleansing would interact with the perceived cost of helping an individual based on their social proximity to the helper (H4).

*Moral Identity Maintenance: Self-Regulation versus Consistency*

An evolutionary motivation for helping intention was clearly demonstrated by this study. The social cognitive motivation for moral self-regulation, however, did not eventuate. Rather than self-regulate their moral identity, participants appear to have acted to maintain consistency in their induced negative or positive perception of their moral identity. This unexpected effect raises the problem of differentiating between when and why, on the one hand, a desire for moral self-regulation is induced, and on the other hand, a desire for consistency in moral identity is induced, particularly when both effects can be induced using morally-valenced behavior recall (Conway & Peez, 2012). This theoretical ambiguity is a relatively unexplored area of research for experimental social psychologists.

Research by Conway and Peez (2012), published after the current study was conducted, found that the degree of conceptual abstraction of the morally-valenced recalled behavior moderated whether participants self-regulated or instead worked to maintain consistency in their perceived moral identity. In their study, they operationalized conceptual abstraction as *temporal distance*, so that more recent (concrete) morally-valenced behavior recall induced moral self-regulation, whereas more distant (abstract) morally-valenced behavior recall induced moral identity consistency effects.

In the current study, participants were asked to recall "a time in the recent past" to induce the necessary state of moral self-appraisal. However, participants' interpretation of "recent past" was not controlled for, and their adherence to this direction was not checked. For scenario three, most participants could have recalled more distant and hence abstract morally-valenced behaviors, inducing consistency effects. In helping scenarios one and two, however, participants could have recalled behavior across a balanced range of temporal distances, confounding the emergence of either regulation or consistency effects.

That previous studies on moral self-regulation have not noted similar theoretical or methodological complications in their results raises questions regarding whether or not such complications are always reported or published. With the exception of Fayard, Bassi, Bernstein, & Roberts's (2009) failure to replicate Zhong and Liljenquist's (2006) moral cleansing study, a thorough review of the literature has failed to unearth examples of studies in support of the null hypothesis regarding moral self-regulation. There is nonetheless much to be learned from reviewing the research designs and experimental results of such studies whose results may not be clear-cut. The results of this current study serve to compliment Conway and Peez's (2012) own exploration of moral identity consistency versus moral self-regulation, by demonstrating the practical difficulties of

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inducing the two competing phenomena.

*Limitations and Future Study Directions*

Consideration was given to the possibility that placing the moral self-appraisal/mood manipulation check between the behavior recall manipulation and the helping intention measure may have depleted or distorted the priming effect of the manipulation. However, this procedure was not unique to this study, as previous moral identity studies have placed a similar manipulation check between the experimental manipulation and the dependent measure without depleting or distorting the expected priming effect (see Aquino, McFerran, & Laven, 2011; Zhu, Riggio, Avolio, & Sosik, 2011). Furthermore, terror management theory studies priming mortality salience routinely use an extended mood check in this way without depleting the intended prime (see Niemiec et al., 2010; Routledge et al., 2010; Vess, Arndt, Cox, Routledge, & Goldenberg, 2009).

Future studies in this area would benefit from running a series of experiments, with the first study ensuring manipulation checks work as intended to avoid methodological complexity. Taking care to control for the temporal distance of recalled morally-valenced behaviors may help curtail moral identity-consistency effects. Finally, consideration should be given to using context-consistent helping scenarios as dependent measures, to control for potential testing effects caused by cognitive fatigue.

As moral self-regulation effects did not eventuate, the exploratory purpose of this study – to evaluate whether or not an interaction between evolutionary and social cognitive motivations for helping- was not fulfilled. However, this null result provided valuable insight into the subtlety required in manipulating moral identity to attain moral cleansing effects. This null result, and its theoretical exploration, presents future researchers of prosociality and moral self-regulation with the opportunity to draw on this study's design and the implications it raises, to inform more effective approaches.

*Conclusion*

The purpose of this study was to demonstrate the effect of recalled behavior and social proximity on helping intention, and to explore a possible interaction between these factors. Only the evolutionary explanation for helping was supported by the current study. While great care was taken to reproduce the moral cleansing effects demonstrated by previous moral self-regulation studies, the design of this study may have contained an unanticipated confound which led to the emergence of moral identity consistency effects rather than moral self-regulation effects.

This study did not adequately explain whether or not desiring to cleanse one's self of a perceived moral "debt" influences whether or not one is more likely to help a stranger than a family member, given the higher biosocial "cost" of the act. However, the demonstration of an unexpected moral identity consistency effect highlights the need for further investigation regarding how the phenomena of moral self-regulation and identity consistency are to be distinguished, theoretically and experimentally. The question of how moral self-regulation and social proximity interact also remains unanswered, and awaits further study.

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