Benevolent God Concepts and Past Kind Behaviors Induce Generosity Toward Outgroups

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Abstract

Humans behave more prosocially toward ingroup (versus outgroup) members. This pre-registered research examined the influence of God concepts and memories of past behavior on prosociality toward outgroups. In Study 1 (n=573), participants recalled their past kind or mean behavior (between-subjects) directed toward an outgroup. Subsequently, they completed a questionnaire assessing their views of God. Our dependent measure was the number of lottery entries given to another outgroup member. Participants who recalled their kind (versus mean) behavior perceived God as more benevolent, which in turn predicted more generous allocation to the outgroup (versus ingroup). Study 2 (n=281) examined the causal relation by manipulating God concepts (benevolent versus punitive). We found that not only recalling kind behaviors but perceiving God as benevolent increased outgroup generosity. The current research extends work on morality, religion, and intergroup relations by showing that benevolent God concepts and memories of past kind behaviors jointly increase outgroup generosity.

Keywords: God concepts, intergroup bias, morality, prosocial behavior, religion

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1. Introduction

People often help others in a variety of ways: they comfort those in distress, spend time trying to resolve others' problems, and share resources with those in need (Dunfield et al., 2011; Zaki & Mitchell, 2013). Sharing resources can take many forms, including giving to friends who do not currently have enough and donating money to charity to assist strangers. Yet people often selectively deploy these prosocial behaviors toward ingroup rather than outgroup members (Balliet et al., 2014; Fiedler et al., 2018; Goette et al., 2006; Leach et al, 2017; Levine et al., 2002; Richeson & Sommers, 2016).

The current work tested the extent to which God concepts and past behaviors increase generosity toward outgroup members beyond religious boundaries using age as a group boundary. Specifically, we examined how benevolent versus punitive God concepts and recall of participants' own kind versus mean past behaviors toward an outgroup shape their resource allocations to ingroup versus outgroup members. To determine the extent to which religious concepts might shape behaviors beyond the domain of religion, we tested group membership based on age by asking participants to share resources with people who were the same age as them versus ten years older or younger.

1.1. The Importance of God Concepts in Shaping Prosociality

Religion and morality are closely associated in many people's minds. In one poll, 42% of United States residents reported that it is necessary to believe in God in order to "be moral and have good values" (Pew Research Center, 2017). Adults view immorality as representative of atheists (Gervais, 2014), reasoning that atheists are particularly likely to be unkind and uncaring (Simpson & Rios, 2017). Further, both children and adults perceive the moral valence of

identical prosocial behaviors differently depending on whether they were performed for religious or secular reasons (Heiphetz et al., 2015).

Experimental work has not born out the intuition that religious beliefs uniquely shape moral behavior (Bloom, 2012). However, specific religious notions, such as representations of God, do seem to shape prosocial behavior. Past work in this area has identified two God concepts that could influence people's prosocial behavior.

According to one approach, punitive God concepts increase cooperation and prosociality. Under this account, beliefs about a punitive God function as a mechanism to regulate people's behavior in a large-scale society where monitoring others' behavior is almost impossible (Mercier et al., 2018; Norenzayan et al., 2016). Consistent with this perspective, one study found that the more participants perceived God as punitive, the less they cheated on a math test (Shariff & Norenzayan, 2011), showing a negative association between punitive God concepts and engagement in moral transgressions. While this prior research provided initial evidence regarding the relation between punitive God concepts and prosociality, the results were correlational. In an experiment that investigated the causal relationship between God concepts and prosociality, participants primed with punitive (versus non-punitive) aspects of God were more willing to engage in prosocial behaviors (Yilmaz & Bahçekapili, 2016). Similarly, participants primed with punishing, versus benevolent, God concepts were less likely to commit moral transgressions such as stealing and cheating (DeBono et al., 2017). Overall, these studies suggest that punitive God concepts increase prosociality and decrease transgressions in comparison with non-punitive God concepts.

In contrast, another approach has shown that benevolent God concepts can also increase prosociality in some contexts. For example, people primed with positive religious words (e.g.,

"heaven") were more likely to pick up charity pamphlets and give money to a stranger compared to those who were primed with neutral religious words such as "monk" (Harrell, 2012; Pichon et al., 2007). However, these studies did not compare benevolent and punitive God concepts directly, making it difficult to determine whether the benevolent concepts they tested increased prosociality above and beyond what would occur from punitive concepts. One study found clearer evidence in support of the claim that benevolent God concepts increase prosociality. Specifically, non-Catholic Christian participants primed with benevolent God concepts were less likely to show aggressive tendencies toward others compared to those primed with punitive God concepts (Johnson et al., 2013). This result shows that benevolent God concepts encourage people to behave prosocially. Taken together, these prior findings indicate that God concepts have some association with prosocial behavior.

1.2. The Importance of Past Behaviors in Shaping God Concepts and Prosociality

Although God concepts play a critical role in shaping prosociality, individuals do not generate God concepts from the void. Rather, concepts of God might be interwoven with daily experiences. The current work tested between two competing hypotheses regarding the link between God concepts and participants' recall of their own prior behavior. In doing so, the present research also clarified how memories of one's past behaviors shape current prosocial behaviors towards others.

