



Contents lists available at ScienceDirect

## Journal of Experimental Social Psychology

journal homepage: [www.elsevier.com/locate/jesp](http://www.elsevier.com/locate/jesp)

# Palestinians and Israelis believe the other's God encourages intergroup benevolence: A case of positive intergroup meta-perceptions<sup>☆</sup>

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## ARTICLE INFO

## Keywords:

Intergroup Relations  
Religion  
Conflict  
Meta-Perceptions

## ABSTRACT

How does religious belief influence intergroup conflict? Research addressing this question generally focuses on how individuals' own beliefs influence intergroup behavior. However, intergroup cooperation may also be influenced by second-order beliefs; in this case, perceptions about how outgroup members' religious beliefs influence *their* intergroup behavior. Indeed, across different domains, intergroup conflict is often driven by inaccurate and negative intergroup perceptions and predictions. If true of religion, such negatively biased predictions may independently hinder intergroup cooperation by reducing the extent to which individuals see religious outgroup members as cooperative partners. Contrary to this hypothesis, three preregistered studies ( $N = 1081$ ) provide consistent evidence that Palestinians and Israelis predict that belief in God motivates outgroup members to give more money in intergroup exchanges (Studies 1 and 2) and to place a greater value on outgroup members' lives (Study 3). Results have important implications for policymakers' and the public's understanding of religion's role in intergroup relations.

Scholars often argue that diversity of religious belief causes intergroup hostility and impedes cooperative interactions (e.g., Dawkins, 2006; for a review see Armstrong, 2014). This type of argument has significant implications for public policies around migration, religious diversity, and multiculturalism, and may guide how people view and respond to seemingly intractable conflict. Religious belief may impede cooperation across religious boundaries in two ways: first, people might believe that their religion (or their God) discourages cooperation; second, people might believe that the religious beliefs of a religious outgroup encourages members of the outgroup to be less cooperative and more parochial in intergroup exchanges. Here we evaluated the second possibility, which we initially judged to be likely given the growing body of work showing that intergroup perceptions and meta-perceptions

(second-order beliefs) tend to be negatively biased in conflict settings and can independently fuel intergroup animosity (e.g., Lees & Cikara, 2020). We report experiments with Muslim Palestinians and Jewish Israelis, finding, contrary to initial expectations, that both groups think outgroup members' belief in God encourages generosity and benevolence in intergroup encounters.

Our research is informed by religion's paradoxical influence on intergroup relations (Allport, 1954). Although aspects of religion (e.g., groupishness, fundamentalism) are associated with intergroup hostility (Ginges, Hansen, & Norenzayan, 2009; Hunsberger & Jackson, 2005; Johnson, Labouff, Rowatt, Patock-Peckham, & Carlisle, 2012; Neuberg et al., 2013), emerging research suggests a core aspect of most world religions—belief in *moralizing gods*—may promote intergroup

<sup>☆</sup> This paper has been recommended for acceptance by Dr. Karina Schumann

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<https://doi.org/10.1016/j.jesp.2023.104551>

Received 5 April 2023; Received in revised form 8 October 2023; Accepted 11 October 2023

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benevolence. For example, religiosity positively predicts Christian Americans' financial generosity to atheists (Everett, Haque, & Rand, 2016) and, even when religious leaders or institutions promote parochialism, God primes can motivate intergroup prosociality (Preston & Ritter, 2013). Cross-cultural experiments demonstrate that thinking about God promotes intergroup generosity (Pasek et al., 2023) and, even in high conflict settings, people believe God prefers them to view religious outgroup members as more human and to value their lives more (Ginges, Sheikh, Atran, & Argo, 2016; Pasek et al., 2020; Smith et al., 2022).

However, even if first order religious beliefs (what I believe God wants) promote intergroup tolerance and cooperation, intergroup interactions may be negatively influenced by a perception that outgroup members' religious beliefs promote intergroup aggression (second-order beliefs about what I think others believe God wants). Indeed, work in multiple domains shows that negative intergroup relations are linked with the tendency for groups to misperceive each other's values, motives, and beliefs. For example, conflict between Menominee and European American fishermen in North America is associated with strong perceived differences in values and norms regarding the natural environment, whereas actual values and norms are similar (Bang, Medin, & Atran, 2007). Likewise, partisans in the United States and around the world exaggerate each other's hatred, prejudice, and obstructionism (Lees & Cikara, 2020; Moore-Berg, Ankori-Karlinsky, Hameiri, & Bruneau, 2020; Pasek, Ankori-Karlinsky, Levy-Vene, & Moore-Berg, 2022; Pittman & Zeigler, 2007; Ruggeri et al., 2021; Waytz, Young, & Ginges, 2014; Westfall, Van Boven, Chambers, & Judd, 2015). These negatively biased intergroup perceptions may be pronounced in conflict settings, as people overestimate how much outgroup members dehumanize them (Kteily, Hodson, & Bruneau, 2016) and overly attribute negative motives to others (Lees & Cikara, 2020; Pronin, Kruger, Savitsky, & Ross, 2001; Ruggeri et al., 2021; Waytz et al., 2014). Overestimating outgroup hostility can lead people to form negative attitudes towards outgroup members and not cooperate with them (Kteily et al., 2016; Moore-Berg et al., 2020; Waytz et al., 2014). Correcting biased perceptions can improve intergroup attitudes and reduce intergroup violence (Lees & Cikara, 2020; Mernyk, Pink, Druckman, & Willer, 2022; Ruggeri et al., 2021), suggesting second-order beliefs independently catalyze conflict.

Based on the above, interactions between religious groups may prove difficult because of second-order beliefs about the preferences or norms outgroups attribute to God (or gods). Religious groups often believe outgroups have mistaken or oppositional views on religious imperatives and mandates. Thus, it is possible that people believe members of a salient religious outgroup attribute to God motives of animus or parochialism. Furthermore, a longstanding conflict along religious lines is likely to make religious differences and attributes more salient to individuals (Sambanis & Shayo, 2013). Over time, in tandem with processes of elite manipulation, media framing, and parochial education, individuals may attribute the cause of the conflict to salient intergroup religious differences. This would result in negative intergroup perceptions about religious belief and intuitions that intergroup conflict is driven at least in part by outgroup members' beliefs.

If true, this seems particularly likely to occur in the intergroup interactions carried out in the background of the Israeli-Palestinian context, a chronically violent and asymmetric conflict where millions of Palestinians live under Israeli military rule and are denied basic rights including the right to self determination either through Israeli citizenship or an independent state. People on both sides of this divide might have ample reason to attribute the other side's aggressive actions to their religious beliefs. Consider, for example, the previous Israeli Prime Minister Naftali Bennet using religious texts to justify Israeli settlements in the West Bank (Al Jazeera English, 2017), or the Palestinian President Mahmoud Abbas' statement that Palestinians are prepared to bleed in defense of holy sites in Jerusalem (AFP News Agency, 2015). The framing of conflict as religiously motivated may lead people to deduce that outgroup members believe God encourages hostility in intergroup

interactions. Thus, we hypothesized that in such a conflict, both Muslim Palestinians and Jewish Israelis may predict that their outgroup members' belief in God discourages cooperation in intergroup encounters.

