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Children's and Adults' Affectionate Generosity Toward Members of Different Religious Groups

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Abstract

This article examines children's and adults' willingness to give a nonmonetary resource—affection—to in-group versus out-group members. In a study of attitudes toward Christian, Jewish, and non-religious people, religious participants—children as well as adults—reported that the religious out-group member was more like them and more likeable than the non-religious character, despite the fact that both characters were members of an out-group. Non-religious participants did not distinguish between out-group characters in response to these questions. Although these patterns emerged among both children and adults, we also found that children reported more affection toward Christian characters than did adults. We discuss implications of the results for the study of generosity as well as for intergroup attitudes, religious cognition, and development.

Keywords

generosity, intergroup attitudes, life course development, religion, social cognition

What does it mean to be generous? Research on generosity often operationalizes this concept as giving material resources to others (Bekkers & Wiepking, 2011; Brooks, 2007; Whillans, Caruso, & Dunn, 2017). Generosity can also include giving non-material resources such as one's time (Clary et al., 1998; Oesterle, Johnson, & Mortimer, 2004; van Goethem, van hoof, de Castro, Van Aken, & Hart, 2014).

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However, generosity was not always defined in terms of giving material resources or time. During the 17th century, the word "generous" signified "a nobility of spirit" and "traits of character" that were typically associated with the noble class (Smith & Davidson, 2014, p. 3). Similarly, Zhao (2015) notes that the word "charity" can refer to "the action of helping people who are in need" and also to "the feeling of compassion that causes the giver to make such donations" (p. 122).

Furthermore, generosity can be understood interpersonally as well as materially. Smith and Hill (2009) highlight the importance of studying interpersonal generosity—the ways in which people "spend themselves (i.e., their attention, time, emotion, energy, etc.) to enhance the well-being of others in interpersonal relationships" (p. 1). The study of interpersonal generosity is somewhat common in the literature on marriage, which has conceptualized generosity as a set of acts and mental states that help marriages flourish. For example, Dew and Wilcox (2013) define generosity as "small acts of kindness, displays of respect and affection, and a willingness to forgive one's spouse his or her faults and failings" (p. 1218). Similarly, Hawkins, Fowers, Carroll, and Yang (2007, p. 71) define generosity as "the willingness to give oneself freely to the partner" in ways such as "seeing the best in their partners . . . accomodat[ing] their partners . . . [and being willing] to sacrifice for the relationship."

The current work builds on this foundation to advance the study of generosity by investigating affection as a type of generosity, operationalized in this article as liking another person. This conceptualization is in line with some researchers' focus on interpersonal forms of generosity (Dew & Wilcox, 2013; Hawkins et al., 2007; Smith & Hill, 2009). Whereas this prior work focused on interpersonal generosity in the context of already-formed relationships, such as marriage, the current work extends scientific knowledge of generosity by investigating people's interpersonal generosity toward individuals they do not know well. Furthermore, some work on interpersonal generosity emphasizes specific behaviors, such as listening carefully to one's partner (e.g., Smith & Hill, 2009). However, this literature also highlights internal processes and emotions, such as forgiving one's partner and interpreting the partner's behaviors in the most positive light possible (e.g., Dew & Wilcox, 2013; Finkel, 2017). The current work aligns with this perspective by conceptualizing a specific internal process related to the positive functioning of interpersonal relationships—namely, affection—as a form of generosity.

Affection as a Form of Generosity

Although attention to affection in generosity research is limited, affection shares three important characteristics with other forms of generosity. First, people can give or withhold affection from others, similar to how other resources are given or withheld (Smith & Hill, 2009). Second, akin to other resources (such as money or time), receiving affection benefits recipients. For example, Rogers (1956) theorized that "unconditional positive regard"—accepting and valuing people even if they have failed to live up to expectations—could increase individuals' self-worth and help people change for the better. Likewise, in more recent empirical research,

positive relationships with others are associated with mental health and low rates of mortality (Cohen, 2004; Seeman, 1996), and positive peer relationships in childhood predict adjustment and feelings of self-worth in adulthood (Bagwell, Newcomb, & Bukowski, 1998; Parker & Asher, 1987). Third, generosity generally benefits givers. In terms of money and time, generosity is associated with improved well-being (Choi & Kim, 2011) and academic achievement, particularly when individuals have a chance to reflect on the community service they performed (van Goethem et al., 2014). Similar to these other forms of generosity, giving affection to others is also associated with positive outcomes for givers. For example, Baumeister and Leary (1995) theorize that affiliation with others is a fundamental human need. Similarly, the tend-and-befriend model theorizes people as having an "appetitive need" to affiliate with others (Taylor, 2006, p. 273). These theories regarding affiliation necessarily entail giving of affection; thus, in both these instances, affiliation benefits givers by fulfilling basic human needs.

Viewing affection as a form of generosity benefits research on giving by expanding scientific understanding of what generosity encompasses. This, in turn, allows researchers to better understand similarities and differences across different forms of generosity. For example, the current literature conceptualizes both donations of money and donations of time as generosity. These forms of generosity share some similarities: they both benefit givers as well as recipients (Choi & Kim, 2011; van Goethem et al., 2014), allow givers to live out values such as altruism (Bekkers & Wiepking, 2011; Clary et al., 1998), and may both become habitual (i.e., people who give early in life are likely to continue giving, regardless of whether they give time or money, Rosen & Sims, 2011). However, the two types of giving also differ in important respects. For example, volunteering can fulfill social needs in a way that writing a check may not (Clary et al., 1998). Studying both monetary and nonmonetary contributions thus allows researchers to understand what features may underlie diverse forms of generosity and what features may be unique to particular facets of giving. Including affection in the generosity literature can further extend this knowledge.

Viewing affection as a form of generosity also benefits research on affection. As discussed above, research on generosity indicates that giving to others benefits both givers and recipients. Therefore, it may be the case that giving affection to others, including others who are different from the self, benefits the giver. To date, experimental work that induces people to give greater affection to out-group members and then measures their own outcomes is scarce. However, the research on other forms of generosity suggests that this may be a fruitful avenue for work demonstrating the benefits of egalitarianism. In addition to contributing to scientific understanding, such work could encourage people to foster affection toward out-group members, since they will see how it benefits them.

Generosity Among Children

Extant work on life course generosity indicates that older adults are typically more generous than younger adults (see Bekkers & Wiepking, 2011, for a review; though

see Wiepking & James, 2013, for a caveat regarding the "oldest old"). However, it is less clear how generosity—particularly generosity with nonmaterial resources—might change between childhood and adulthood.

Children can be highly generous and attentive to equity. Much work demonstrating this claim investigates generosity with resources that children receive from the experimenter. For example, children share their resources with others (Chernyak, Sandham, Harris, & Cordes, 2016) and relinquish resources that they have received to punish people who do not follow equitable norms (McAuliffe, Jordan, & Warneken, 2015). However, children also have greater expectations for generosity than they actually live up to in their own actions. For instance, children up to 7 or 8 years old report that stickers should be distributed equally, yet they then opt to keep more than their fair share of stickers (Smith, Blake, & Harris, 2013). In another study, 3-year-olds heard a story about another person, represented by a doll, and then "helped" the doll distribute valued resources, such as seashells. Rather than sharing equitably, children led the doll to share more resources with siblings and friends than with strangers (Olson & Spelke, 2008). Thus, children are attentive to equity issues, but they may struggle to enact their generous values.