On the one hand, participants might conceptualize of God as relatively benevolent after remembering their own kind actions and as relatively punitive after remembering their own mean actions. Individuals often engage in prosocial as well as antisocial behaviors toward others, painting their everyday life with either a positive or negative moral valence. Individuals also perceive God as relatively similar to themselves—reporting, for instance, that God's moral and

ideological beliefs are relatively similar to their own (Epley et al., 2009; Heiphetz et al., 2018; Payir & Heiphetz, 2022; Ross et al., 2012). Therefore, the extent to which people perceive God as benevolent or punitive could depend on their own kind or mean behaviors toward others in the past. For example, if people anchor on themselves when inferring what God is like, and they remember a previous instance of their own kind (versus mean) behavior, they may perceive God as relatively benevolent. Such a finding would suggest that people use information about how they treated others to make inferences about how God would treat humans. Furthermore, if God concepts shape prosocial behaviors, then remembering one's own actions could also shape the propensity to behave generously toward others through its effect on representations of God. In other words, God concepts might be the mechanism underlying the relation between recall of past acts and prosociality.

On the other hand, people may be more likely to perceive God as benevolent after remembering an instance of their own mean, versus kind, behavior. This tendency might reflect an expectation or hope that God forgives past misbehavior. Under this hypothesis, God concepts might reflect a form of motivated social cognition (Kunda, 1990). When people recall past instances of treating others unkindly, they may desire forgiveness (Adams & Inesi, 2016; Riek et al., 2014), and conceptualizing God as benevolent may help them achieve this goal. The current work tested between these two competing hypotheses by measuring prosociality toward an outgroup member in an intergroup context.

1.3. Prosociality in an Intergroup Context

The studies reviewed so far measured how different God concepts influence interpersonal behaviors independently of group membership. However, in daily life, many prosocial behaviors and transgressions occur in an intergroup context (Mosley & Heiphetz, 2021). While people

commonly behave prosocially toward strangers (Engel, 2011; Frey & Meier, 2004; Henrich et al., 2005; Rusch, 2022), they tend to direct prosocial behaviors selectively toward members of their own groups (Balliet et al., 2014; Fiedler et al., 2018; Goette et al., 2006; Levine et al., 2002). For example, compared to an outgroup member, people are more likely to give resources to an ingroup member and more willing to help a victim who belongs to the same group as them (Fiedler et al., 2018; Levine, 2002). Also, people are more likely to reward an ingroup member for good behavior and are less likely to punish an ingroup member for misbehavior when compared against an outgroup member (Chen & Li, 2009).

To what extent might God concepts shape the preference to behave prosocially toward outgroup members? Some prior research suggests that God concepts are associated with generosity towards outgroups. For example, presenting participants with the word "God" (versus "religion") increases donations and cooperation towards a religious outgroup member (Preston & Ritter, 2013). Furthermore, people report that compared to themselves, God is more likely to approve of helping a religious outgroup member and to value human life equally regardless of the groups to which people belong (Ginges et al., 2016; Pasek et al., 2020). These findings suggest that people view God as having a preference for humans to behave kindly toward everyone, regardless of group membership. Therefore, it is possible that God concepts play a key role in inducing prosociality toward outgroups.

One line of work examining the relationship between God concepts and outgroup prosociality found that the more punitive people perceived their gods to be, the more coins they allocated to geographically distant co-religionist strangers (i.e., individuals who were geographic outgroup members but religious ingroup members) when compared to local co-religionists (i.e., ingroup members in terms of both geography and religion) or to the participants themselves

(Purzycki et al., 2016). However, punitive God concepts did not reliably predict resource allocations to a religious outgroup member when compared with the self or a distant co-religionist (Lang et al., 2019). These studies suggest that punitive God concepts are positively related to prosocial behaviors towards religious ingroup members but do not necessarily increase prosociality towards religious outgroup members.

As can be seen from this discussion, most previous studies assessing how God concepts impact prosociality towards outgroups did so by contrasting a religious outgroup with a religious ingroup (e.g., Lang et al., 2019; Pasek et al., 2020; Preston & Ritter, 2013; Purzycki et al., 2016). The current work built on this past research by asking how God concepts influence generosity toward outgroups compared to ingroups beyond religious boundaries. Specifically, we used age as a group boundary and asked participants to recount their kind or mean behavior directed toward someone who was at least 10 years older or younger than themselves (i.e., a person at a different developmental milestone and therefore an outgroup member based on age). We used age to define the group boundary because we wanted to ensure that participants interacted with outgroup members frequently enough in their daily lives to be able to easily recall instances of such interactions. Additionally, even though age—along with race and gender—is one of the "big three" categories that are particularly salient and relevant to social life (Fiske & Neuberg, 1990; Kinzler et al., 2010), and even though people often exhibit prejudice toward others on the basis of age (Heiphetz & Oishi, 2022), relatively little work in the intergroup literature has focused on age as a group marker (North & Fiske, 2012).