Based on prior research and theorizing (Kunst, Kimel, Shani, Alayan, & Thomsen, 2019; Norenzayan et al., 2016), we also reasoned that because intergroup perceptions are influenced by broader intergroup attitudes, negative perceptions may be particularly likely to the degree that individuals perceive outgroup members to pose a threat to their ingroup and/or if they believe that their ingroup and outgroup do not share a common identity and set of beliefs. There is a plethora of evidence that intergroup threat perceptions promote more negative intergroup attitudes (Stephan & Stephan, 2017). For instance, among Israelis, intergroup threat perceptions are linked with exclusionary political attitudes towards Palestinian citizens of Israel (Canetti-Nisim, Ariely, & Halperin, 2008). Similarly, low (vs. high) levels of perceived intergroup commonality are often associated with more strained (as opposed to more positive) intergroup relations (Dovidio, Gaertner, & Saguy, 2009). Indeed, in the Israeli-Palestinian context, Israelis who perceive lower levels of commonality with Palestinians were more tolerant of Palestinian civilian casualties (Schori-Eyal, Halperin, & Saguy, 2019). Thus, one possibility is that intergroup meta-perceptions tend to be more negative than positive (and more negative than reality bears out) because they are often measured in contexts where intergroup threat is high and commonality is low.

While we began this work with the expectation that people believe that the outgroup's religious beliefs generally discourage intergroup cooperation, we acknowledged the opposite possibility. Although intergroup relations are frequently bedeviled by negative intergroup perceptions, it is possible that religious intergroup perceptions follow a different pattern. Limited research suggests individuals see outgroup members' religiosity (regardless of the specific religion) as motivating intergroup benevolence. For example, Christian Americans trust Muslims who signal religiosity (by donating to religious charities or by adhering to religious dietary restrictions) more than those who do not (Hall, Cohen, Meyer, Varley, & Brewer, 2015) and trust outgroup theists more than atheists because they believe theists act morally under God's watchful eye (Gervais, Shariff, & Norenzayan, 2011). However, studies upon which this alternative hypothesis rests were conducted with Christians in the United States—a setting with relatively tolerant interreligious relations. Similar research conducted in Mauritius suggests religious markers do not always increase interreligious trust (Shaver et al., 2018). Individuals may be more inclined to think outgroup religious beliefs motivate intergroup hostility in conflict settings, where intergroup perceptions may be especially negative (Kteily et al., 2016; Waytz et al., 2014) and belief in God may also be less likely to motivate intergroup benevolence (Caluori, Jackson, Gray, & Gelfand, 2020; Norenzayan et al., 2016; Shaver, Troughton, Sibley, & Bulbulia, 2016).

## 1. Present research

We conducted preregistered field and online studies that investigate whether Muslim Palestinians and Jewish Israelis predict belief in God encourages outgroup members to engage more or less benevolently in intergroup interactions. We focus on these religious groups because they are the largest in their respective settings and because the conflict is often framed as being between Muslims and Jews. We chose this context because beliefs about parochial elements of religion may be heightened in this conflict, where groups are divided along ethno-religious lines and actors often appear motivated by religion. Israel-Palestine is a common site for social psychological research on conflict dynamics, including perspective taking (Bruneau & Saxe, 2012).

The studies reported here specifically investigate second-order beliefs and were conducted in conjunction with research concerning the influence of God on first-order beliefs and behaviors (Pasek et al., 2020; Pasek et al., 2023). Two studies explored beliefs about the other's God in individual economic interactions. Study 1 was a field experiment with

Muslim Palestinians in the West Bank, a group that is underrepresented in the psychological literature (Henrich, Heine, & Norenzayan, 2010; Rad, Martingano, & Ginges, 2018; Saab, Ayanian, & Hawi, 2020). Religious Muslim Palestinians predicted how much money Jewish Israelis would keep or give away to either Jewish Israelis or Muslim Palestinians in a dictator game. They then predicted how much Jewish Israelis would give when asked to think about God before allocating money. Study 2 replicated the paradigm in an online study with religious Jewish Israelis. In Study 3, Jewish Israelis predicted how Muslim Palestinians would respond to a moral dilemma in which they had to decide whether an ingroup member should sacrifice his life to save either ingroup or outgroup children. Participants made two predictions; the second time they were told the target of their prediction would be asked to indicate what God would prefer. We investigate Muslim Palestinians' and Jewish Israelis' predictions about each-other's baseline bias, as well as whether members of each group thought that the religious beliefs of their outgroup would attenuate or accentuate bias. Our focus is on this second question.

## 2. Studies 1 & 2

### 2.1. Method

We report predictions made by Muslims Palestinians (Study 1) and Jewish Israelis (Study 2) about decisions outgroup members would make in an economic game. While the procedure for these studies varied—Study 1 was a field study conducted in the West Bank and Study 2 was conducted online—we report them together due to overlapping aims, designs, materials, and analyses. Each study was preregistered separately as part of a larger protocol that also investigated the influence of thinking about God on first-order behaviors. Pre-registration, data, code, materials, and supplemental materials are stored at <https://osf.io/9m8uc/>. All studies were IRB approved. Below we note analyses that deviated from the preregistration. We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study.

#### 2.1.1. Participants

Muslim Palestinians (Study 1:  $N = 314$ ) ranged in age from 18 to 81 ( $M = 33.29$ ,  $SD = 12.59$ ) and were 63% male and 37% female. Jewish Israelis (Study 2:  $N = 394$ ) ranged in age from 18 to 78 ( $M = 30.96$ ,  $SD = 9.46$ ), were 55% male and 45% female, and identified as either religious (57%) or ultra-orthodox (43%). Sample sizes were determined via a priori power analyses (see preregistrations).<sup>2</sup> We note that 19% of Palestinian participants interviewed as part of the larger protocol in which this study was conducted declined to participate in this prediction experiment. Of those declining, 79% were asked to predict Israeli behavior towards Palestinians, rather than Israeli behavior towards Israelis. Ancillary analyses revealed threat perceptions were higher among those declining to participate ( $t[370] = 6.15$ ,  $p < .001$ ), suggesting threat may have fueled reluctance to make predictions about Israeli behavior (perhaps for fear of monitoring or being disinclined towards taking the perspective of Israelis).