Of particular importance is the difficulty in providing resources to people who differ from the self, as children are more likely to share valued resources (or share a greater number of such resources) with in-group members than with out-group members (Buttelmann & Bohm, 2014; Fehr, Bernhard, & Rockenbach, 2008). Similarly, the propensity to display more affection for members of one's own group than out-group members emerges early in development and persists throughout the life span. By elementary school, children demonstrate group-based preferences in the domains of race (Aboud, 1988; Baron & Banaji, 2006), gender (Maccoby & Jacklin, 1987), language (Kinzler, Shutts, Dejesus, & Spelke, 2009), and socioeconomic status (Horwitz, Shutts, & Olson, 2014).

The current study contributes to integrating these research areas—on generosity and social preferences—by investigating children's affectionate generosity to people whose religious beliefs vary in similarity to their own views. In investigating this question, the current study also compared children with adults to determine whether observed patterns in affection change across developmental life stages. Prior work has shown that older adults are typically more generous than younger adults (Bekkers & Wiepking, 2011), but this research has not focused on comparing children's versus adults' generosity within the same experimental study. Several commonly proposed explanations for age-related changes in generosity focus on material resources. For example, older adults may be more likely to donate money than younger adults because they are more professionally advanced and therefore earn higher incomes or because their children are grown and require less financial investment, allowing older adults to divert money that they had previously spent on their children to charitable giving (Bekkers & Wiepking, 2011). If age-related changes in generosity largely depend on such factors, fewer changes should emerge when examining generosity with relational resources, which does not depend on limited financial resources that can be restricted

at young ages (such as through labor laws). Comparing children and adults in the current work provides insight into relational generosity.

Generosity and Prejudice in the Domain of Religion

Studies on group-based bias, including those discussed in the section above, typically compare a member of the participant's group with one out-group (e.g., Baron & Banaji, 2006; Heiphetz, Spelke, & Banaji, 2013; Kinzler et al., 2009). This approach is consistent with the possibility that individuals may reason similarly about all out-groups, viewing people as simply "us" versus "them." Indeed, some research indicates that people generally perceive out-group members to be homogeneous (Judd & Park, 1988), and such reasoning may merge different out-groups into a singular other.

The current work investigated the extent to which children might distinguish among different out-groups in the domain of religion, an area we chose to study for three reasons. First, religion is an important social identity for many people (Ysseldyk, Matheson, & Anisman, 2010). In the United States, more than three out of four American adults affiliate with a religious group, and 63% report absolute certainty in God's existence (Pew Research Center, 2014). However, research on children's generosity and children's group-based cognition has rarely considered this important group marker. This omission is surprising in light of the fact that even young children understand and place importance on religious beliefs. Children in elementary school understand religious concepts such as God, souls, and the afterlife (Bering, Blasi, & Bjorklund, 2005; Richert & Harris, 2006; Shtulman, 2008). Indeed, they view religion as an important and informative signal of group membership (Chalik, Leslie, & Rhodes, 2017; Deeb, Segall, Birnbaum, Ben-Eliyahu, & Diesendruck, 2011; Dunham, Srinivasan, Dotsch, & Barner, 2014; Heiphetz, Spelke, & Banaji, 2014). Thus, religion is an important domain in which to study children's affectionate generosity. However, it is not clear how children view members of different religious out-groups. The current study advances generosity research by addressing this important question: Is children's generosity sensitive to difference among out-groups? In other words, are children more generous with their affection toward religious out-groups who are more similar to themselves, as compared with religious out-groups who are less similar to themselves?

Related to this question, the second reason to study generosity in the domain of religion is that religious beliefs vary along a continuum. For example, believing that *all* Biblical stories are true is more similar to believing that *some* Biblical stories are true than to believing that *none* of the Biblical stories are true. Varying the degree of similarity among group members allowed us to examine the extent to which affection is sensitive to differences in similarity. People prefer those who are similar to themselves (e.g., Abrams, 2011; Banaji & Heiphetz, 2010; Fawcett & Markson, 2010), but much of this work has treated similarity as dichotomous (e.g., similar or dissimilar). This study advances prior research on this topic by engaging a more nuanced view of perceived similarity that allows for the possibility of non-binary degrees of dissimilarity.

Third, many religions emphasize the importance of treating others generously and sometimes explicitly note that this generous treatment should be extended to people who differ from the self (e.g., the parable of the Good Samaritan praises the actions of an individual who helped a member of a despised out-group). Thus, participants may show greater relational generosity (affection) toward people who differ from them on the basis of religion than to people who differ from them on other bases, such as race.

Overview of Current Research

The current study extends scientific understanding of generosity as donations of money or other material resources to a relational form of generosity: giving affection. We test whether people give more affection to similar others, and we investigate this possibility within children and adults in order to study whether generosity of affection varies across life course development. In so doing, we also contribute to work on intergroup cognition by focusing on religious beliefs as a key domain for in-group and out-group behavior, and we advance prior binary simplifications by investigating generosity toward three groups (Christian, Jewish, and non-religious people) and by highlighting degrees of belief similarity among these groups.

Method

Participants

Participants consisted of 69 children (62% female; 61% White) who were between 6 and 8 years old (M_{age} = 6.94 years, SD_{age} = 0.89 years), as well as 60 adults (43% female; 73% White) who were between 18 and 82 years old (M_{age} = 38.38 years, SD_{age} = 14.21 years). Parents identified their children as Christian (9% Protestant, 20% Catholic, 20% "other Christian"), Jewish (6%), non-religious (20%), or "other" (13%). Adults self-identified as Christian (23% Protestant, 13% Catholic, 13% "other Christian"), non-religious (40%), or "other" (10%); no adults self-identified as Jewish.

We sampled 6- to 8-year-olds because children in this age range show more positive responses toward members of their religious group than to members of a single religious out-group (Heiphetz, Spelke, & Banaji, 2013, 2014). We sought to examine the sensitivity of such preferences to distinctions between out-groups and thus sampled the same ages of children as prior research.

Children were recruited in a museum in a large city in the United States and received a sticker. Adult residents of the United States were recruited online via Amazon Mechanical Turk and received $1.00. Data from two additional children were excluded due to parental interference, and data from one additional adult were excluded due to failure to correctly answer an attention check question.

Procedure

The child version of the study included two practice trials and four experimental trials. During each practice trial, the experimenter showed three pictures of inanimate objects (e.g., triangles) and asked children to indicate which picture was different from the others and why (e.g., it was a different color). After each practice trial, the experimenter provided feedback indicating that the child's answer was correct or suggesting another way to think about the pictures (e.g., "Okay. Another way to think about these pictures is that this triangle is least like the others because it's a different color"). These trials familiarized children with selecting which of three items was least like the others.

