

## A Force for Good: When and Why Religion Predicts Prosocial Behavior

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**A**LTHOUGH THE VAST MAJORITY of humans subscribe to some form of religious faith, the field of social psychology has largely neglected the study of religion until the last two decades. Since then, social psychologists—who study how people’s thoughts, feelings, and behaviors are influenced by the imagined or real presence of others—have been focused on understanding how religion affects the way people treat each other. Does religion promote charity, morality, and the promotion of peace? Or does it foster intolerance, violence, and religious warfare?

Social psychological research conducted to date suggests a complicated answer to this question. Some studies suggest that religion is a force for good, inspiring magnanimous ideals like compassion, forgiveness, and selfless giving. Specifically, correlational research indicates that more religious people tend to be more empathic,<sup>1</sup> charitable,<sup>2</sup> likely to volunteer,<sup>3</sup> forgiving,<sup>4</sup> cooperative,<sup>5</sup> and helpful.<sup>6</sup> They

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<sup>1</sup> Carol A. Markstrom, Erron Huey, Bethanie M. Stiles, and Amanda L. Krause, “Frameworks of Caring and Helping in Adolescence: Are Empathy, Religiosity, and Spirituality Related Constructs?” *Youth & Society* 42, no. 1 (2010): 59-80.

<sup>2</sup> Center for Global Prosperity, *The Index of Global Philanthropy* (Washington, DC: Hudson Institute, 2007); Robert D. Putnam and David E. Campbell, *American Grace: How Religion Divides and Unites Us* (New York: Simon & Schuster, 2010).

<sup>3</sup> Richard K. Caputo, “Religious Capital and Intergenerational Transmission of Volunteering as Correlates of Civic Engagement,” *Nonprofit and Voluntary Sector Quarterly* 38, no. 6 (2009): 983-1002; Stijn Ruiters and Nan D. De Graaf, “National Context, Religiosity, and Volunteering: Results from 53 Countries,” *American Sociological Review* 71, no. 2 (2006): 191-210.

<sup>4</sup> Michael E. McCullough and Brian L. B. Willoughby, “Religion, Self-Regulation, and Self-Control: Associations, Explanations, and Implications,” *Psychological Bulletin* 135, no. 1 (2009): 69-93.

<sup>5</sup> Bradley J. Ruffle and Richard Sosis, “Cooperation and the In-group-Out-group Bias: A Field Test on Israeli Kibbutz Members and City Residents,” *Journal of Economic Behavior & Organization* 60, no. 2 (2006): 147-163.

<sup>6</sup> Buster G. Smith and Rodney Stark, “Religious Attendance Relates to Generosity Worldwide: Religious and the Secular More Charitable if They Attend Services,” *Gallup*, September 4, 2009, [news.gallup.com/poll/122807/religious-attendance-relates-generosity-worldwide.aspx](https://news.gallup.com/poll/122807/religious-attendance-relates-generosity-worldwide.aspx).

also tend to be less aggressive<sup>7</sup> and less likely to engage in criminal behavior.<sup>8</sup> Importantly, experimental studies corroborate these correlational studies by demonstrating that primed religious concepts (e.g., God, divine, holy) also lead to prosocial behavior, such as increased generosity,<sup>9</sup> honesty,<sup>10</sup> helping behavior,<sup>11</sup> personal sacrifice,<sup>12</sup> the accessibility of prosocial concepts,<sup>13</sup> decreased revenge<sup>14</sup> and reduced self-focus.<sup>15</sup> Notably, a meta-analysis of studies using a range of subliminal, implicit, contextual, and explicit religion primes shows a robust effect of religion priming on prosocial behavior.<sup>16</sup>

However, critics of religion argue that religion promotes violence, intolerance, and the worst of human atrocities, and some research supports this dark side of religion. Both religiosity and religion primes have been associated with negative attitudes toward individuals who violate core religious values, such as homosexuals.<sup>17</sup> In addition, religion has been shown to predict violent responses in both correlational

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<sup>7</sup> Simha F. Landau, Kaj Björkqvist, Kirsti M. J. Lagerspetz, Karin Österman, and Lior Gideon, "The Effect of Religiosity and Ethnic Origin on Direct and Indirect Aggressions Among Males and Females: Some Israeli Findings," *Aggressive Behavior* 28, no. 4 (2002): 281-298; Vassilis Saroglou, Isabelle Pichon, Laurence Trompette, Marijke Verschueren, and Rebecca Dernelle, "Prosocial Behavior and Religion: New Evidence Based on Projective Measures and Peer Ratings," *Journal for the Scientific Study of Religion* 44, no. 3 (2005): 323-348.