#### 2.1.2. Procedure

Both studies were conducted in early 2019. Study 1 was conducted face-to-face in the West Bank. Interviews were administered by research assistants (RAs), who participated in focus groups; helped to ensure the cultural sensitivity of measures and interview protocols; underwent training; and worked with our on-site research leader to select sites and recruit participants. Interviews were primarily conducted house-to-house. Some were pre-arranged and conducted at local institutions. Participants were recruited from four major population centers

(Bethlehem, Hebron, Nablus, and Ramallah), four smaller population centers (Abu Qash, Al-Eizariya, Khafer al Deek, and Kharbatha al-Misbah), and five refugee camps (Am'ari, Aqbat Jaber, Al-Arroub, Askar, and Balata). Nine percent of the sample were refugees. Some sites were home to many Palestinians who work in Israel (e.g., Ramallah, Al-Eizariya). In others, this was impossible (e.g., Nablus and adjacent refugee camps). Participants were compensated 24 shekels (~\$6.70 USD) for their time and could earn more money as a part of a concurrent study. For more information on field methods, see Supplemental Materials.

Study 2 was an online study conducted through [ipanel.co.il](https://ipanel.co.il). We recruited Jewish Israelis who identified as religious or ultra-orthodox. Materials were translated into Levantine Arabic (Study 1) and Hebrew (Study 2) and back-translated to ensure accuracy.

Participants in both studies completed a task where they were asked to divide money between themselves and another person who was either a Muslim Palestinian in the West Bank or a Jewish Israeli (findings from these studies are reported in Pasek et al., 2023). The experiment reported here was conducted directly after this and involved participants making predictions about how their outgroup would behave in this same game. Participants were asked to predict how a member of their respective outgroup—who they were told would complete the same game—would behave. For Muslim Palestinians this person was a religious Jewish Israeli, who was paired with either a Muslim Palestinian or another Jewish Israeli (between-subject manipulation). For Jewish Israelis this person was a religious Muslim Palestinian living in the West Bank, who was paired with either a Jewish Israeli or another Muslim Palestinian (between-subject manipulation). Stakes for the predictions were identical to the game participants completed. Specifically, stakes for the predictions among Muslim Palestinian participants were 16 shekels (~\$4.50 USD), while stakes for the predictions among Jewish Israeli participants were 12 shekels (~\$3.30 USD). Stakes in the West Bank were slightly higher given the in-person nature of this study. After first indicating how much money they thought the outgroup member would share, participants received a within-subject manipulation. They were told:

“Now imagine that we give this same religious [Study 1] Jewish Israeli 16 shekels [or Study 2: Muslim Palestinian 12 shekels], but this time, we ask him to think about God, as he understands God to be. When asked to think about what God would want him to do, how much money do you think he would give to a Jewish Israeli [or, depending on condition, Muslim Palestinian]?”

Participants again indicated the amount (in shekels) they thought the target would share. After participants completed this experiment, they answered additional survey questions.

#### 2.1.3. Materials

**2.1.3.1. Religion and religiosity.** Study 1 RAs verified prospective participants were religious Muslims before commencing. In Study 2, we confirmed that participants were religious or ultra-orthodox. We assessed three dimensions of religiosity: prayer frequency, religious attendance, and the importance of God in participants' lives. Prayer and attendance frequency were measured on scales with response options of 1 = once a year or less, 2 = several times a year, 3 = about once a month, 4 = about once a week, 5 = several times a week, 6 = about every day, and 7 = several times a day. The importance of God in participants' lives was measured on a scale from 1 (*not important*) to 5 (*very important*). Muslim Palestinians prayed on average between weekly and daily ( $M = 5.74$ ,  $SD = 2.45$ ) and attended mosque between once a month and once a week ( $M = 3.44$ ,  $SD = 1.87$ ). Jewish Israelis prayed on average more than once per day ( $M = 6.15$ ,  $SD = 1.36$ ) and attended synagogue between once a week and several times a week ( $M = 4.79$ ,  $SD = 2.00$ ). Nearly all Muslim ( $M = 4.70$ ,  $SD = 0.79$ ) and Jewish ( $M = 4.80$ ,  $SD = 0.47$ ) participants believed God to be very important in their lives.

<sup>2</sup> See Supplemental Materials for exclusions for all studies.

**2.1.3.2. Perceived intergroup threat and conflict.** Threat was measured with four items (adapted from Canetti-Nisim et al., 2008) assessing the extent to which participants believed outgroup members threatened their ingroup's (1) economic welfare and (2) security; (3) whether their outgroup's cultural and religious habits threatened their ingroups way of life; and (4) whether they believed outgroup members want to kill all ingroup members. Items were rated 1 (*not at all true*) to 5 (*very true*) scales. An additional item asked how participants would describe the relationship between Palestinians and Jewish Israelis on a scale from 1 (*very peaceful*) to 6 (*there is an extreme amount of conflict*). Items were rescaled from 0 to 1 and averaged to form a single threat/conflict score; higher scores indicated greater threat/conflict perceptions. Muslim Palestinians perceived moderate threat/conflict from Jewish Israelis ( $\alpha = .81$ ,  $M = 0.46$ ,  $SD = 0.20$ ), who in turn perceived high threat/conflict from Muslim Palestinians ( $\alpha = .77$ ,  $M = 0.73$ ,  $SD = 0.16$ ).

**2.1.3.3. Perceived commonality.** Participants indicated their agreement with four statements on a scale from 1 (*not at all true*) to 5 (*very true*): (1) Muslims and Jews pray to the same God, (2) Muslims and Jews share common religious values, (3) Palestinians and Jewish Israelis share common values, and (4) Palestinians and Jewish Israelis share a common identity. Items were averaged to form a single scale (Muslim Palestinians:  $\alpha = .81$ ,  $M = 2.77$ ,  $SD = 0.87$ ; Jewish Israelis:  $\alpha = .74$ ,  $M = 2.45$ ,  $SD = 0.90$ ).

**2.1.3.4. Additional preregistered covariates.** We measured constructs related to economic decision-making: participants' subjective socioeconomic status (SES), material insecurity, and number of children (see Supplemental Materials).