During each experimental trial, the experimenter elicited children's religious beliefs (e.g., "Some people think that the stories about Adam and Eve are true and that the stories about Jesus are also true. Some people think that the stories about Adam and Eve are true and that the stories about Jesus are not true. Some people think that the stories about Adam and Eve are not true and that the stories about Jesus are not true. Which do you think?") Response options reflected predominant religious views in the United States (Pew Research Center, 2014) and were not meant to be exhaustive. The experimenter asked children to indicate which of the three belief options most closely matched their own belief. Items were chosen based on prior research demonstrating that children understand the referenced concepts (e.g., Jesus in the example above, or the word "synagogue" in another example; Coles, 1991; Heiphetz, Spelke, & Banaji, 2013; Heiphetz, Spelke, Harris, & Banaji, 2013).

The experimenter then revealed images of three White characters who were the same gender as the participant. On any given slide, the characters were approximately the same age and attractiveness, as rated by adults, and all characters were approximately the same age as participants. The experimenter revealed one piece of information about each character (e.g., "This person thinks that the stories about Adam and Eve are true and that the stories about Jesus are also true. / This person thinks that the stories about Adam and Eve are true and that the stories about Jesus are not true. / This person thinks that the stories about Adam and Eve are not true and that the stories about Jesus are not true"), moving from left to right on the screen. (See Appendix A for items.) The experimenter then asked these questions in counterbalanced order:

- "How much do you like this person [asked about each character]? Do you like him or her a lot [coded as 4], a medium amount, a little bit, or not at all [coded as 1]?"
- "Which of these people is least like the others? Why?"
- "Which of these people is least like you?"
- "Which of these people is most like you?"

Children were told that there were no right or wrong answers to any questions. In this way, the experimenter indicated that there was no objective way in which any of the characters were more likeable or more similar to the participant than any other

characters. As discussed in the introduction, the question measuring liking was intended to determine whether participants gave more affection (a form of generosity) to people who were more similar to themselves. The questions about similarity helped identify whether participants distinguished between the two out-group characters (e.g., whether Christian children viewed the Jewish character as more similar to themselves than the non-religious character) and whether perceptions of similarity might be linked with generosity.

After these questions, the experimenter asked a memory question (e.g., "Which of these people thinks that the stories about Adam and Eve are true and that the stories about Jesus are also true?"). The following items were counterbalanced across participants: (a) order of experimental items (e.g., the items about Adam and Eve sometimes appeared first, sometimes last, etc.); (b) order of characteristics within each experimental item (e.g., the Jewish character was sometimes described first); (c) order in which participants indicated which character was most like them and which character was least like them; (d) order in which participants indicated which character was most/least like them and how much they liked each character; (e) pairing of each experimental item with a particular photograph; (f) memory items (e.g., some participants indicated which character thinks that the stories about Adam and Eve are true and that the stories about Jesus are true, some participants indicated which character thinks that the stories about Adam and Eve are true and that the stories about Jesus are *not* true, etc.).

Adults followed the same procedure with the following changes: First, they read the materials on their own. Second, they did not see pictures of characters since adults do not generally need pictures to keep their attention on the task (for prior work showing that images do not account for response differences between children and adults, see Heiphetz, Spelke, Harris, & Banaji, 2014; Heiphetz, Spelke, Harris, et al., 2013). Third, the adult materials were written rather than spoken and enabled easy reference back to each character's belief; therefore, adults did not answer memory questions. Fourth, adults did not require training in the meaning of the word "least" and therefore did not complete practice trials. Aside from these minor differences, the design for children was replicated with adults and thus provides comparability in results across life stages.

Results

To highlight the patterns of response to each question, we group the results by dependent measure. We adjusted each analysis that included multiple comparisons using a Bonferroni correction; below, we report the corrected alpha threshold and uncorrected *p* values. Preliminary analyses showed that most children provided reasonable justifications during the practice trials and that children demonstrated good memory for the character descriptions; see Appendix B.

Within each grouping, we discuss the responses of participants who affiliate with any religious groups versus participants who do not affiliate with any religious groups. We investigated this difference because people who affiliate with religious groups may

differ from people who do not, especially when judging people who believe in God versus people who do not (for prior work supporting this possibility, see Heiphetz, Spelke, & Young, 2015; Jackson, Halberstadt, Jong, & Felman, 2015; Lane, Wellman, & Evans, 2012).

It is also possible that Christian participants would respond differently from all other participants because most people in the United States are Christian (Pew Research Center, 2014), and members of the dominant religion may perceive religious groups differently compared with members of minority religions (for prior work demonstrating that majority group members perceive the world differently than minority group members, see Bergsieker, Shelton, & Richeson, 2010; Kahn, Ho, Sidanius, & Pratto, 2009). Thus, we reran the analyses below comparing Christian versus non-Christian participants rather than religious versus non-religious participants. These analyses are presented in Appendix B and are similar to the results reported below. The Jewish sample was not large enough to investigate differences between Jewish and non-Jewish participants.

"Which of These People Is Least Like the Others?"

We first sought to determine whether participants were especially likely to select one of the characters when indicating which character was least like the others, as participants may demonstrate less generosity toward individuals who are perceived to be the "odd ones out." To do so, we conducted four separate chi-squared tests. Four tests were necessary because our study included four separate items (the sample item above about whether the characters believed that Biblical stories were true plus three additional items; see Appendix A), and responses across items could not be averaged for this nonparametric test. Because this analysis included four tests, p values needed to be .013 or lower to pass the Bonferroni-corrected significance threshold, and each did so ($\chi^2 \geq 60.79$, $ps < .001$).

In response to each of the four items, the majority of participants (ranging from 66% to 87%) reported that the non-religious character was least like the others. To determine whether participants were statistically significantly more likely to report that one of the characters was the "odd one out," we compared each possible set of two characters (non-religious vs. Christian, non-religious vs. Jewish, Christian vs. Jewish) within each of the four items (e.g., within the item about which of the stories in the Bible are true) using Wilcoxon signed-rank tests. This resulted in 12 comparisons; thus, p values needed to be .004 or lower to pass the Bonferroni-corrected significance threshold. Within each experimental item, participants were more likely to report that the non-religious character, rather than the Christian or Jewish character, was least like the others ($|Z|s \geq 5.51$, $ps \leq .001$). Participants did not distinguish between the Christian and Jewish characters ($|Z|s \leq 2.24$, $ps \geq .025$).

To determine whether these patterns varied based on participant age and religious background, we placed the responses to each of the experimental items in a four (Demographic Category: religious children vs. religious adults vs. non-religious children

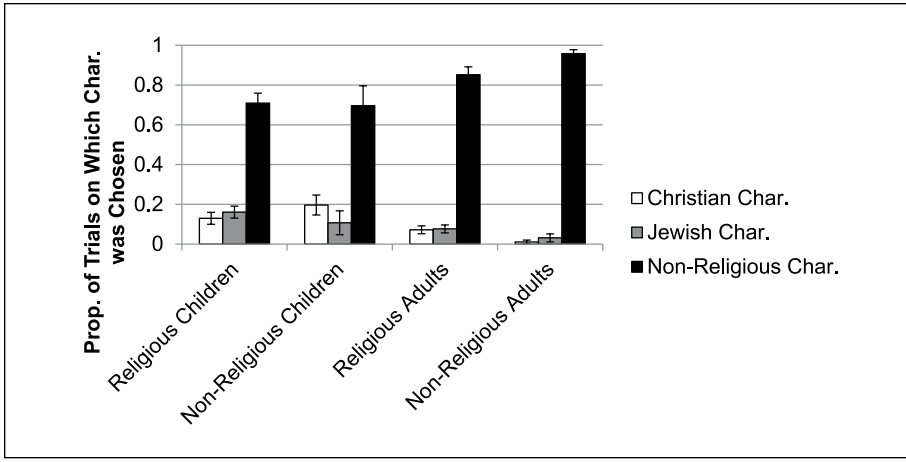

Figure 1. Proportion of trials on which participants reported that each character was least like the others. Error bars represent the standard error of the mean.

vs. non-religious adults) by three (Character: Christian vs. Jewish vs. non-religious) table, which we analyzed using a chi-squared test. Because we needed to create a separate table for responses to each of four items, p values needed to be .013 or lower to pass the Bonferroni-corrected significance threshold, and none did so ($\chi^2 \leq 14.69$, $ps \geq .023$). Thus, we did not find evidence that perceptions of which character is least like the others depended on whether participants self-identified as members of a religious group.