Examining intergroup generosity in the context of age-based groups is important on a theoretical level because doing so clarifies the power of religion to shape behaviors beyond its immediate context. It is also important on a translational level because people often encounter

outgroup members along a variety of axes. For instance, in the course of everyday life, Christians may encounter people who differ from them in terms of gender, race, age, and other dimensions. The current work clarifies the extent to which religion shapes generosity toward people on the basis of non-religious social group memberships and may therefore provide insight into how to increase prosociality toward others.

1.4. Overview of Present Research

The present research asked three specific questions to probe the relation between God concepts and prosocial behavior: (1) How does recalling past behaviors affect God concepts? (2) To what extent do God concepts underlie the relation between recalling past behaviors and generosity toward outgroup members? (3) In turn, how do God concepts directly shape generosity toward outgroups? To address these questions, Study 1 investigated whether recalling one's past kind, versus mean, behavior towards an outgroup increases subsequent generosity towards members of that outgroup. Study 1 also probed a potential mechanism underlying the association between the type of behavior participants remember (kind versus mean) and outgroup generosity by testing whether God concepts mediate this relation. Building on Study 1, Study 2 experimentally manipulated both the type of behavior participants remembered and their God concepts to determine how these two factors jointly influence subsequent outgroup generosity.

2. Study 1

Study 1 investigated whether recalling past behaviors towards an outgroup predicts generous resource allocation towards members of that outgroup, and, if so, whether God concepts mediate the relation between these two variables. We asked participants to recount an event in which they were either kind or mean to a stranger who was at least 10 years younger or older than them (i.e., an outgroup member based on age) and then measured participants' God

concepts. Subsequently, participants divided 5 entries into a lottery of $10 between two

strangers: a person who was their age (ingroup member), and another person who was 10 years

younger or older than them (outgroup member). Our dependent measure was the number of

lottery entries given to the person dissimilar in age, which served as an index of outgroup

generosity.

We pre-registered our research questions and analyses before data collection; see

https://aspredicted.org/1G1_KBH for Study 1[1] and https://aspredicted.org/TBC_ZCH for Study

2. All data, script and code are available through the Open Science Framework: https:/

https://osf.io/bzmfq/.

2.1. Method

2.1.1. Participants

Our pre-registration noted that we would recruit 650 participants. This sample size

provided sufficient power to detect a medium effect size (e.g., $d = .50$ in a t-test comparing the

number of resources participants gave to an outgroup member after recalling a prior instance of

their own kind versus mean behavior) in the full sample and also among only Christian

participants, to allow us to explore whether members of the dominant religious group in the

United States differed from members of minority groups. We obtained responses from 642

individuals and, in accordance with our pre-registration, excluded sixty-nine respondents because

they failed to provide a meaningful and original answer to the task in which participants had to

recall a prior instance of their own behavior.[2] The remaining sample included 573 adults

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[1] The pre-registration of Study 1 posed a research question rather than specifying a directional hypothesis. However, the question we pre-registered was in line with the alternative possibility that participants in the Recall Mean Behavior condition (versus Recall Kind Behavior) would be more generous toward outgroup than ingroup members to make up for their misdeed.
[2] Results did not differ after including the additional 69 participants in the analyses.

recruited from Amazon Turk (M_{age} = 41 years, SD_{age} = 13 years, range = 18 - 89 years). Only

United States residents were able to participate in the study. Participants identified themselves as

female (57%), male (43%), and another gender (<1%); as White (80%), Black (8%), Asian (7%),

Multiracial (3%), Native American (<1%), and some other race (<1%); as currently non-

religious (39%), Protestant (22%), Catholic (20%), Other Christian (13%), Jewish (2%),

Buddhist (1%), Hindu (<1%), Muslim (<1%) and some other religion (3%).[3]

2.1.2. Experimental Design and Procedure

Participants were randomly assigned to one of two recall conditions: *Recall Mean*

Behavior (*n* = 308) or *Recall Kind Behavior* (*n* = 265). In the Recall Mean Behavior condition,

participants recalled and wrote a vivid description of an event in which they behaved meanly

toward a stranger who was different from them in age (i.e., at least 10 years younger or older

than themselves). To encourage them to recall their mean behavior vividly, the instructions

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[3] We conducted three types of exploratory analyses to examine whether responses differed across religious background. First, because Christianity is the dominant religious group in the United States and dominant group members may respond differently than minority group members, we compared Christians (including participants who identified as Protestant, Catholic, or Other Christian) with all other participants. The results from a linear regression on the number of lottery entries given to an outgroup member revealed that neither the main effect of Participant Religion nor the interaction effect between Recall Condition and Participant Religion reached significance (*p*s > .81). However, we found a significant main effect of Participant Religion on the God negativity score (i.e., benevolent God concepts subtracted from punitive God concepts; *b* = 1.48, *SE* = 0.26, *p* < .001), suggesting that Christians perceived God as more benevolent than did non-Christians. We did not observe any interactions between Participant Religion and Recall Condition on the God negativity score, *p* = .156. Second, we probed possible differences between participants who identified with any religion and participants who did not, reasoning that individuals who affiliate with a religious group might answer questions about God differently from participants who identify as non-religious. Again, neither the main effect of Participant Religion nor an interaction effect between Recall Condition and Participant Religion on the number of lottery entries given to an outgroup member reached significance (*p*s > .50). However, we found a significant main effect of Participant Religion on the God negativity score (*b* = -1.60, *SE* = 0.26, *p* < .001), suggesting that religious participants perceived God as more benevolent than did non-religious participants. We did not observe a significant interaction between Recall Condition and Participant Religion on the God negativity score, *p* = .372. Third, we conducted our mediation analysis among only religious participants and, separately, among only non-religious participants. However, perhaps due to the lower power of these analyses, neither indirect effect reached significance (religious participants: *b* = 0.02, *p* = .251; non-religious participants: *b* = 0.02, *p* = .257). More specifically, among religious participants, Recall Condition (0 = Recall Mean, 1 = Recall Kind) did not significantly predict the God negativity score (*b* = -0.26, *p* = .231), but the God negativity score did predict allocations to outgroup members (*b* = -0.08, *p* = .003). Among non-religious participants, Recall Condition marginally predicted the God negativity score (*b* = -0.61, *p* = .085), but the God negativity score did not predict allocations to outgroup members (*b* = -0.04, *p* = .167).