## 2.2. Results

### 2.2.1. Analytic approach

We investigate whether members of each group believed thinking about God would increase or decrease outgroup members' generosity, and whether any change in predicted generosity depended on recipient religion. For each study, we first test a simple Model A in which the predicted percentage the target outgroup member gives (i.e., amount shared divided by total amount) is the dependent variable, with God condition (baseline = 0, God = 1), intergroup condition (recipient shares participant's group = -0.5, recipient shares target's group = 0.5), and their interaction as predictors. These analyses were preregistered. Because perspective condition is within-person, we conducted random-intercept multilevel models in R (R Core Team, 2018) using lme4 (Bates, Mächler, Bolker, & Walker, 2015). Degrees of freedom are calculated using Satterthwaite's method and test statistics are calculated using lmerTest (Kuznetsova, Brockhoff, & Christensen, 2017). In exploratory analyses, we also test whether predictions are moderated by intergroup threat/conflict (Model B) and religious commonality (Model C, exploratory). Moderators were mean centered. Simple slopes were attained by dummy coding categorical variables and recentering continuous variables + and - 1 standard deviations (SDs) from sample means. For key hypothesis tests, we report results of sensitivity analyses conducted using the R package Konfound (Rosenberg, Xu, Lin, Maroulis, & Frank, 2020), which, based on actual sample sizes and conducted models, indicates the beta coefficient (threshold) for which analyses had the power to detect significance with an alpha of .05 (Frank, Maroulis, Duong, & Kelcey, 2013). We further quantify evidence for important null effects by calculating Bayes factors using Bayesian model comparison tests with the package BayesFactor (Morey, Rouder, Jamil, & Morey, 2015). We note that Bayes Factors are less likely to provide strong inference in underpowered analyses due to data insensitivity, however, strong inferences can still be achieved when evidence is overwhelming (Dienes, 2014; Rosenfeld & Olson, 2021; Schönbrodt, Wagenmakers, Zehetleitner, & Perugini, 2017). Effect sizes

for key effects were calculated using the R2glmm package (Jaeger, 2017), which computes semi-partial  $R^2$  from multilevel models using a method developed by Edwards, Muller, Wolfinger, Qaqish, and Schabenberger (2008).

### 2.2.2. Study 1: Muslim Palestinians predicting Jewish Israeli behavior

**2.2.2.1. Did Muslim Palestinians predict thinking from God's perspective would influence Israelis' giving?** Yes. At baseline, Muslim Palestinians predicted Jewish Israelis would give 38.44% of their stake to fellow Israelis, versus 25.37% to Palestinians. When asked to predict Jewish Israeli giving behavior when thinking about God, they predicted Jewish Israelis would give more money to both other Jewish Israelis (45.53%; predicted increase of 7.09% of the total stakes,  $t[454.58] = 4.41$ ,  $p < .001$ , 95% CI[3.88, 10.28, semi-partial  $R^2 = .012$ ]) and to Muslim Palestinians (37.00%; predicted increase of 11.63% of the total stakes,  $t[268.63] = 6.01$ ,  $p < .001$ , 95% CI[7.84, 15.42], semi-partial  $R^2 = .023$ ). See Table 1 and Fig. 1. Predicted increases in absolute giving (percentage of total stakes) correspond to relative increases in predicted giving (change divided by baseline) of 18.44% and 45.48% to Jewish Israelis and Muslim Palestinians, respectively. Results were robust to preregistered covariates (see Supplemental Materials). Sensitivity analyses reveal that the thresholds for significance based on our sample and model were increases in giving (percent of total stakes) of 3.21 and 3.81 in the ingroup and outgroup conditions, respectively.

**2.2.2.2. Did perceived threat and conflict moderate predicted effects of thinking about God?** While Muslim Palestinians who perceived greater threat and conflict predicted Jewish Israelis would be less prosocial and more biased at baseline, perceptions of intergroup threat and conflict did not moderate the predicted change in Jewish Israelis' giving across groups (i.e., no threat/conflict x God effect). There was also no three-way interaction. See Table 1. Sensitivity analyses reveal that, based on our sample and model, we had power to detect a three-way interaction with a beta of 25.98 or stronger (compared to our observed beta of 11.67), signaling that we were underpowered to detect even a moderate effect. Nonetheless, a Bayes factor of 0.23 provides moderate evidence for the null three-way interaction.

**2.2.2.3. Did perceived commonality moderate predicted effects of thinking about God?** A significant three-way interaction emerged between our God manipulation, intergroup condition, and commonality,  $b = -8.01$ ,  $t(253.16) = -2.86$ ,  $p = .005$ , 95% CI[-13.47, -2.54], semi-partial  $R^2 = .005$  (see Table 1). Sensitivity analyses reveal that, based on our sample and model, we had sufficient power to detect a beta of -5.51 for this three-way interaction. Participants higher in religious commonality predicted thinking from God's perspective would result in a greater increase in giving by Jewish Israelis paired with Muslim Palestinians (15.86% increase,  $t[263.10] = 6.02$ ,  $p < .001$ , 95% CI[10.71, 21.00], semi-partial  $R^2 = .023$ ) than it would for those paired with fellow Jewish Israelis (4.21% increase,  $t[250.84] = 1.80$ ,  $p = .073$ , 95% CI[-0.36, 8.76], semi-partial  $R^2 = .002$ ). This difference was significant,  $b = -11.65$ ,  $t(257.63) = -3.31$ ,  $p = .001$ , 95% CI[-18.52, -4.78], semi-partial  $R^2 = .007$ . Those who perceived less religious commonality predicted Jewish Israelis would give 8.45% more when thinking from God's perspective,  $t(253.92) = 4.87$ ,  $p < .001$ , 95% CI[5.05, 11.83], semi-partial  $R^2 = .015$ , and that this increase would be independent of the recipient's group,  $b = 2.29$ ,  $t(253.92) = 0.66$ ,  $p = .511$ , 95% CI [-4.50, 9.05], semi-partial  $R^2 < .001$ .

### 2.2.3. Study 2: Jewish Israelis predicting Muslim Palestinian behavior

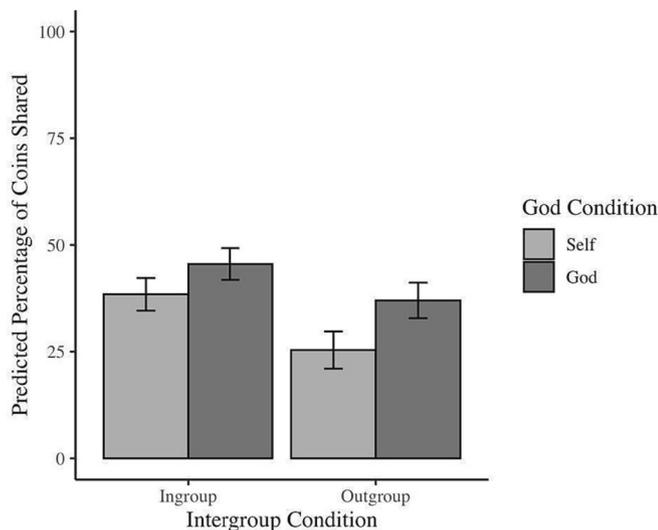
**2.2.3.1. Did Jewish Israelis predict thinking from God's perspective would influence Muslim Palestinians' giving?** Yes. Jewish Israelis predicted Muslim Palestinians would give 23.34% of their stake to fellow