In summary, the majority of children and adults reported that the non-religious character was least like the others; see Figure 1. This result suggests that both children and adults perceive differences between Judaism and Christianity to be less stark than differences between either of these religions and no religion. Regardless of their own religious background, participants overwhelmingly reported that the non-religious character was least like the others. To gain greater insight into these quantitative results, we analyzed participants' justifications for their responses; see Appendix B.

"Which of These People Is [Least/Most] Like You?"

In addition to selecting which character was least like the others, participants indicated which of the three characters (Christian, Jewish, non-religious) was most like them and least like them. Again, we investigated this variable because participants may show more generosity toward characters that they perceive as particularly similar to themselves. Using these two variables, we created a rank for each character from one (least like the participant) to three (most like the participant; the character that was not mentioned in response to either question received a rank of two). We then averaged ranks across the four items for each character. For example, the final

rank of the Christian character was the average of that character's rank in response to all four experimental items (the sample item above about whether the characters believed that Biblical stories were true plus the other three experimental items; for a full list, see Appendix A). We analyzed these data using a three (Character: Christian vs. Jewish vs. non-religious) by two (Participant Age: child vs. adult) by two (Participant Religion: religious vs. non-religious) mixed analysis of variance (ANOVA) with repeated measures on the first factor. See Appendix B for additional analyses, including an ANOVA examining potential differences between Christian and non-Christian participants (rather than religious and non-religious participants) and nonparametric alternatives. The results of these analyses were the same as those reported below.

This three (Character: Christian vs. Jewish vs. non-religious) by two (Participant Age: child vs. adult) by two (Participant Religion: religious vs. non-religious) mixed ANOVA revealed a main effect of Character, $F(1.63, 181.05) = 5.03$, $p = .012$, $\eta_p^2 = .04$. This effect was qualified by a Character by Participant Age interaction, $F(1.63, 181.05) = 6.84$, $p = .003$, $\eta_p^2 = .06$, and a Character by Participant Religion interaction, $F(1.63, 181.05) = 55.43$, $p < .001$, $\eta_p^2 = .33$, which were, in turn, qualified by a Character by Participant Age by Participant Religion interaction, $F(1.63, 181.05) = 9.66$, $p < .001$, $\eta_p^2 = .08$. No other effects reached significance (ps = 1.00).

To investigate the Character by Participant Age by Participant Religion interaction, we used pairwise comparisons to examine differences in mean ratings of the characters among religious children, non-religious children, religious adults, and non-religious adults. This analysis included 12 tests; therefore, p values needed to be .004 or lower to pass the Bonferroni-corrected significance threshold. Religious children and religious adults provided higher average rankings to Christian characters than to Jewish characters (i.e., they were more likely to say that Christian characters were more like them, ps $< .001$, Cohen's ds ≥ 0.59) and to Jewish characters than to non-religious characters (ps = .001, Cohen's ds ≥ 0.51). The rankings of non-religious children did not significantly differ across the three characters (ps $\geq .227$). Non-religious adults ranked the non-religious character higher than either the Christian character or the Jewish character (ps $< .001$, Cohen's ds ≥ 1.58), which did not significantly differ from each other ($p = .256$).

In summary, religious participants—children as well as adults—distinguished between out-group characters by reporting that the religious out-group character was more similar to them than the non-religious character (Figure 2). For example, Christians reported that the Jewish character was more similar to them than the non-religious character (see Appendix B). However, non-religious participants did not distinguish between the out-group characters. Non-religious adults perceived the non-religious character to be most similar to themselves and did not distinguish between the two religious (out-group) characters in terms of how dissimilar they were perceived to be. Meanwhile, non-religious children did not distinguish among the three characters.

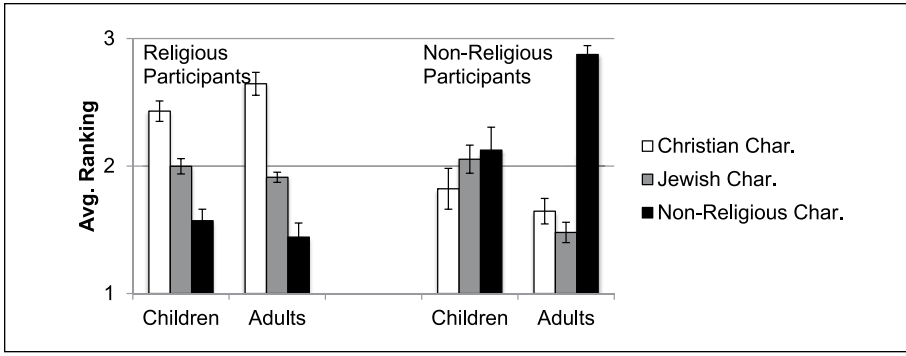

Figure 2. Average ranking of Christian, Jewish, and non-religious characters from least similar to the self (ranking = 1) to most similar to the self (ranking = 3) among religious children (first set of bars on left), religious adults (second set of bars on left), non-religious children (first set of bars on right), and non-religious adults (second set of bars on right). Error bars represent the standard error of the mean.

Affection

The results described above indicate that both children and adults perceived the Jewish and Christian characters to be more similar to each other than either character was to the non-religious character. Stated differently, participants in all age and religious groups viewed the non-religious character as the "odd one out." Furthermore, religious participants reported that the character who was also religious, but subscribed to a different religion than they themselves did, was more similar to them than the non-religious character. However, non-religious participants did not significantly distinguish between the two religious characters.

Subsequent analyses sought to determine whether the patterns observed above for perceived similarity matched patterns observed for generosity. As discussed in the introduction, the current work conceptualized generosity in terms of affection or liking. Because prior work indicates that perceptions of similarity may be associated with liking (e.g., Banaji & Heiphetz, 2010), we examined whether judgments of similarity mapped on to judgments of liking (e.g., whether characters who were perceived as more similar to other characters or to participants themselves would elicit more liking).

To address this question, we analyzed the extent to which participants reported liking each character using a three (Character: Christian vs. Jewish vs. non-religious) by two (Participant Age: child vs. adult) by two (Participant Religion: religious vs. non-religious) mixed ANOVA with repeated measures on the first factor. (An ANOVA testing Christian vs. non-Christian participants showed similar results; see Appendix B.) This analysis revealed a main effect of Character, $F(1.64, 184.80) = 5.27$, $p = .010$, $\eta_p^2 = .05$, which was qualified by two interactions. No other effects reached significance ($ps \geq .120$).