prompted participants to write about what had occurred, where and when this event took place, and what they said to the other person. The Recall Kind Behavior condition was identical to the Recall Mean Behavior except that participants wrote descriptions of an event in which they behaved kindly toward a stranger who was different from them in age (see a sample script of this procedure: https://osf.io/bzmfq/).

Subsequently, to measure their God concepts, participants in both conditions completed the Views of God Scale (Shariff & Norenzayan, 2011). Here, they rated their agreement with 7 items portraying God as benevolent (e.g., "God is loving") and 7 items portraying God as punitive (e.g., "God is punishing"), using a scale from 1 (strongly disagree) to 7 (strongly agree). Participants' responses in these items were highly intercorrelated (Cronbach's $\alpha = 0.90$). We averaged the positive and negative items to create a "Benevolent God" and "Punitive God" measure, respectively. In line with the original work by Shariff and Norenzayan (2011), we then subtracted the Benevolent God average from the Punitive God average to create an overall God negativity score, with larger numbers indicating more negative views.

Finally, all participants divided 5 entries into a lottery of $10 between two strangers: a person who was their age and another person who was 10 years younger or older than them. Specifically, participants read the following instruction: "For this study, we are giving away a $10 bonus via lottery. We ask each of our participants to split 5 entries to this lottery between 2 other participants: A participant who is your age and a participant who is different from you in age (10 years younger or 10 years older than you are). Please indicate how many entries (from 0 to 5) you want to give to the participant who is your age and how many entries (from 0 to 5) you want to give to the participant who is different from you in age. Please remember that your total cannot be smaller or larger than 5." Our dependent measure was the number of entries given to

the person who differed from participants in age. Because participants were forced to divide 5 entries between the ingroup member and the outgroup member, the more entries participants allocated to the outgroup member, the fewer they allocated to the ingroup member.

2.2. Results

Across studies, Qualtrics automatically recorded responses. All statistical analyses were conducted with R statistical software (R version 4.1.1; R Core Team, 2021).

As pre-registered, we conducted an independent-samples t-test to determine whether participants allocated different numbers of lottery entries to an outgroup member after remembering a prior instance in which they treated an outgroup member kindly versus meanly. Participants who recalled their past kind behavior toward an outgroup member ($M = 2.65$, $SD = 0.98$) gave more lottery entries to another outgroup member than those who recalled their mean behavior toward the outgroup ($M = 2.28$, $SD = 1.07$, $t(568.77) = -4.39$, $p < .001$; $d = 0.37$).

Next, also as pre-registered, we conducted a mediation analysis to test if God concepts mediated the link between the type of behavior participants recalled and the number of lottery entries they gave to an outgroup member. We entered condition (Recall Kind Behavior vs. Recall Mean Behavior) as the predictor variable, the God negativity score as the mediator, and the number of lottery entries given to an outgroup member as the dependent variable. Results from a mediation analysis with 5,000 bootstrapped samples confirmed that the indirect effect reached significance, $p = .024$. As shown in Figure 1, the God negativity score partially mediated the relationship between condition and the number of lottery entries given to the outgroup. In other words, participants who recalled their past kind behavior (versus mean behavior) showed a decrease in the God negativity score, and the decrease in the God negativity score in turn was associated with increased entry allocations to the outgroup.