**Table 1**  
Study 1 results.

Predictors	Main Model			Threat Moderation			Commonality Moderation		
	Estimates	t	CI	Estimates	t	CI	Estimates	t	CI
Intercept	31.90 ***	21.51	29.00–34.81	31.55 ***	21.31	28.65–34.45	31.95 ***	21.54	29.05–34.86
Intergroup Condition	13.07 ***	4.41	7.26–18.89	13.71 ***	4.63	7.91–19.51	13.43 ***	4.53	7.62–19.24
God Condition	9.36 ***	7.40	6.88–11.84	9.07 ***	7.09	6.56–11.58	9.24 ***	7.36	6.78–11.70
Intergroup Condition x God Condition	–4.54	–1.79	–9.50–0.42	–3.97	–1.55	–8.99–1.04	–4.68	–1.87	–9.60–0.24
Threat				–9.00	–1.20	–23.68–5.68			
Intergroup Condition x Threat				30.49 *	2.04	1.13–59.85			
God Condition x Threat				–8.94	–1.36	–21.83–3.94			
Intergroup Condition x God Condition x Threat				11.67	0.89	–14.09–37.44			
Commonality							1.66	1.00	–1.61–4.93
Intergroup Condition x Commonality							–0.78	–0.23	–7.32–5.76
God Condition x Commonality							0.91	0.65	–1.83–3.65
Intergroup Condition x God Condition x Commonality							–8.01 **	–2.86	–13.49 to –2.53
<b>Random Effects</b>									
σ <sup>2</sup>	198.81			199.55			194.05		
τ <sub>00</sub>	411.65 Subject			398.16 Subject			413.30 Subject		
ICC	0.67			0.67			0.68		
N	314 Subject			313 Subject			312 Subject		
Observations	559			557			555		
Marginal R <sup>2</sup> / Conditional R <sup>2</sup>	0.074 / 0.699			0.101 / 0.700			0.091 / 0.709		

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ .

Note: Intergroup Condition is contrast coded (outgroup = –0.5, ingroup = 0.5) and God Condition is dummy coded (baseline = 0, God = 1). As such, Intergroup Condition should be interpreted as the difference between the ingroup and outgroup at baseline, and God Condition should be interpreted as the predicted effect of thinking about God collapsed across intergroup conditions. Threat and commonality are person-level mean-centered.



**Fig. 1.** Predictions made by Muslim Palestinians about how Jewish Israelis would give to their ingroup (Muslim Palestinians) or outgroup (Jewish Israelis). Error bars are 95% CI.

Palestinians at baseline, versus 5.86% to Jewish Israelis. When asked to predict Palestinian giving behavior when thinking about God, Israelis predicted that Palestinians would give more money to both fellow Palestinians (34.63%; predicted increase of 11.29% of the total stakes,  $t[388.03] = 8.36, p < .001, 95\% CI[8.65, 13.94],$  semi-partial  $R^2 = .038$ ) and Jewish Israelis (10.93%, a predicted increase of 5.07% of the total stakes,  $t[387.87] = 3.97, p < .001, 95\% CI[2.57, 7.57],$  semi-partial  $R^2 = .009$ ), but that this increase in giving would be larger among Palestinians giving to fellow ingroup members,  $t(387.95) = 3.35, p < .001, 95\% CI[2.58, 9.86],$  semi-partial  $R^2 = .006$ . See Table 2 and Fig. 2. Predicted absolute increases (percentage of total stakes) correspond to relative increases of 48% and 87% to Muslim Palestinians and Jewish Israelis, respectively. Results were robust to preregistered covariates

(see Supplemental Materials). Sensitivity analyses reveal that the thresholds for significance based on our sample and model were increases in giving (percent of total stakes) of 2.65 and 2.51 in the ingroup and outgroup conditions, respectively. The threshold for significance for the interaction was –3.65 (compared to our observed interaction of –6.22).

2.2.3.2. Did perceived threat and conflict moderate predicted effects of thinking about God?. No. Jewish Israelis who perceived greater threat and conflict predicted Muslims Palestinians would be less generous at baseline. However, threat did not moderate the predicted effect of thinking about God on intergroup generosity, and there was also no three way interaction. See Table 2. Sensitivity analyses reveal that the threshold for significance based on our sample and model was 22.35 for the three-way interaction (compared to our observed effect of 1.01), signaling that we were underpowered to detect a moderate effect. A Bayes factor of 0.15 provides moderate evidence for the null three-way interaction.

2.2.3.3. Did perceived commonality moderate predicted effects of thinking about God?. No. We find no reliable evidence that perceived commonality influenced predictions at baseline, or that it moderated the predicted effect of Muslim Palestinians thinking about God. See Table 2. Sensitivity analyses reveal that, based on our sample and model, we had sufficient power to detect an effect of –4.05 for the three-way interaction (compared to our observed effect of –0.41). A Bayes Factor of 0.15 provides moderate evidence for the null three-way interaction.

### 3. Discussion

Muslim Palestinians and Jewish Israelis predicted that when the other group thought about their God, they would give away more money in intergroup contexts. This held despite both groups predicting outgroup parochialism at baseline, suggesting that perceived parochialism does not stem from perceptions of outgroup religious beliefs. Threat did not moderate predictions about how belief in God influences intergroup prosociality in either study, although threat was related to general predictions about parochialism. This suggests results are robust to

**Table 2**  
Study 2 results.

Predictors	Main Model			Threat Moderation			Commonality Moderation		
	Estimates	t	CI	Estimates	t	CI	Estimates	t	CI
Intercept	14.60 ***	12.57	12.33–16.88	14.80 ***	12.58	12.50–17.11	14.88 ***	12.66	12.57–17.18
Intergroup Condition	17.48 ***	7.52	12.92–22.03	17.66 ***	7.51	13.05–22.27	18.02 ***	7.67	13.42–22.63
God Condition	8.18 ***	8.81	6.36–10.00	7.94 ***	8.55	6.12–9.76	7.96 ***	8.60	6.15–9.78
Intergroup Condition x God Condition	6.22 ***	3.35	2.58–9.86	6.34 ***	3.41	2.70–9.98	6.27 ***	3.38	2.64–9.90
Threat				–14.77 *	–2.05	–28.88 to –0.65			
Intergroup Condition x Threat				7.77	0.54	–20.46–36.00			
God Condition x Threat				0.13	0.02	–11.01–11.27			
Intergroup Condition x God Condition x Threat				1.01	0.09	–21.27–23.29			
Commonality							0.83	0.63	–1.73–3.38
Intergroup Condition x Commonality							–3.99	–1.53	–9.11–1.12
God Condition x Commonality							1.90	1.84	–0.12–3.91
Intergroup Condition x God Condition x Commonality							–0.41	–0.20	–4.45–3.62
<b>Random Effects</b>									
σ <sup>2</sup>	167.21			161.35			160.07		
τ <sub>00</sub>	359.25 subject			358.90 subject			358.06 subject		
ICC	0.68			0.69			0.69		
N	394 subject			381 subject			380 subject		
Observations	782			756			754		
Marginal R <sup>2</sup> / Conditional R <sup>2</sup>	0.191 / 0.743			0.206 / 0.754			0.210 / 0.756		

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ .