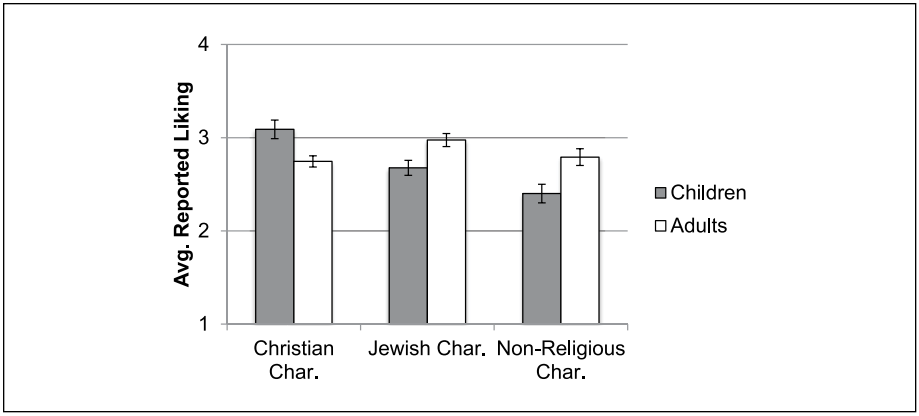

Figure 3. Average reported liking for each character. Error bars represent the standard error of the mean.

We found a Character × Participant Age interaction, $F(1.64, 184.80) = 12.85$, $p < .001$, $\eta_p^2 = .10$; Figure 3. To examine this interaction, we conducted two sets of pairwise comparisons. First, we compared liking for each character among children and, separately, among adults. This analysis included six tests; therefore, p values needed to be .008 or lower to pass the Bonferroni-corrected significance threshold. Children reported liking the Christian character more than either the Jewish character or the non-religious character (ps ≤ .001, Cohen's ds ≥ 0.53); ratings of the Jewish character and the non-religious character did not significantly differ ($p = .026$). Adults reported liking the Jewish character more than the Christian character ($p = .005$, Cohen's $d = 0.49$); no other pairwise comparisons among adults reached significance (ps ≥ .143). Second, we compared how much children versus adults reported liking the same character. This analysis included three tests; therefore, p values needed to be .017 or lower to pass the Bonferroni-corrected significance threshold. Children reported more liking than adults of the Christian character ($p = .001$, Cohen's $d = 0.52$), and no other differences between children and adults reached significance (ps ≥ .041).

We also found a Character by Participant Religion interaction, $F(1.64, 184.80) = 12.20$, $p < .001$, $\eta_p^2 = .10$; Figure 4. Again, we conducted two sets of follow-up tests to examine this interaction. First, we compared perceptions of each character with perceptions of each other character among religious participants and, separately, among non-religious participants. This analysis included six comparisons; therefore, p values needed to be .008 or lower to pass the Bonferroni-corrected significance threshold. Religious participants reported liking the non-religious character less than either the Christian character or the Jewish character (ps ≤ .001, Cohen's ds ≥ 0.58), and no other comparisons reached significance (ps ≥ .028). Second, we compared how much religious versus non-religious participants reported liking the same character. This analysis included three tests; therefore, p values needed to be .017 or lower to pass the Bonferroni-corrected significance threshold. The somewhat sharper distinctions

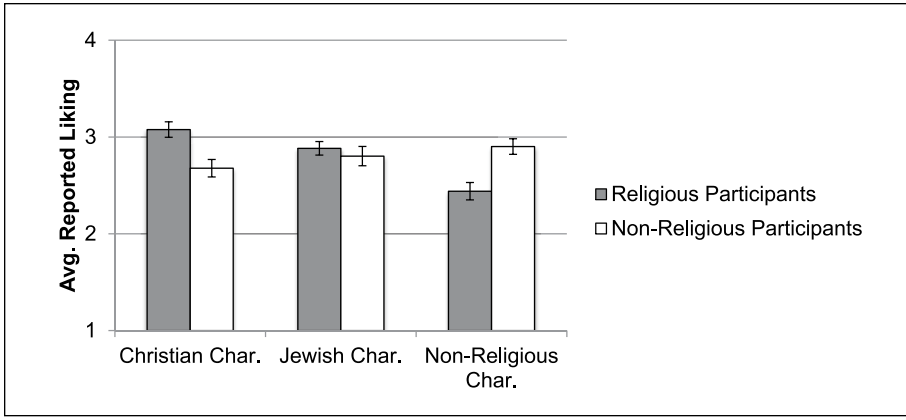

Figure 4. Average reported liking for each character. Error bars represent the standard error of the mean.

among religious groups observed in the religious sample was driven by these participants' reduced liking of the non-religious character. Religious (vs. non-religious) participants reported more liking of the Christian character ($p = .014$, Cohen's $d = 0.63$) and less liking of the non-religious character ($p = .004$, Cohen's $d = -0.68$); religious and non-religious participants did not significantly differ in their evaluations of the Jewish character ($p = .430$).

We also tested whether liking of one group predicted liking of another group. These analyses provided insight into whether liking might be zero-sum such that the more participants like in-group members, the less they like out-group members. Such a possibility would suggest that participants may see liking as akin to a material resource that diminishes as it is shared. To test this possibility, we correlated average liking of each character with average liking of each other character among children and, separately, among adults. This resulted in a total of six correlations; therefore, p values needed to be .008 or lower to pass the Bonferroni-corrected significance threshold. The more children and adults reported liking the Jewish character, the more they reported liking the Christian character (rs $\geq .44$, ps $< .001$). Furthermore, the more adults reported liking the Jewish character, the more they reported liking the non-religious character ($r = .74$, $p < .001$). No other correlations among liking ratings reached significance ($|r|$s $\leq .25$, ps $\geq .042$). Greater liking of a group never predicted lesser liking of a different group.

In summary, when making social preference judgments, participants distinguished between out-groups, treating out-groups as heterogeneous (not homogenous as suggested by some prior studies). Children reported greater liking of majority group members than did adults, perhaps because their attitudes are more influenced by group dominance (see Discussion). Although participants evaluated members of different groups differently, stronger liking of characters from one group was never associated with weaker liking of characters from a different group, suggesting that generosity

toward one group did not lead to stinginess toward another group. This finding highlights a difference between affection and forms of generosity that are more commonly studied, such as financial giving. Because money is a limited resource, giving to one person reduces the amount that can be spent elsewhere. However, affection does not appear to function in this way, as giving greater affection to one character never predicted giving less affection to a different character in our study. This result points to the importance of studying affection as a form of generosity since it suggests that some forms of generosity may not be viewed as giving from a zero-sum pool.