Figure 1

Estimates for the Relationship Between Recall Condition (Kind versus Mean) and the Number of Lottery Entries Given to an Outgroup Member as Mediated by the God Negativity Score
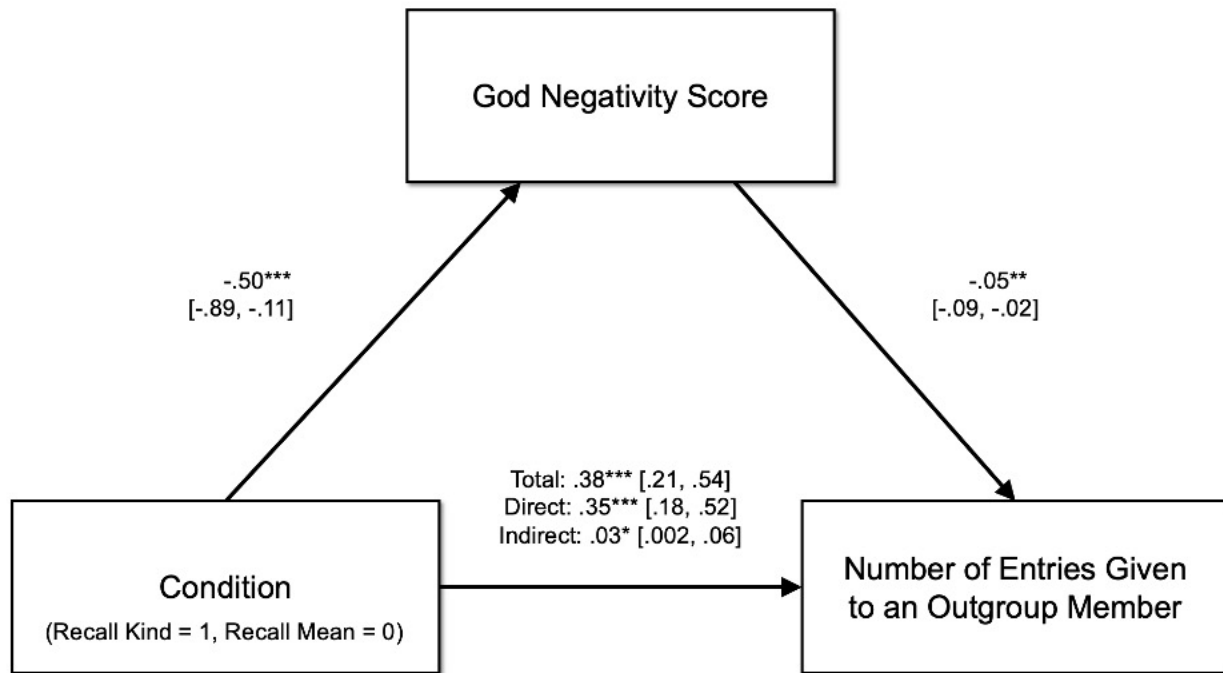
Note. The numbers in brackets reflect 95% confidence intervals. *$p < .05$, **$p < .01$, ***$p < .001$.

2.3. Discussion

Study 1 addressed two questions. First, how does recalling prior behavior shape current behavior? We found that participants who recalled their kind behavior towards an outgroup member showed more outgroup generosity compared to those who recalled their mean behavior. In other words, rather than making up for their past mean behaviors, participants continued to behave less prosocially toward outgroup members after recalling prior instances of a mean behavior toward that outgroup. The finding suggests that reminding people of their previous

prosociality towards an outgroup could encourage similar prosocial behaviors in the future, perhaps as a way of maintaining consistency and preserving a positive moral self-concept (Conway & Peetz, 2012; Young et al., 2012).

Second, what mechanism underlies the relation between remembering past behavior and current prosociality? God concepts partially mediated the relationship between the recall of past acts and outgroup generosity. That is, compared to those who recalled their mean behavior, participants who recalled their kind behavior towards an outgroup member perceived God to be more benevolent, and this perception in turn increased outgroup generosity in participants. In line with past work (Epley et al., 2009; Heiphetz et al., 2018; Ross et al., 2012), this finding suggests that people may base their representations of God on their own self-concepts and therefore perceive God as relatively similar to themselves. Building on this past research, the current finding also shows for the first time that benevolent God concepts underlie the process in which recounting one's past kind act increases subsequent generosity towards outgroup members. Taken together, our findings provide novel evidence regarding how recalling past behavior shapes God concepts and subsequent outgroup generosity.

3. Study 2

Study 2 built on the correlational approach adopted in Study 1 to probe the causal role that God concepts might play in prosocial behavior. One benefit of Study 1's approach is that it allowed us to determine the extent to which people viewed God as benevolent versus punitive in the absence of experimental manipulations of God concepts. However, one drawback of this approach is that it does not allow for causal conclusions. Therefore, Study 2 manipulated God concepts to determine whether perceiving God as benevolent versus punitive changes subsequent generosity toward an outgroup member. A second aim of Study 2 was to determine whether the

direct effect in Study 1, which showed that remembering a kind (versus mean) behavior toward

an outgroup member increased generosity toward members of that outgroup, would replicate in a

new sample.

3.1. Method

3.1.1. Participants

An a priori power analysis indicated that, in order to detect a medium-sized effect ($d = .5$)

with an alpha of .05 and 80% power, at least 256 participants would be required. To account for

participants requiring exclusion, we recruited more participants than required. Our final sample

included 281 adults recruited from Amazon Turk (M_{age} = 38 years, SD_{age} = 12 years, range = 18 -

91 years). Participants were randomly assigned to one of four conditions (between-subjects):

Recall Kind Behavior + Punitive God condition ($n = 72$), Recall Kind Behavior + Benevolent

God condition ($n = 83$), Recall Mean Behavior + Punitive God condition ($n = 61$), or Recall

Mean Behavior + Benevolent God condition ($n = 65$). Only United States residents were able to

participate in the study. Participants identified themselves as female (50%), male (48%), and

another gender (2%); as White (82%), Asian (8%), Black (5%), Multiracial (3%), Native