<sup>8</sup> Colin J. Baier and Bradley R. E. Wright, "'If You Love Me, Keep My Commandments': A Meta-Analysis of the Effect of Religion on Crime," *Journal of Research in Crime and Delinquency* 38, no. 1 (2001): 3-21.

<sup>9</sup> Ali M. Ahmed and Osvaldo Salas, "Implicit Influences of Christian Religious Representations on Dictator and Prisoner's Dilemma Game Decisions," *The Journal of Socio-Economics* 40, no. 3 (2011): 242-246; Azim F. Shariff and Ara Norenzayan, "God Is Watching You: Priming God Concepts Increases Prosocial Behavior in an Anonymous Economic Game," *Psychological Science* 18, no. 9 (2007): 803-809.

<sup>10</sup> Brandon Randolph-Seng and Michael E. Nielsen, "Honesty: One Effect of Primed Religious Representations," *The International Journal for the Psychology of Religion* 17, no. 4 (2007): 303-315.

<sup>11</sup> Isabelle Pichon, Giulio Boccato, and Vassilis Saroglou, "Nonconscious Influences of Religion on Prosociality: A Priming Study," *European Journal of Social Psychology* 37, no. 5 (2007): 1032-1045. Study 1.

<sup>12</sup> Patrick K. F. Lin, "The Effect of God Concept Priming on Self-Accessibility, Self-Avoidance Behaviors, and Religious Prosociality," PhD diss., National University of Singapore, 2015. ProQuest (AAI 10005999).

<sup>13</sup> Pichon, Boccato, and Saroglou, "Nonconscious Influences of Religion on Prosociality," 1032-1045. Study 2.

<sup>14</sup> Vassilis Saroglou, Olivier Corneille, and Patty Van Cappellen, "'Speak, Lord, Your Servant Is Listening': Religious Priming Activates Submissive Thoughts and Behaviors," *International Journal for the Psychology of Religion* 19, no. 3 (2009): 143-154.

<sup>15</sup> Lin, "The Effect of God Concept Priming."

<sup>16</sup> Azim F. Shariff, Aiyana K. Willard, Teresa Andersen, and Ara Norenzayan, "Religious Priming: A Meta-Analysis with a Focus on Prosociality," *Personality and Social Psychology Review* 20, no. 1 (2016): 27-48.

<sup>17</sup> Bruce Hunsberger and Lynne M. Jackson, "Religion, Meaning, and Prejudice," *Journal of Social Issues* 61, no. 4 (2005): 807-826; Megan K. Johnson, Wade C.

and experimental designs. For example, frequency of Mosque attendance (but not frequency of prayer) predicted support for suicide attacks among Palestinians,<sup>18</sup> priming vengeful religious teachings increased aggression toward a fellow participant,<sup>19</sup> and implicitly primed religious concepts led to vengeful behavior if the revenge was suggested by an authority figure.<sup>20</sup>

These diverse findings reflect that religion is a complex, multifaceted phenomenon that can have divergent effects on behavior. Through systematic study, researchers have revealed that different religious concepts have diverse effects because of the different associations and motives that they call to mind. For example, God primes (i.e., stimuli that make conceptions of God salient) tend to activate images of God as an omnipotent, omniscient moral agent, consequently enhancing concerns about moral impressions, and in turn, prosocial behavior.<sup>21</sup> By contrast, religion primes (i.e., stimuli that make conceptions of one's religious group salient) activate concerns about protecting the religious ingroup, and consequently increase prosocial behavior toward *ingroups* but hostility toward *outgroups*.<sup>22</sup>

Moreover, religious messages are often highly contextualized, with many religious texts including passages that endorse contradictory behaviors. Many religious texts both explicitly prescribe revenge (e.g., "If anyone injures his neighbor, whatever he has done must be done to him: fracture for fracture, eye for an eye, tooth for tooth"; Leviticus 24:19–20) and explicitly prohibit it (e.g., "You have heard that it was said, 'Eye for eye, and tooth for tooth.' But I tell you, do not resist an