Relation Between Affection and Similarity

To investigate the extent to which affection and perceptions of similarity were linked, we correlated average liking for characters from each religious background with two other variables: (a) the proportion of trials on which participants reported that characters from each religious background were least like the other characters and (b) the average similarity ranking participants gave to characters from each religious background (1 = least similar to the participant to 3 = most similar to the participant). We performed these analyses separately among children and adults, for a total of 12 correlations; therefore, p values needed to be .004 or lower to pass the Bonferroni-corrected significance threshold. The more similar participants perceived the Christian character to be to themselves, the more they reported liking that character (rs $\geq$ .51, ps $<$ .001). Additionally, the more similar children perceived the non-religious character to be to themselves, the more they reported liking that character (r = .38, p = .002). No other correlations reached significance ($|r|$s $\leq$ .23, ps $\geq$ .060). In other words, when similarity and liking were related, the relation was both positive and self-relevant: the more participants perceived characters as similar *to themselves*, the more they liked those characters. We did not find a link between liking and perceptions of similarity *to others*.

These findings are consistent with prior work revealing that people give more generously to individuals they judge to be similar to themselves (Dovidio & Gaertner, 1981; Johnson & Smirnov, 2018; Kogut & Ritov, 2007). In this way, giving affection appears similar to giving financial resources. This result suggests that the lack of generosity religious individuals showed toward non-religious individuals may have been driven partially by the perception that non-religious individuals are quite different from the self. Judging one person to be different from a group to which the respondent belongs (i.e., responding to the question of which character is least like the others, rather than which character is most or least like the self) may be somewhat less linked with generosity.

Discussion

Prior research on generosity often operationalized this construct as volunteering time (e.g., Clary et al., 1998; Oesterle et al., 2004; van Goethem et al., 2014) or sharing money or other material goods (for a review, see Bekkers & Wiepking, 2011). The

current study views affection as another key form of generosity. In this context, lower affection toward individuals perceived to be different from the self (i.e., prejudice) can be understood as a lack of generosity. Of course, prejudice is not limited to interpersonal interactions, in that it is also structural. Viewing prejudice *solely* as a lack of interpersonal generosity ignores systemic biases and structural disadvantages faced by members of low-status groups (e.g., Alexander, 2012; Sidanius & Pratto, 1999). However, the current study conceives a lack of generosity as one aspect of a broader concept of prejudice. Similar to other resources, affection can be given to or withheld from others. Furthermore, similar to other forms of generosity, giving affection can benefit both recipients and givers (e.g., Baumeister & Leary, 1995; Taylor, 2006). Investigating affection as a form of generosity expands the scope of the generosity literature and leads to a better understanding of both affection and generosity (e.g., by clarifying which common factors underlie all forms of generosity and which facets of generosity are unique to only some forms of giving).

To investigate affection as a form of relational generosity, we examined children's and adults' responses to individuals with different religious beliefs. We first asked about perceived similarity because individuals may show particularly low levels of generosity toward dissimilar others (e.g., Banaji & Heiphetz, 2010). When indicating which character was least like the others, participants overwhelmingly selected the non-religious character. This result held across age groups and participants' religious backgrounds. That is, both children and adults viewed Christian and Jewish characters as relatively similar to each other and highly distinct from non-religious characters, regardless of whether participants themselves were religious.

This finding suggests that the main distinction for participants was between religious and non-religious individuals rather than, for example, between dominant and minority group members. In the latter case, Jewish and non-religious characters should have been grouped together, since both are minority groups in the United States. Likewise, differences between religious versus non-religious characters were also more pronounced than differences between characters who shared participants' beliefs versus characters who did not. In the latter case, participants' religious background should have been more strongly associated with their responses.

One possible interpretation of the finding that participants viewed the non-religious character as the "odd one out" is that participants are sensitive to the number of differences between each pair of characters. In other words, participants may perceive the Jewish character as more similar to the Christian character than is the non-religious character because there is one difference between the Jewish character and the Christian character (e.g., the Christian character thinks that stories about Jesus are true, whereas the Jewish character does not think this), whereas there are two differences between the Christian character and the non-religious character (e.g., the Christian character also thinks the stories about Adam and Eve are true, whereas the non-religious character thinks neither stories about Jesus nor stories about Adam and Eve are true). It may be that the specific differences between Christian and non-religious characters are particularly important, but it may also be that any two characters with the same number of differences would elicit a similar response. To further

probe the latter possibility, future work could include a "spiritual but not religious" character who believes in God but does not share the beliefs of either the Christian or the Jewish character (e.g., thinks that neither the stories about Adam and Eve nor the stories about Jesus are true).

Although participants from all religious backgrounds viewed the two religious characters as more similar to each other than either religious character or the non-religious character, differences between religious and non-religious participants did emerge in response to questions about how similar each character was to the self. Religious participants viewed the religious out-group member as more similar to themselves than the non-religious out-group member, whereas non-religious participants did not distinguish between the two religious out-group members in terms of how similar each was to themselves. These differences between religious and non-religious participants also emerged on the measure of affection. Religious participants reported liking the religious out-group member more than the non-religious out-group member, whereas non-religious participants did not report liking either out-group member (Christian or Jewish character) more than the other. These findings add nuance to previous research indicating that religious individuals and households tend to give more than non-religious individuals and households (e.g., Bekkers & Wiepking, 2011; Eagle, Keister, & Read, 2018) by suggesting that religious individuals may not be equally generous to all recipients.

Liking one character did not reliably predict disliking another character, suggesting that individuals may not treat affection as a limited resource in this context. In this way, affection differs from a material resource, which diminishes as it is shared with others. Indeed, when relations did emerge between liking of different groups, these correlations were positive. Stated differently, affection may function as a kind of growing resource; the more one gives to one person or group, the more one has for others. However, these correlations did not emerge across all pairings; for example, liking of the Christian character and the non-religious character were uncorrelated. Thus, this interpretation is preliminary and should be further examined in subsequent research.

Affectionate generosity did appear to be linked, to some extent, with perceived similarity. When this link emerged, it was both positive and self-relevant. For example, the more similarity participants perceived between themselves and the Christian character, the more they reported liking that character. The current data did not show that liking was associated with perceptions of similarity between any one character and the other characters. These findings are consistent with prior research showing that individuals tend to behave more generously toward people who are similar to themselves (Dovidio & Gaertner, 1981; Johnson & Smirnov, 2018; Kogut & Ritov, 2007).

Perceptions of similarity seemed to depend more on participants' religious background rather than their age, with the results showing similar patterns across 6- to 8-year-olds and adults. For example, religious participants' propensity to distinguish between out-group members, and non-religious participants' propensity to respond similarly to out-group members, emerged in both age groups. Although adults have

had more opportunities to interact with out-group members and to observe both similarities and differences across members of different groups, their perceptions of out-groups did not significantly differ from children's perceptions.

When answering questions about affection, children responded similarly to adults in some ways. In particular, the two age groups showed similar relative preferences (e.g., they did not differ in the extent to which they reported liking one out-group more than another). Although material generosity increases between younger and older adulthood (Bekkers & Wiepking, 2011), we did not find life course development differences in which groups elicited more versus less affectionate generosity. These similar patterns could have emerged because affectionate generosity does not depend on limited resources that people acquire more rapidly as they get older, such as money. However, some age-related difference did emerge in terms of affection: children reported stronger pro-Christian preferences than adults. Because participants indicated liking for each character separately, this finding may not reflect adults' greater social desirability concerns, since adults could have reported strongly liking Christians and also strongly liking the other two characters. Instead, dominance may influence children's social preferences more than those of adults (for research on children's perceptions of dominance, see Grueneisen & Tomasello, 2017; Thomsen, Frankenhuis, Ingold-Smith, & Carey, 2011). That is, children's generosity, in the form of affection, may be more sensitive than adults' generosity to individuals' and groups' level of status and power. As they mature, children may learn that dominant-group status does not necessarily reflect the extent to which a group deserves to receive resources (such as affection). Future work can test the possibilities outlined here explaining why children's relative levels of generosity to different religious groups may not strongly differ from those of adults and also why children's pro-Christian preferences may diverge from those of adults.