American (1%), and some other race (1%); as currently non-religious (38%), Protestant (20%),

Catholic (20%), Other Christian (11%), Jewish (2%), Buddhist (2%), Hindu (<1%), Muslim

(<1%) and some other religion (6%).[4] In addition to these participants, we excluded 147

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[4] We conducted three exploratory analyses to examine whether the number of lottery entries that participants gave to an outgroup member differed across religious background. First, we compared Christians (including participants who identified as Protestant, Catholic, or Other Christian) with all other participants. The result from a 2 (Recall: kind vs. mean) X 2 (God Concept: benevolent vs. punitive) X 2 (Participant Religion: Christian vs. non-Christian) between-participants ANOVA on the number of lottery entries given to an outgroup revealed that neither the main effect of Participant Religion nor interaction effects involving Participant Religion reached significance (ps > .22). Second, we examined whether participants who identified with any religious group responded differently than non-religious participants. The result from a 2 (Recall: kind vs. mean) X 2 (God Concept: benevolent vs. punitive) X 2 (Participant Religion: religious vs. non-religious) between-participants ANOVA on the number of lottery entries given to an outgroup indicated that neither the main effect of Participant Religion nor any interaction effects involving Participant Religion reached significance (ps > .24). Third, we conducted 2 (Recall: kind vs. mean) X 2

respondents who failed to provide a meaningful and original answer to either the recall task or

the God concept task, which was the pre-registered exclusion criteria.[5] This exclusion rate is in

line with other online studies (Barends & de Vries, 2019; Curran, 2016; Keith et al., 2017;

Meade & Craig, 2012; Zhou & Fishbach, 2016).

3.1.2. Experimental Design and Procedure

We used a 2 (Recall: kind vs. mean) X 2 (God Concept: benevolent vs. punitive)

experimental design, resulting in four between-subject conditions. Each participant completed

one recall task and one God concept task in counterbalanced order. For instance, in the *Recall*

Kind Behavior + Benevolent God condition, participants completed a recall task identical to the

Recall Kind Behavior condition in Study 1. Additionally, to manipulate participants' God

concepts, they read a short essay portraying God's nature as benevolent and provided a short

summary of the essay. Specifically, in the Benevolent God condition, the essay included several

Biblical verses that highlighted God's benevolent nature (e.g., "For the Lord is good; his

steadfast love endures forever, and his faithfulness to all generations" from Psalm 100:5) along

with religious paintings that portrayed God's benevolence (e.g., *The Return of the Prodigal Son*

by Rembrandt; see a script of this procedure at https://osf.io/bzmfq/). In contrast, the essay in the

Punitive God condition included Biblical verses that highlighted God's punitive nature (e.g.,

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(God Concept: benevolent vs. punitive) between-participants ANOVA on the number of entries given to outgroup members among only religious participants and, separately, among only non-religious participants. Among religious participants, there were main effects of Recall, $F(1, 170) = 8.78$, $p = .003$, $\eta_p^2 = .04$, and God Concept, $F(1, 170) = 4.12$, $p = .044$, $\eta_p^2 = .02$, There was no significant interaction between Recall and God Concept, $F(1, 170) = 1.11$, $p = .292$. Among non-religious participants, we found a marginally significant main effect of Recall, $F(1, 103) = 3.79$, $p = .054$, $\eta_p^2 = .03$. However, there were a non-significant main effect of God Concept, $F(1, 103) = 1.76$, $p = .188$, and a non-significant interaction between Recall and God Concept, $F(1, 103) = 0.37$, $p = .544$.

[5] When we included the additional 147 participants in the analyses, the main effect of the Recall of past acts reached significance, $F(1, 424) = 14.68$, $p < .001$, but the main effect of God concepts did not, $F(1, 424) = 1.63$, $p = .203$. Because these respondents were excluded for not following the instructions, it is unsurprising that they failed to show an effect detected among participants who passed our attention check.

"Now I will shortly pour out My wrath on you and spend My anger against you; judge you according to your ways and bring on you all your abominations." from Ezekiel 7:8) along with religious paintings that portrayed God's punishment (e.g., *The Destruction of Sodom and Gomorrah* by John Martin). Previous research has shown that religious scriptures as well as paintings serve as successful manipulations of God concepts (DeBono et al., 2017; Johnson et al., 2013).

Additionally, upon the completion of the God concept task, participants rated the degree to which they agreed with the statement "God is loving" using a scale from 1 (strongly disagree) to 7 (strongly agree). This additional task served as a manipulation check and confirmed that we successfully manipulated God concepts: Participants in the Benevolent God condition ($M = 5.36$, $SD = 1.84$) were more likely to agree with the statement "God is loving" than those in the Punitive God condition ($M = 4.46$, $SD = 2.16$; $t(261) = 3.73$, $p < .001$; $d = 0.45$).