Note: Intergroup Condition is contrast coded (outgroup = -0.5, ingroup = 0.5) and God Condition is dummy coded (baseline = 0, God = 1). As such, Intergroup Condition should be interpreted as the difference between the ingroup and outgroup at baseline, and God Condition should be interpreted as the predicted effect of thinking about God collapsed across intergroup conditions. Threat and commonality are person-level mean-centered.

systematic missingness in our Palestinian sample. While sensitivity analyses reveal that we were underpowered to detect meaningful moderation as a function of threat and conflict perceptions, computed Bayes factors provide moderate evidence in favor of the null effects.

Both those perceiving high and low religious commonality predicted thinking about God would increase intergroup prosociality among outgroup members. For Palestinians, but not Israelis, this predicted increase was stronger among those perceiving greater commonality. That predictions held for those perceiving lower religious commonality suggests participants were not merely projecting their own beliefs onto outgroup members. Importantly, sensitivity analyses provide confidence in our ability to detect meaningful moderation as a function of commonality perceptions.

These findings could be particular to economic exchanges, as norms around economic generosity may be seen as orthogonal to more violent

aspects of the conflict. One significant aspect of intergroup violence, and certainly relevant in the context of longstanding conflict and military occupation, may be the relative value people put on the lives of outgroup members. Prior work shows people believe God prefers them to value the lives of ingroup and outgroup members more equally than they themselves do (Ginges et al., 2016; Pasek et al., 2020). In Study 3 we investigated if this also held for second-order beliefs.

#### 4. Study 3

Study 3 asks whether Jewish Israelis think that Muslim Palestinians believe God wants them to value the lives of Jewish Israelis and Muslims Palestinians more or less equally. Pre-registration, data, code, materials, and supplemental materials are stored at <https://osf.io/9m8suc/>. We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study.

##### 4.1. Method

###### 4.1.1. Participants

The final sample consisted of 373 Jewish Israelis (54% male, 46% female,  $M_{age} = 30.67$ ,  $SD_{age} = 9.37$ ) who identified as religious (62%) or ultra-orthodox (38%). Sample size was determined via a-priori power analyses (see preregistration).

###### 4.1.2. Procedure

Participants recruited from [ipanel.co.il](http://ipanel.co.il) completed an online survey in March 2019. Seventy-nine percent of our sample was recruited by recontacting participants from Study 2, two months later, with the remaining sample recruited for the first time. Participants first completed protocols for a separate related study investigating first-order beliefs (see Pasek et al., 2020). In the experiment reported here, Jewish Israelis predicted how Muslim Palestinians would respond to a moral dilemma in which a Muslim Palestinian man comes across a burning building and is notified that five children are trapped inside. The man must decide whether he should sacrifice his life to save the children, who in one scenario were Muslim Palestinians and in another scenario were Jewish Israelis. Participants responded to both scenarios, with the order

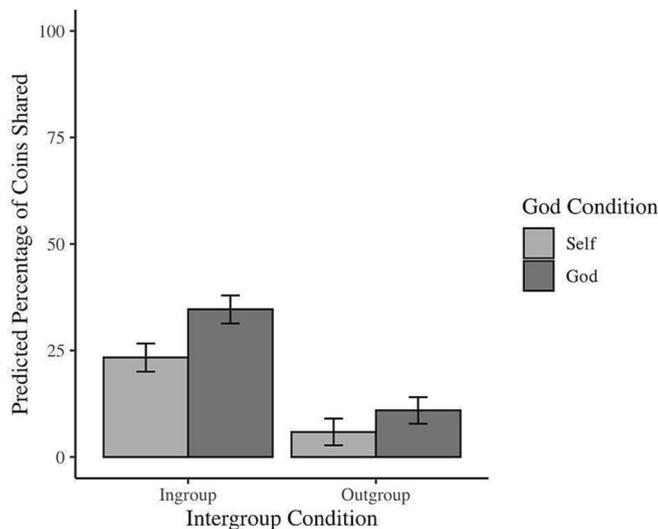


Fig. 2. Predictions made by Jewish Israelis about how Muslim Palestinians would give to their ingroup (Jewish Israelis) or outgroup (Muslim Palestinians). Error bars are 95% CI.

of presentation randomized and counterbalanced. For each scenario, Jewish Israelis were asked to predict whether a Muslim Palestinian presented with this dilemma would think the man should sacrifice his life to save the children. After responding to both scenarios, participants predicted what the same Muslim Palestinian would say Allah would prefer, representing a within-subjects manipulation (predicting Palestinian's own beliefs vs. what Palestinians thought God would prefer). All answers choices were binary (the man should or should not sacrifice his life to save the children). This survey was administered in Hebrew.

#### 4.1.3. Materials

**4.1.3.1. Religion and religiosity.** Only participants who were religious or ultra-orthodox were included. The importance of God in participants' lives ( $M = 4.80$ ,  $SD = 0.47$ ), as well as prayer ( $M = 6.15$ ,  $SD = 1.37$ ) and frequency of attending synagogue ( $M = 4.79$ ,  $SD = 1.97$ ), were measured as in Studies 1 and 2.

**4.1.3.2. Perceived intergroup threat and conflict.** Threat and conflict perceptions were measured as in Study 2 ( $\alpha = .78$ ,  $M = 0.53$ ,  $SD = 0.17$ ).

**4.1.3.3. Perceived commonality.** Commonality was measured as in Study 2 ( $\alpha = .72$ ,  $M = 2.44$ ,  $SD = 0.87$ ).

#### 4.2. Results

Statistical tests were conducted using multilevel logistic models in R (R Core Team, 2018) using lme4 (Bates et al., 2015). Effect sizes for key effects were calculated using the R2glmm package (Jaeger, 2017). Sensitivity analyses were conducted with the Konfound package (Rosenberg et al., 2020). In pre-registered analyses, we regressed the binary outcome variable (save = 1, don't save = 0) on whether participants were predicting what Muslim Palestinians would want (0) or believe God would want (1); whether the children were Muslim Palestinians (0.5) or Jewish Israelis (-0.5), and the interaction between these two within-subjects predictors. Random intercepts were included for subjects. Raw results describe the proportion of Jewish Israelis predicting that Muslim Palestinians would prefer (or indicate God would prefer) the man sacrifice his life to save the children (see Fig. 3).