The current work is among the first to view affection as a form of generosity. Because all studies contain limitations, additional work is needed to build on the results presented here. For example, the current work asked about liking to measure affectionate generosity. We did so because past work has often asked children how much they like others (e.g., Baron & Banaji, 2006; Heiphetz et al., 2015; Horwitz et al., 2014). Thus, we knew a priori that children would understand this question, and we could build on prior work showing that children prefer members of their own group or the culturally dominant group when these groups are compared with one out-group. However, participants may respond differently to different questions measuring affection (e.g., "How much do you care for this person?"), and their affectionate behaviors (e.g., hugging others) may diverge from their affectionate verbal responses.

The current work also tested a predominantly Christian sample. Although this reflects the demographics of the United States more broadly (Pew Research Center, 2014), individuals from different religious traditions may have responded differently. More broadly, this research was conducted with a convenience sample. Although this type of sampling is extremely common in psychology—particularly

in studies with young children, who cannot be tested using phone surveys or other strategies commonly employed with adults to obtain random samples—it comes with well-known limitations, such as the possibility of selection bias. Testing in museums and online mitigates this concern somewhat, since recruiting in the community and via the Internet eliminates some sources of bias. For example, we were able to include participants from a broader geographic area that would be possible with lab-based studies, since museum visitors and Internet users need not reside close to the university where the research was conducted in order to participate. Nevertheless, future work can attempt to replicate the current results in other types of samples to determine the extent to which characteristics of the sample could have influenced the results.

Additionally, future work can address novel research questions regarding relational generosity. Based on existing studies that explicitly ask how people define generosity and whether they perceive affection as one of its forms (see, e.g., Herzog & Price, 2016), children could be asked this directly in future studies. Quantitative analyses can determine whether relational generosity co-occurs with other forms of giving. Furthermore, past work has suggested that charitable behavior may be habit-forming, such that giving charitably when young predicts charitable behavior at later life stages (Rosen & Sims, 2011). Future work can determine whether a similar pattern emerges with relational forms of generosity. Relatedly, future studies can investigate how to increase relational generosity at different life stages—a goal consistent with programs such as those focusing on youth development (Benson & Pittman, 2001; Sukarieh & Tannock, 2011)—and determine whether different factors influence material generosity and relational generosity. For example, researchers could use nationally representative longitudinal data sets such as the Panel Study of Income Dynamics (McGonagle, Schoeni, Sastry, & Freedman, 2012) to learn more about factors that predict material generosity over the life span and compare these factors with variables that predict relational generosity.

Conclusions

The current study integrated research on generosity with research on group-based attitudes by conceptualizing affection as a form of generosity and investigating whether participants were more likely to respond generously to out-group members who were nevertheless relatively similar to themselves. Regardless of age and religious background, participants viewed non-religious characters as quite distinct from both Christian and Jewish characters. However, participants' identities played a larger role in their perceptions of the characters' similarity to themselves and the extent to which participants demonstrated relational generosity (in the form of affection) toward each character. Using religion as an example of a domain in which out-groups vary in their similarity to the in-group, this study advances understanding of the development of religious judgments and relational generosity.

Appendix A

Full Item List

1a. This person thinks that the stories about Adam and Eve are true and that the stories about Jesus are also true.
1b. This person thinks that the stories about Adam and Eve are true and that the stories about Jesus are not true.
1c. This person thinks that the stories about Adam and Eve are not true and that the stories about Jesus are not true.
2a. This person thinks that it is important to celebrate God in a church.
2b. This person thinks that it is important to celebrate God in a synagogue.
2c. This person thinks that it is not important to celebrate God.
3a. This person thinks that God sent his son a long time ago to make everyone's lives better.
3b. This person thinks that God will send someone to make everyone's lives better, but that person hasn't come yet.
3c. This person thinks that only people, not God, can make everyone's lives better.
4a. This person is Christian.
4b. This person is Jewish.
4c. This person is not religious.

The experimental items that included religious labels differed from the other items in two ways. First, because religious affiliation can be perceived as more categorical than belief, we gave participants an "other" option (e.g., "Are you Christian, Jewish, or not religious, or are you something else?"). If participants indicated that they were something else, the experimenter asked, "What are you?" Second, because this item was shorter than the belief items, we did not include a memory check.

Appendix B

Supplemental Analyses

Preliminary Analyses. The majority of children provided reasonable justifications during the practice trials asking them to indicate which object was least like the others (e.g., replying that one triangle was least like the others because it was a different color); 94% successfully answered this item, and 96% successfully answered the second practice item. Binomial tests showed that these proportions were greater than chance (50%; $ps < .001$). Children were able to select which of three items was least like the others and to explain their choice.

Overall, children responded to 82% of the memory questions correctly ($SD = 26\%$). A one-sample t test indicated that the proportion of correct responses was significantly greater than 33% (chance), $t(66) = 15.29$, $p < .001$, Cohen's $d = 1.88$. Children did not appear to experience difficulty tracking the relatively

complex beliefs with which we presented them. The analyses reported in the main text, and below, include participants regardless of how they answered the practice questions or the memory questions. However, we obtained similar patterns of results when conducting tests only on participants who provided a reasonable answer to the second practice trial and who answered at least two out of three memory questions correctly.

Participants' Justifications for Responses Regarding Which Character Was Least Like the Others. To gain greater insight into the quantitative results presented in the main text, we analyzed participants' justifications for their responses. Each justification was coded as *religion* (centered on the character's religious belief or identity, e.g., "because he doesn't believe in God"), *appearance* (centered on physical properties of the photographs, e.g., "she has brown hair"), *own belief* (centered on the participant's own religious beliefs, e.g., "God is very important") or *other*. The "other" category included "don't know" responses, tautologies (e.g., "she's different"), and responses that did not reference any of the categories above (e.g., "he likes it"). Two raters coded each response and reached high levels of agreement, with kappas ranging from .86 to .95 for the four individual items. In cases of disagreement, the first author's codes were used.

Among children, the majority of trials (74%) included religion-based justifications, 14% of trials included appearance justifications, and 11% included "other" responses. Among adults, 89% of trials included religion-based justifications, 8% included own belief justifications, and 3% included "other" responses. Since adults did not see pictures of characters, none of their responses contained references to physical properties of the stimuli. Two independent-samples t tests showed that children were less likely than adults to refer to the characters' religious beliefs, $t(119.23) = -2.76$, $p = .007$, Cohen's $d = -0.48$, and more likely than adults to use justifications coded as "other," $t(110.39) = 2.87$, $p = .005$, Cohen's $d = 0.47$. These tests were not performed on the other codes because they were employed by only one age group.