Finally, as in Study 1, all participants divided 5 entries into a lottery of $10 between two strangers: a person who was their age and another person who was 10 years younger or older than them.
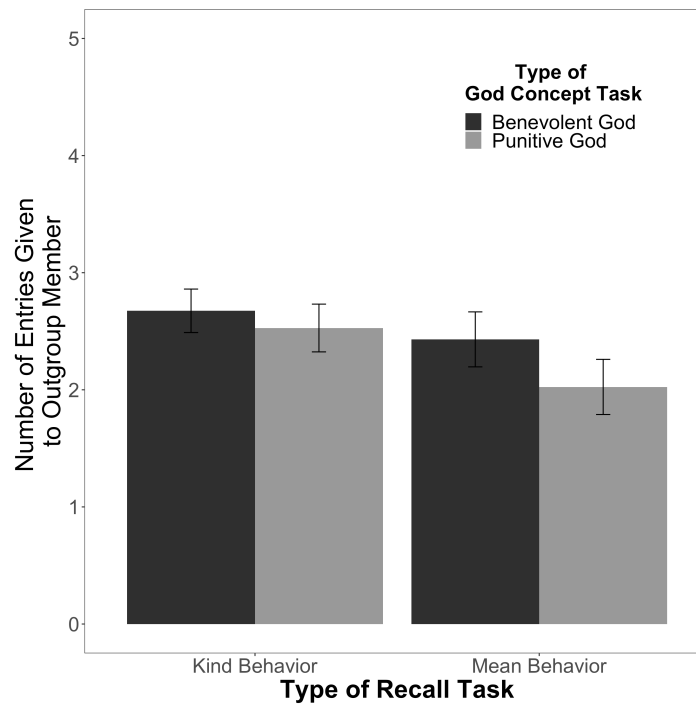
3.2. Results

To determine the effect of the recall of past acts and God concepts on prosocial behavior toward outgroup members, we conducted a pre-registered 2 (Recall: kind vs. mean) X 2 (God Concept: benevolent vs. punitive) between-participants ANOVA on the number of entries given to another participant who differed from the participant in age. This analysis revealed a significant main effect of Recall, $F(1, 277) = 12.09$, $p < .001$, $\eta_p^2 = .04$ (see Figure 2). Replicating Study 1, participants allocated more entries to an outgroup member after recalling their own kind ($M = 2.61$, $SD = 0.86$), versus mean ($M = 2.23$, $SD = 0.95$), behavior. This analysis also revealed

a significant main effect of God Concept, $F(1, 277) = 6.10$, $p = .014$, $\eta_p^2 = .02$. Participants

allocated more entries to an outgroup member when they were led to perceive God as benevolent

($M = 2.57$, $SD = 0.90$) rather than punitive ($M = 2.30$, $SD = 0.92$). The Recall X God Concept

interaction did not reach significance, $F(1, 277) = 1.46$, $p = .228$.

Figure 2

Average Number of Lottery Entries Given to an Outgroup Member Across Conditions

Note. The error bars represent 95% confidence intervals.

3.3. Discussion

Study 2 extended Study 1's correlational results by manipulating participants' God

concepts. These findings replicated the effect from Study 1 showing that remembering a kind,

versus mean, behavior toward an outgroup member increased generosity toward a different

member of that outgroup. Additionally, Study 2 demonstrated that experimentally manipulating participants' views of God as benevolent, versus punitive, increased their generosity toward an outgroup member. This result is consistent with earlier findings that benevolent God concepts increase prosociality (Johnson et al., 2013) and that God concepts are associated with reduced discrimination against outgroups (Lang et al., 2019; Pasek et al., 2020; Preston & Ritter, 2013).

4. General Discussion

The current work investigated how past behaviors and God concepts shape prosociality towards outgroups. Study 1 found that recalling past kind behaviors, versus mean behaviors, towards an outgroup increased lottery entry allocations to a member of that outgroup. God concepts played a mediating role in this process: recalling past kind behavior toward an outgroup predicted less punitive God concepts, which in turn predicted more generosity toward an outgroup member. Study 1's correlational approach allowed us to measure naturally occurring variation in God concepts but did not allow us to draw causal conclusions about the role that these concepts play in prosocial behavior. Therefore, Study 2 manipulated God concepts alongside the type of behavior participants recalled. Replicating Study 1, Study 2 showed that participants allocated more lottery entries to an outgroup member after recalling a prior instance of their own kind, versus mean, behavior. Study 2 also demonstrated that participants behaved more generously toward an outgroup member when they were led to view God as benevolent rather than punitive.

These results are consistent with prior findings showing that children and adults sometimes behave more prosocially after recalling their past kind, versus mean, behaviors (Conway & Peetz, 2012; Cornelissen et al., 2013; Tasimi & Young, 2016; Young et al., 2012). However, this past work—like much work in moral psychology—focused on an interpersonal

level of analysis. For instance, Tasimi and Young (2016) asked children to report a time when they were nice or mean to someone and then provided children with the opportunity to share stickers with a White male peer. Although this peer was a racial and gender ingroup member to some participants and an outgroup member to other participants, this research did not examine group membership as a variable of interest. This approach is common in moral psychology, which typically considers inter*personal* rather than inter*group* transgressions (Mosley & Heiphetz, 2021). However, work from the social psychology of intergroup relations demonstrates that people do not treat in- and out-group members equally (Balliet et al., 2014; Chen & Li, 2009; Fiedler et al., 2018; Goette et al., 2006; Leach et al, 2017; Levine et al., 2002; Richeson & Sommers, 2016). The current work integrated approaches from moral psychology and intergroup relations to investigate potential mechanisms underlying this inequality and probe manipulations that may increase generosity toward outgroup members.