Jewish Israelis predicted that, at baseline, Muslim Palestinians would favor saving Muslim Palestinian children more than Jewish

Israeli children, odds ratio = 23.62,  $Z = 10.62$ ,  $p < .001$ , 95% CI[13.46, 43.35], semi-partial  $R^2 = .056$ . Collapsed across the religious identity of the children, Jewish Israelis predicted Muslim Palestinians would indicate God to want the actor to save the children more than Muslim Palestinians themselves would, odds ratio = 3.01,  $Z = 6.31$ ,  $p < .001$ , 95% CI[2.15, 4.26], semi-partial  $R^2 = .015$ . In raw percentage terms, Jewish Israelis thought that 31% of Muslim Palestinians would say that the actor should save the children (across target groups), whereas they thought that 42% of Muslim Palestinians would say that God would want the actor to save the children (an 11-point difference). Sensitivity analyses reveal that we had sufficient power to detect a 3.5-point difference.<sup>3</sup>

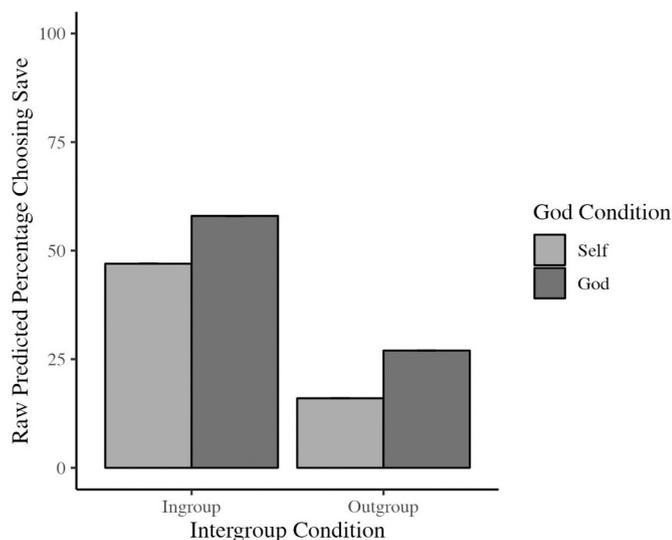
This difference between what Jewish Israelis thought Muslim Palestinians would prefer and what they thought Muslim Palestinians believed God would prefer was not moderated by the children's identity, odds ratio = 0.67,  $Z = -1.19$ ,  $p = .233$ , 95% CI[0.35, 1.29], semi-partial  $R^2 = .001$ . In raw percentage terms, the difference in predicted effects across intergroup conditions was ~1-point. Here, sensitivity analyses reveal that we would have only been able to detect a difference in effects greater than ~7 points. Nonetheless, a Bayes Factor of 0.08 for this interaction reveals strong evidence for the null.

Full results are displayed in Table 3. Results are robust to preregistered covariates (see Supplemental Materials). In exploratory analyses, we again tested whether effects were moderated by perceived threat and conflict and commonality; they were not (see Table 3). We note that sensitivity analyses suggest that we were underpowered to detect meaningful moderation by threat/conflict and that, despite having more power to detect effects for commonality measure, we still were underpowered there as well. Nonetheless, we calculated Bayes Factors of 0.02 for both the three-way interactions involving threat and commonality, providing very strong evidence for the observed null effects.

#### 5. General discussion

We investigated whether Jewish-Israelis and Muslim Palestinians believed that the other group perceived God as an entity that encourages intergroup cooperation or conflict. Our reasoning was that even if people believed that their God promotes cooperation, they might believe that the God of the other promotes conflict. If so, religious belief could be a significant, if indirect, barrier to intergroup cooperation. To our initial surprise we found that both populations believed that the other side understood God to encourage generosity (in an economic setting) and benevolence (when it came to saving the lives of the innocent). Across studies, findings held despite both groups predicting outgroup parochialism at baseline, suggesting that perceived parochialism does not stem from perceptions of outgroup religious beliefs. Even though the Israeli-Palestinian conflict is often described as religious in nature—with salient language, imagery, and policies attributing religious motives to outgroup behavior—and despite humans' tendency for individuals to adopt negatively biased intergroup perceptions (e.g., Lees & Cikara, 2020; Moore-Berg et al., 2020; Waytz et al., 2014), both groups believed that outgroup religious belief positively influences different types of intergroup interactions.

Results are particularly interesting given prior work showing that intergroup perceptions and meta-perceptions are often negatively biased and independent sources of negative intergroup interactions and conflict. These prior findings led to our initial predictions that religious people would hold negative perceptions about the beliefs that religious outgroup members have regarding the nature of God. Our findings to the



**Fig. 3.** Predictions made by Israeli Jews about whether Muslim Palestinians would choose to sacrifice an ingroup member to save ingroup (Muslim Palestinian) or outgroup (Jewish Israeli) children.

<sup>3</sup> The Konfound and BayesFactor packages are not yet able to handle glmer models. Because research suggests linear models can appropriately handle binary outcomes (Gomila, 2021), only for the purpose of conducting sensitivity analyses and computing Bayes Factors, we converted our primary glmer models into lmer models.

**Table 3**  
Study 3 results.

Predictors	Main Model			Threat Moderation			Commonality Moderation		
	Odds Ratios	t	CI	Odds Ratios	t	CI	Odds Ratios	t	CI
Intercept	0.16 ***	-8.29	0.10–0.25	0.16 ***	-9.33	0.11–0.23	0.16 ***	-9.30	0.11–0.23
Intergroup Condition	23.62 ***	10.62	13.18–42.35	25.02 ***	11.78	14.64–42.75	26.26 ***	11.62	15.13–45.58
God Condition	3.01 ***	6.30	2.14–4.23	3.07 ***	6.57	2.20–4.29	3.13 ***	6.58	2.23–4.40
Intergroup Condition x God Condition	0.67	-1.19	0.35–1.29	0.66	-1.23	0.34–1.28	0.63	-1.33	0.32–1.24
Threat				0.90	-0.09	0.09–9.34			
Intergroup Condition x Threat				3.86	0.83	0.16–94.23			
God Condition x Threat				1.24	0.21	0.16–9.30			
Intergroup Condition x God Condition x Threat				6.95	0.94	0.12–388.83			
Commonality							1.77 *	2.51	1.13–2.77
Intergroup Condition x Commonality							0.57	-1.78	0.30–1.06
God Condition x Commonality							0.94	-0.33	0.63–1.38
Intergroup Condition x God Condition x Commonality							1.54	1.09	0.71–3.36
<b>Random Effects</b>									
$\sigma^2$	3.29			3.29			3.29		
$\tau_{00}$	7.79 subject			7.85 subject			7.51 subject		
ICC	0.70			0.70			0.70		
N	373 subject			360 subject			360 subject		
Observations	1489			1437			1437		
Marginal R <sup>2</sup> / Conditional R <sup>2</sup>	0.185 / 0.758			0.191 / 0.761			0.211 / 0.760		

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$ .