Overall, children selectively focused on the characteristics targeted in the present research—religious belief and identity—rather than the visual cues that may have been expected to be more salient to young participants. Additionally, adults—but not children—sometimes used their own religious beliefs to justify their responses. This age-related difference may have emerged because adults have had more opportunities to reflect on their own religious beliefs; thus, their beliefs may have become more salient to them.

Perceptions of Which Character Was Least Like the Others. As discussed in the main text, responses to the question of which character is least like the others may be influenced by whether participants are religious as well as by specific religious beliefs. In particular, Christians—who are members of the dominant religious group in the United States—may respond differently from non-Christians. To test this possibility, we reran the chi-squared tests described in the main text by dividing children and adults into Christians and non-Christians rather than religious and non-religious participants. Again, uncorrected p values needed to be .013 or lower to pass a Bonferroni-corrected significance threshold, and none did so ($\chi^2 \leq 15.24$, ps $\geq .018$).

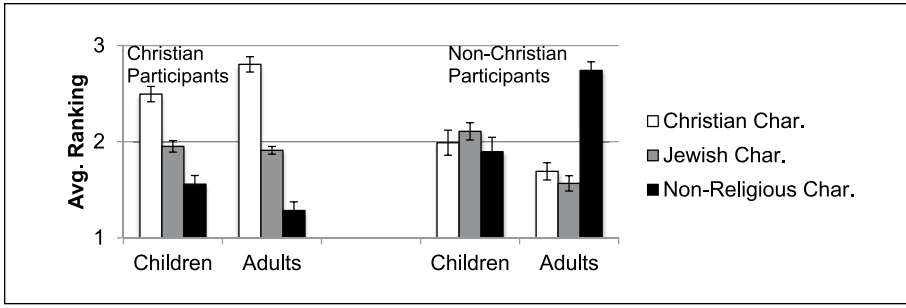

Figure A1. Average ranking of Christian, Jewish, and non-religious characters from least similar to the self (ranking = 1) to most similar to the self (ranking = 3) among Christian children (first set of bars on left), Christian adults (second set of bars on left), non-Christian children (first set of bars on right), and non-Christian adults (second set of bars on right). Error bars represent the standard error of the mean.

Perceptions of Which Character Was Most and Least Like Them. In addition to the ANOVA described in the main text, we analyzed the same data using a three (Character: Christian vs. Jewish vs. non-religious) by two (Participant Age: child vs. adult) by two (Participant Religion: Christian vs. non-Christian) mixed ANOVA with repeated measures on the first factor. Results were identical to the ANOVA reported in the main text. That is, we found a main effect of Character, $F(1.67, 189.21) = 15.04$, $p < .001$, $\eta_p^2 = .12$. This effect was qualified by a Character by Participant Age interaction, $F(1.67, 189.21) = 6.91$, $p = .002$, $\eta_p^2 = .06$, and a Character by Participant Religion interaction, $F(1.67, 189.21) = 61.05$, $p < .001$, $\eta_p^2 = .035$, which were, in turn, qualified by a Character by Participant Age by Participant Religion interaction, $F(1.67, 189.21) = 19.48$, $p < .001$, $\eta_p^2 = .15$. No other effects reached significance ($ps \geq .147$).

To investigate the Character by Participant Age by Participant Religion interaction, we conducted follow-up tests to examine differences in mean ratings of the characters among Christian children, non-Christian children, Christian adults, and non-Christian adults (Figure A1). This analysis included 12 tests; therefore, p values needed to be .004 or lower to pass the Bonferroni-corrected significance threshold. Christian children and Christian adults provided higher average ratings to Christian characters than to Jewish characters (i.e., they were more likely to report that Christian characters were more like them, $ps < .001$, Cohen's $ds \geq 0.81$) and to Jewish characters than to non-religious characters, although this difference among children was only marginally significant after applying a Bonferroni correction (children: $p = .005$, Cohen's $d = 0.50$; adults: $p < .001$, Cohen's $d = 1.10$). The ratings of non-Christian children did not significantly differ across characters ($ps \geq .139$). Non-Christian adults rated the non-religious character higher than either the Christian character or the Jewish character ($ps < .001$, Cohen's $ds \geq 1.15$), which did not significantly differ from each other ($p = .317$). These patterns of results match those obtained when examining difference between religious and non-religious participants (see main text).

Perceptions of Similarity Between Each Character and Themselves. As described in the main text, on each of four experimental trials, participants indicated which of three characters was most like them and which of those characters was least like them. For each participant, we rank-ordered these responses such that 1 = character participant reported was least like him or her, 2 = unmentioned character (not described by the participant as either most like him or her or least like him or her), and 3 = character participant reported was most like him or her. We averaged these rankings across the four experimental items to create one continuous variable that included information from all trials, which we then analyzed using ANOVA.

An alternative analytic technique is to use Friedman's test to analyze the rankings. We examined rankings averaged across the four experimental items separately among religious children, non-religious children, religious adults, and non-religious adults. Because this involved four tests (one for religious children, one for non-religious children, etc.), p values needed to be .013 or lower to pass the Bonferroni-corrected significance threshold. Religious children, religious adults, and non-religious adults rated the three characters differently ($\chi^2 \geq 28.00$, $ps < .001$). Only non-religious children did not appear to distinguish among the characters, $\chi^2(n = 14) = .72$, $p = .699$. These results match those obtained with the parametric analyses reported in the main text.

We obtained similar results when dividing participants into Christians and non-Christians rather than into religious individuals and non-religious individuals. Christian children, Christian adults, and non-Christian adults rated the three characters differently ($\chi^2 \geq 29.71$, $ps < .001$). Only non-Christian children did not appear to distinguish among the characters, $\chi^2(n = 24) = 1.60$, $p = .448$.

Responses to the Question, "How Much Do You Like This Person?" In addition to the ANOVA reported in the main text, we also conducted a three (Character: Christian vs. Jewish vs. non-religious) by two (Participant Age: child vs. adult) by two (Participant Religion: Christian vs. non-Christian) mixed ANOVA with repeated measures on the first factor. Similarly to the analysis in the main text, this analysis revealed a main effect of Character, $F(1.66, 190.43) = 12.44$, $p < .001$, $\eta_p^2 = .10$, a Character by Participant Age interaction, $F(1.66, 190.43) = 17.13$, $p < .001$, $\eta_p^2 = .13$, and a Character by Participant Religion interaction, $F(1.66, 190.43) = 14.25$, $p < .001$, $\eta_p^2 = .11$. We also found a Participant Age by Participant Religion interaction, $F(1, 115) = 4.05$, $p = .047$, $\eta_p^2 = .03$, which did not emerge in the ANOVA reported in the main text. No other main effect or interactions reached significance ($ps \geq .533$).

Authors' Note

NSF, Indiana University Lilly School of Philanthropy, and John Templeton Foundation were not involved in decisions concerning study design; in the collection, analysis, and interpretation of data; in the writing of the report; and in the decision to submit this article for publication. The opinions expressed in this publication are those of the author(s) and do not necessarily reflect the views of the John Templeton Foundation.

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Author Contributions

Larisa Heiphetz and Liane Young jointly designed this study and oversaw data collection. Larisa Heiphetz served as the corresponding author, analyzed the data, drafted the manuscript, and made revisions based on feedback from Liane Young.

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