Using both a correlational (Study 1) and experimental (Study 2) approach, we found that the more participants perceived God as benevolent, the more generously they behaved towards an outgroup member. These results suggest that people's own behaviors may align with their representations of God. Although some work has suggested that punitive God concepts increase prosocial behaviors (DeBono et al., 2017; Shariff & Norenzayan, 2011; Yilmaz & Bahçekapili, 2016), the current work highlights a benefit of benevolent God concepts for prosocial behaviors in intergroup contexts. Further, the current work extends past research investigating the influence of God concepts on behaviors toward religious in- and out-group members (Lang et al., 2019; Pasek et al., 2020; Preston & Ritter, 2013; Purzycki et al., 2016) by showing that God concepts shape generosity toward outgroup members outside the context of religion. This finding points to the power of religious cognition in shaping behavior, as the effect of religion does not appear

limited to religious contexts but rather extends to behaviors toward people who share or do not

share one's age-based group. By investigating prosocial behaviors toward people who are older

or younger than participants themselves, the current work extended work on intergroup relations

by showing that age-based groups can shape participants' decisions about how to allocate

resources and that these decisions depend in part on religious cognition.

      The current work expands scientific knowledge of moral psychology, intergroup

relations, and the cognitive science of religion. However, like all research, it also contains

several limitations. First, the current research measured how participants distributed entries to a

lottery between an ingroup member and an outgroup member. While this design enabled us to

measure the degree to which participants favored ingroup over outgroup members when these

two groups' interests conflicted with each other, it did not allow us to conclude whether

participants' behaviors were primarily driven by responses to outgroup members, responses to

ingroup members, or a combination of both. For instance, it is not clear whether perceiving God

as benevolent creates more favorable responses to outgroup members, less favorable responses to

ingroup members, or some combination of both responses. Future research can test these

possibilities. Additionally, the current design does not allow us to draw conclusions about how

participants might respond if they were giving from their own resources—a situation that might

more closely approximate generosity in everyday life. Yet, our design provides a conservative

test of hypotheses regarding generosity toward outgroup members. By not asking participants to

incur a cost to extend generosity to others, the current research was able to assess outgroup

generosity precisely when there are no constraints on participants. It is possible that religious

cognition would exert an even more powerful effect on generosity in this context, as participants

may share fewer resources with outgroup members at baseline and therefore have more space to

increase their generosity when pondering God's benevolent nature. Future work can test this possibility.

Second, the current results raise some questions regarding generalizability across agents and groups. The current work focused on God concepts specifically because making these concepts salient has sometimes reduced intergroup bias in prior work (Ginges et al., 2016; Pasek et al., 2020; Preston & Ritter, 2013). Additionally, people often represent God as caring about people's morally relevant behaviors and having a particularly high level of knowledge about moral transgressions (e.g., Norenzayan et al., 2016; Purzycki et al., 2012; Wolle et al., 2021). Indeed, adults sometimes perceive God as the source of their own knowledge of right and wrong and conclude that it is impossible to be moral without God (e.g., Gervais et al., 2017; Piazza & Landy, 2013). However, it is also possible that patterns similar to those reported here would emerge for other agents whom people expect to have high moral standards, such as a judge. Additionally, because we only tested outgroups based on age, demand characteristics may have shaped participants' responses. We found that participants were more likely to behave generously toward someone who was a different age from them after recalling their past kind behavior toward an age-based outgroup member. Because outgroup membership was based on the same characteristic in both cases, participants' desire for consistency or other demand characteristics may have led to increased generosity. Future work can build on the current results by asking participants to recall past behaviors toward members of one outgroup and measuring their generosity toward members of a different outgroup.

Lastly, the current research occurred in the United States, where most residents affiliate with some religious tradition (Pew Research Center, 2015). In such a culture, God concepts may be particularly likely to shape prosocial behaviors. This might be why we did not find significant

effects involving participant's religious affiliation on outgroup generosity; participants' responses in our study may have been more sensitive to the broader cultural context within which they lived (e.g., cultural messages about God's nature) than to their own individual endorsement of those messages. However, it is important to interpret null effects with caution, as it is possible that religious and non-religious individuals actually do differ from each other along the dimensions measured in the current work and that we simply failed to detect this difference. Future research can seek to replicate the current results in less religious cultures to determine whether God concepts might be less strongly related to prosocial behaviors in those contexts.

5. Conclusions

Together, the current studies demonstrate that recalling past kind acts toward outgroup members and viewing God as benevolent jointly increase generosity toward outgroup members who differ from oneself in age. These findings extend knowledge of morality, intergroup relations, and religious cognition. They also suggest multiple levers that could potentially encourage more generous behavior toward outgroup members and point to the cascading nature of prosocial acts. If benevolent God concepts encourage kindness today, and recalling kind behaviors encourages more kindness, then sowing one kind act now can lead to the reaping of abundant kindness in the future.

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