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Rowatt, and Jordan LaBouff, "Priming Christian Religious Concepts Increases Racial Prejudice," *Social Psychological and Personality Science* 1, no. 2 (2010): 119-126; Jordan P. LaBouff, Wade C. Rowatt, Megan K. Johnson, and Callie Finkle, "Differences in Attitudes Toward Outgroups in Religious and Nonreligious Contexts in a Multinational Sample: A Situational Context Priming Study," *International Journal for the Psychology of Religion* 22, no. 1 (2012): 1-9; Wade C. Rowatt, Jo-Ann Tsang, Jessica Kelly, Brooke LaMartina, Michelle McCullers, and April McKinley, "Associations Between Religious Personality Dimensions and Implicit Homosexual Prejudice," *Journal for the Scientific Study of Religion* 45, no. 3 (2006): 397-406.

<sup>18</sup> Jeremy Ginges, Ian Hansen, and Ara Norenzayan, "Religion and Support for Suicide Attacks," *Psychological Science* 20, no. 2 (2009): 224-230.

<sup>19</sup> Brad J. Bushman, Robert D. Ridge, Enny Das, Colin W. Key, and Gregory L. Bushath, "When God Sanctions Killing: Effect of Scriptural Violence on Aggression," *Psychological Science* 18, no. 3 (2007): 204-207.

<sup>20</sup> Saroglou, Corneille, and Van Cappellen, "'Speak, Lord, Your Servant Is Listening,'" 143-154.

<sup>21</sup> For example, Jesse L. Preston and Ryan S. Ritter, "God or Religion? Divergent Effects on Ingroup and Outgroup Altruism," Presented at the Society for Personality and Social Psychology Conference, Las Vegas, NV, January 28, 2010; Shariff and Norenzayan, "God is Watching You," 803-809.

<sup>22</sup> For example, Preston and Ritter, "God or Religion?"; Jesse L. Preston and Ryan S. Ritter, "Different Effects of Religion and God on Prosociality with the Ingroup and Outgroup," *Personality and Social Psychology Bulletin* 39, no. 11 (2013): 1471-1483.

evil person. If someone strikes you on the right cheek, turn to him the other also"; Matthew 5:38). These dual messages may help explain why religion is associated with both magnanimous and hostile behavior, depending on what is salient to people at the moment or their current motivations.<sup>23</sup>

Despite these mixed messages, however, various scholars argue that the theme of magnanimity is paramount to all religions.<sup>24</sup> This principle of magnanimity is exemplified by the Golden Rule—the prescription to “do unto others as you would have done unto you”—which holds a central position in all major world religions.<sup>25</sup> This centrality suggests that people generally associate their religion with prosocial rather than antisocial values. If so, religion might function as a prosocial guide to people, even in the absence of any explicit religious teachings or directives that prescribe prosocial behavior. Moreover, if magnanimity is a fundamental religious principle, then religion might most powerfully exert a prosocial influence on people’s behavior when they would otherwise be likely to engage in vengeful, hostile behavior. That is, religion’s prosocial influence may shine most brightly in contexts where people are inclined toward antisociality.

### HOSTILE REACTIONS TO THREAT

One such context is when people experience a state of psychological threat. Hundreds of studies from the threat and defense literature have revealed that people are more likely to engage in vengeful, hostile behavior when they are experiencing some form of threat to the self. For example, various psychological threats, such as thinking about one’s mortality, facing a personal dilemma, or feeling uncertain about one’s academic capabilities, have been found to inflame anger, racism, militancy, and aggressive behavior.<sup>26</sup> These threats also cause

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<sup>23</sup> McCullough and Willoughby, “Religion, Self-Regulation, and Self-Control,” 69-93; Saroglou, Corneille, and Van Cappellen, ““Speak, Lord, Your Servant Is Listening,”” 143-154.

<sup>24</sup> Karen Armstrong, *The Case for God: What Religion Really Means* (New York: Alfred A. Knopf, 2009); David G. Myers, *A Friendly Letter to Skeptics and Atheists* (San Francisco: Jossey-Bass, 2008); Huston Smith, *The Religions of Man* (New York: Harper and Row, 1986).

<sup>25</sup> Karen Armstrong, “Charter for Compassion,” Presented at the Technology, Entertainment, Design Conference, Long Beach, CA, February, 2008; Charles Daniel Batson, Patricia Schoenrade, and W. Larry Ventis, *Religion and the Individual: A Social Psychological Perspective* (New York: Oxford University Press, 1993); Nicolas Bauard and Pascal Boyer, “Explaining Moral Religions,” *Trends in Cognitive Sciences* 17, no. 6 (2013): 172-180.