Note: Intergroup Condition is contrast coded (outgroup = -0.5, ingroup = 0.5) and God Condition is dummy coded (baseline = 0, God = 1). As such, Intergroup Condition should be interpreted as the difference between the ingroup and outgroup at baseline, and God Condition should be interpreted as the predicted effect of thinking about God collapsed across intergroup conditions. Threat and commonality are person-level mean-centered.

contrary have implications about religious beliefs and intergroup relations, but also need to be reconciled with prior work in intergroup perceptions. There are two possible types of explanations for this inconsistency. The first type involves technical or methodological driven counter-interpretations of our results. For example, it might be argued that despite differences, our participants might have believed both groups to essentially pray to and believe in the same god. However, the data does not bear this out. Ratings of religious commonality did not consistently moderate results. Even in Study 1, where religious commonality did moderate predictions made by Muslim Palestinians about how Israeli Jews would give, effects still held for those perceiving lower commonality. This suggests participants were not merely projecting their own beliefs onto outgroup members, nor were they painting a rosy picture of a shared God under the umbrella of people of the book. Results provide some evidence that higher threat and conflict perceptions do not serve as a boundary condition, however due to lower power for these models, we urge caution in overinterpreting this finding.

The second class of explanation for the inconsistency between our findings and prior work into intergroup perceptions may be more promising. One explanation is that intergroup perceptions about the effects of belief in God might be an outlier. We speculate that belief in divine entities may signal commitment to moral norms like fairness, reciprocity and benevolence that are seen as universal (Obeid, Argo, & Ginges, 2017), even when groups have different beliefs about the nature of such entities. This speculation is consistent with cross-cultural findings that people show more distrust of atheists, and hold more positive moral stereotypes of theists compared to atheists (Gervais et al., 2011; Gervais et al., 2017). A complementary possibility is that there exist other broad or abstract concepts for which people have positive views of outgroups. For example, while people are likely aware that different groups have different moral worldviews, they might believe that thinking about “morality” will make people fairer or kinder even to outgroup members at least in some circumscribed contexts. Future work could explore the existence of other types of abstract beliefs (such as “morality”, or “law abiding”) that might signal commitment to morally good behaviors in intergroup contexts.

Given that we report studies carried out with theists, it is an open question whether our effects are specific to theists, or whether they

might generalize to non-religious populations. We theorize that belief in God or gods may signal commitment to a set of universal moral norms (such as fairness and reciprocity in economic contexts, or care for the weak and vulnerable) that apply even in intergroup contexts. Work showing that even secular people can show distrust of atheists (Gervais et al., 2011), suggests that our effects may generalize to a non-religious sample. To speak to this possibility, we conducted exploratory analyses testing whether religiosity (measured via prayer frequency) moderated results. As we report in Supplemental Materials, religiosity did not moderate the effect of thinking about God or the effect of intergroup condition, nor was there a significant three-way interaction between religiosity, thinking about God, and intergroup condition, in any study. Although not reported in the current manuscript, pilot studies conducted with secular Israelis predicting the behavior of religious Israelis also showed similar results, suggesting that findings reported here are not dependent on participants being highly religious. Future research should also examine the generalizability of our findings to non-religious samples and in samples involving people of other religious traditions in other contexts.

One important outcome of intergroup perceptions research has been to develop interventions correcting negatively biased perceptions, aligning perceptions to a more benign reality and thereby improving relations. While our investigation focuses on the content of the beliefs rather than their accuracy, we can speak to their accuracy by comparing predictions to actual effects in the first-order tasks. In the dictator game, Palestinians, but not Israelis, gave significantly more money to the outgroup when considering God’s preferences, although the difference between effect sizes for two groups itself was not significant (Pasek et al., 2023). Notably, both groups overestimated the influence of thinking about God on outgroup members’ giving, suggesting that—far from being negatively biased—second-order perceptions about how belief in God influences intergroup relations might be positively biased in this setting. It is notable that Palestinians (who have less power in this asymmetric conflict) showed more positive bias than Jewish Israelis when thinking about how God would influence outgroup prosociality, but they were not more accurate. This is in contrast to other research showing that lower-power groups are more accurate about the motives and beliefs of the outgroup (Galinsky, Magee, Inesi, & Gruenfeld, 2006;

Kraus, Côté, & Keltner, 2010).

How accurate are Israeli perceptions when it comes to the modified trolley dilemma? In a previous study, Ginges et al. (2016) asked Palestinian participants to make choices in an analogous task which pitted the lives of five people against one person. After considering Allah's preferences, Palestinians valued the lives of fellow Palestinians and Israelis more equally. We show that Israelis accurately predicted that considering God's preferences would lead Palestinians to place a higher value on Israeli lives.

Regardless of the (in)accuracy of predictions in these studies, intergroup perceptions can independently fuel intergroup conflict. Thus, a key finding from these studies is that perceptions about how belief in God influences intergroup behaviors and attitudes of the other are unlikely to constitute an independent source of conflict in the Israeli-Palestinian context. At a practical level, knowing this can help to guide attention to other material and psychological causes where intervention may be most fruitful.

At a theory level, we highlight two potential types of implications of this work. The first concerns the emergence and spread of beliefs in moralizing gods in much of the human population. Influential theorizing suggests that such beliefs may have spread by facilitating a decidedly parochial form of prosociality, perhaps aiding such groups in intergroup conflict (Norenzayan et al., 2016). While the present research cannot resolve questions about the emergence and spread of belief in moralizing deities, we note that the positive second-order beliefs about the role of religious belief in intergroup relations observed in the present research are consistent with emerging evidence demonstrating how first-order religious beliefs actually can promote intergroup prosociality (e.g., Pasek et al., 2023) and increase the value placed on outgroup members' lives (Ginges et al., 2016; Pasek et al., 2020; Smith et al., 2022). The second type of implication flows from the first. By demonstrating the tendency for individuals to form positive perceptions of the religious beliefs held by outgroup members, findings undercut the common assertion that religious diversity necessarily hampers cooperation—and causes conflict—between individuals who have different religious identities and understandings of religious belief in general.

### Open practices

Pre-registration, data, code, materials, and supplemental materials are stored at <https://osf.io/9m8uc/>.

### Funding

This work was supported by the Templeton Religion Trust (TRT0189) and the National Science Foundation (SES-0962080, SES-1949467, DGE-1839285). Authorship contributions are as follows: CS, MP, and JG developed the research goals and aims. CS led fieldwork and supervision of the external research team. CS, MP, and AV collected data in Israel. MP (lead) and CS performed data analysis. CS (lead), MP (lead), and JG wrote the paper. All authors provided critical edits and approved the final version of the paper. JG secured funding and provided overall supervision of the project. Correspondence should be sent to Crystal Shackelford at [crystalmarieshackelford@gmail.com](mailto:crystalmarieshackelford@gmail.com), Michael Pasek at [mpasek@uic.edu](mailto:mpasek@uic.edu), and Jeremy Ginges at [j.ginges@lse.ac.uk](mailto:j.ginges@lse.ac.uk).

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Data availability

Data and code can be accessed at <https://osf.io/9m8uc/>.

### Acknowledgements

This work was made possible by Palestinian researchers in the West Bank: Mohammed Awad, Zaytoon Musleh, Manar Nabut, Younes Samman, Mai Shaheen, Salah Shaheen, and others requesting anonymity.

### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jesp.2023.104551>.

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