<sup>26</sup> Brad M. Hastings and Barbara A. Shaffer, “Authoritarianism and Sociopolitical Attitudes in Response to Threats of Terror,” *Psychological Reports* 97, no. 2 (2005): 623-630; Gilad Hirschberger, Tom Pyszczynski, and Tsachi Ein-Dor, “Vulnerability and Vigilance: Threat Awareness and Perceived Adversary Intent Moderate the Impact of Mortality Salience on Intergroup Violence,” *Personality and Social Psychology Bulletin* 35, no. 5 (2009): 597-607; Holly A. McGregor, Joel D. Lieberman, Jeff

hostile worldview defense, which is the bolstered support of culturally sanctioned values and the derogation of people who violate those values,<sup>27</sup> as well as self-focused reactions that demean the relative value and perspective of others.<sup>28</sup>

Recent evidence suggests that such hostile reactions to threat are palliative.<sup>29</sup> Essentially, people experience psychological distress when they face a threat,<sup>30</sup> and one way they attempt to relieve this distress is by adhering to other commitments, such as their ideals and

Greenberg, Sheldon Solomon, Jamie Arndt, Linda Simon, and Tom Pyszczynski, "Terror Management and Aggression: Evidence that Mortality Salience Motivates Aggression Against Worldview-Threatening Others," *Journal of Personality and Social Psychology* 74, no. 3 (1998): 590-605; Travis Proulx and Steven J. Heine, "The Case of the Transmogrifying Experimenter: Affirmation of a Moral Schema Following Implicit Change Detection," *Psychological Science* 19, no. 12 (2008): 1294-1300; Tom Pyszczynski, Abdolhossein Abdollahi, Sheldon Solomon, Jeff L. Greenberg, Florette Cohen, and David Weise, "Mortality Salience, Martyrdom, and Military Might: The Great Satan Versus the Axis of Evil," *Personality and Social Psychology Bulletin* 32, no. 4 (2006): 525-537.

<sup>27</sup> Jeff L. Greenberg, Jeff Schimel, Andy Martens, Sheldon Solomon, and Tom Pyszczynski, "Sympathy for the Devil: Evidence that Reminding Whites of their Mortality Promotes More Favorable Reactions to White Racists," *Motivation and Emotion* 25, no. 2 (2001): 113-133; Jeff L. Greenberg, Sheldon Solomon, and Tom Pyszczynski, "Terror Management Theory of Self-Esteem and Cultural Worldviews: Empirical Assessments and Conceptual Refinements," in *Advances in Experimental Social Psychology*, ed. Mark Zanna (Hillsdale: Academic Press, 1997), 61-139; Joshua Hart, Phillip R. Shaver, and Jamie L. Goldenberg, "Attachment, Self-Esteem, Worldviews, and Terror Management: Evidence for a Tripartite Security System," *Journal of Personality and Social Psychology* 88, no. 6 (2005): 999-1013.

<sup>28</sup> Mark Dechesne, Tom Pyszczynski, Jamie Arndt, Sean Ransom, Kennon M. Sheldon, Ad van Knippenberg, and Jacques Janssen, "Literal and Symbolic Immortality: The Effect of Evidence of Literal Immortality on Self-Esteem Striving in Response to Mortality Salience," *Journal of Personality and Social Psychology* 84, no. 4 (2003): 722-737; David Dunning and Keith S. Beauregard, "Regulating Impressions of Others to Affirm Images of the Self," *Social Cognition* 18, no. 2 (2000): 198-222; Ian McGregor and Denise C. Marigold, "Defensive Zeal and the Uncertain Self: What Makes You So Sure?," *Journal of Personality and Social Psychology* 85, no. 5 (2003): 838-852; Ian McGregor, Paul R. Nail, Denise C. Marigold, and So-Jin Kang, "Defensive Pride and Consensus: Strength in Imaginary Numbers," *Journal of Personality and Social Psychology* 89, no. 6 (2005): 978-996.

<sup>29</sup> Eddie Harmon-Jones and Jonathan Sigelman, "State Anger and Prefrontal Brain Activity: Evidence That Insult-Related Relative Left-Prefrontal Activation Is Associated with Experienced Anger and Aggression," *Journal of Personality and Social Psychology* 80, no. 5 (2001): 797-803; Ian McGregor, Kyle A. Nash, Nikki Mann, and Curtis E. Phills, "Anxious Uncertainty and Reactive Approach Motivation (RAM)," *Journal of Personality and Social Psychology* 99, no. 1 (2010): 133-147.

<sup>30</sup> Ian McGregor, Reeshma Haji, Kyle A. Nash, and Rimma Teper, "Religious Zeal and the Uncertain Self," *Basic and Applied Social Psychology* 30, no. 2 (2008): 183-188; Tom Pyszczynski, Zachary K. Rothschild, and Abdolhossein Abdollahi, "Terrorism, Violence, and Hope for Peace: A Terror Management Perspective," *Current Directions in Psychological Science* 17, no. 5 (2008): 318-322.

worldviews.<sup>31</sup> Unfortunately, people often attempt to mute their distress by adhering to other commitments in a rigid, hostile, or self-serving manner, such as when they engage in worldview defense.<sup>32</sup> Thus, hostile reactions may relieve personal anxiety, but often do so at the cost of other people's wellbeing.

### PROSOCIAL REACTIONS TO THREAT

Although the default response to psychological threat seems to be antagonistic, perhaps threat can also produce positive reactions. If threatened people adhere to their ideals and worldviews, they should similarly adhere to a prosocial ideal if it is salient to them.<sup>33</sup> Because people generally associate their religion with magnanimous ideals such as the Golden Rule, making their religion salient to them should cause them to act in accordance with these magnanimous ideals. With my collaborators Ian McGregor, Kyle Nash, and Michael Ross,<sup>34</sup> I therefore predicted that reminding people of their religious belief system would bring magnanimous ideals to mind and that threatened individuals would act in line with these ideals, thereby responding to threat with less hostility.

We were not the first to test this transformative function of religion following threat. In two previous experiments, compassionate religious teachings reduced participants' support for violent military actions following a mortality salience threat and a third experiment replicated this effect with Shiite Muslims in Iran.<sup>35</sup> These studies suggest that highlighting religious themes that explicitly promote the Golden Rule can effectively quell hostile reactions to threat. But because these studies provided explicit prosocial religious injunctions, they perhaps tell us more about people's willingness to obey authority than about

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<sup>31</sup> For example, Brian L. Burke, Andy Martens, and Erik H. Faucher, "Two Decades of Terror Management Theory: A Meta-Analysis of Mortality Salience Research," *Personality and Social Psychology Review* 14, no. 2 (2010): 155-195; Ian McGregor, Mark P. Zanna, John G. Holmes, and Steven J. Spencer, "Compensatory Conviction in the Face of Personal Uncertainty: Going to Extremes and Being Oneself," *Journal of Personality and Social Psychology* 80, no. 3 (2001): 472-488; Proulx and Heine, "The Case of the Transmogrifying Experimenter," 1294-1300.

<sup>32</sup> For example, Greenberg, Solomon, and Pyszczynski, "Terror Management Theory of Self-Esteem and Cultural Worldviews," 61-139.

<sup>33</sup> McGregor, Nash, Mann, and Phills, "Anxious Uncertainty and RAM," 133-147; Ilan Shrira and Leonard L. Martin, "Stereotyping, Self-Affirmation, and the Cerebral Hemispheres," *Personality and Social Psychology Bulletin* 31, no. 6 (2005): 846-856.

<sup>34</sup> Karina Schumann, Ian McGregor, Kyle A. Nash, and Michael Ross, "Religious Magnanimity: Reminding People of their Religious Belief System Reduces Hostility after Threat," *Journal of Personality and Social Psychology* 107, no. 3 (2014): 432-453.

<sup>35</sup> Zachary K. Rothschild, Abdolhossein Abdollahi, and Tom Pyszczynski, "Does Peace Have a Prayer? The Effect of Mortality Salience, Compassionate Values, and Religious Fundamentalism on Hostility Toward Out-Groups," *Journal of Experimental Social Psychology* 45, no. 4 (2009): 816-827.

how their own intuitive religious associations function in motivated situations. We therefore sought to extend this work by using a simple, non-directive religion prime to tap the ideals that people primarily and spontaneously associate with their religion, to determine whether these spontaneous associations would similarly lead to magnanimous behavior after threat.

Specifically, we predicted that a religion prime would reduce the typical hostile response to threat because threatened participants would be motivated to adhere to their commitments and ideals. Making their religion salient to them should motivate them to cling to their religious ideals, which we believed would be prosocial for the average participant. However, under normal psychological conditions where participants were not experiencing a threat, we did not expect the religion prime to exert an influence on behavior because they would not be as motivated to adhere to their ideals as a means of dispelling their distress after threat. This prediction appears contrary to evidence from past work demonstrating diverse prosocial effects of religion primes under neutral circumstances.<sup>36</sup> However, these past studies generally used primes that included some form of directive content that likely helped motivate the prosocial behavior. Because we expected our non-directive religious belief system prime to activate core ideals that participants associate with their religious beliefs, we based our predictions on past research examining the effects of salient norms and ideals after threat. This research has demonstrated that activated norms and ideals often only promote behavior consistent with these norms and ideals when participants have been threatened and are thus motivated to affirm other commitments.<sup>37</sup> Consistent with this past work, we found in a pilot study that participants who had been primed with their

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<sup>36</sup> Ahmed and Salas, "Implicit Influences of Christian Religious Representations," 242-246; Ali M. Ahmed and Osvaldo Salas, "Religious Context and Prosociality: An Experimental Study from Valparaíso, Chile," *Journal for the Scientific Study of Religion* 52, no. 3 (2013): 627-637; Will M. Gervais and Ara Norenzayan, "Like a Camera in the Sky? Thinking About God Increases Public Self-Awareness and Socially Desirable Responding," *Journal of Experimental Social Psychology* 48, no. 1 (2012): 298-302; Pichon, Boccato, and Saroglou, "Nonconscious Influences of Religion on Prosociality," 1032-1045; Randolph-Seng and Nielsen, "Honesty," 303-315; Shariff and Norenzayan, "God Is Watching You," 803-809.

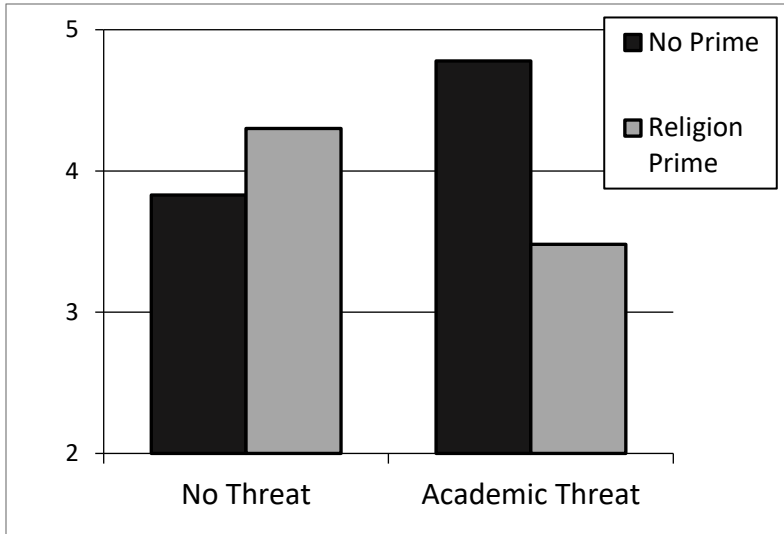
<sup>37</sup> Matthew T. Gailliot, Tyler F. Stillman, Brandon J. Schmeichel, Jon K. Maner, and E. Ashby Plant, "Mortality Salience Increases Adherence to Salient Norms and Values," *Personality and Social Psychology Bulletin* 34, no. 7 (2008): 993-1003; Jeff L. Greenberg, Linda Simon, Tom Pyszczynski, Sheldon Solomon, and Dan Chatel, "Terror Management and Tolerance: Does Mortality Salience Always Intensify Negative Reactions to Others Who Threaten One's Worldview?" *Journal of Personality and Social Psychology* 63, no. 2 (1992): 212-220; Eva Jonas, Andy Martens, Daniela N. Kayser, Immo Fritsche, Daniel Sullivan, and Jeff Greenberg, "Focus Theory of Normative Conduct and Terror-Management Theory: The Interactive Impact of Mortality Salience and Norm Salience on Social Judgment," *Journal of Personality and Social Psychology* 95, no. 6 (2008): 1239-1251.

religious belief system indicated greater commitment to their religious ideals (e.g., “I aspire to live and act according to my religious beliefs”) compared to those who had not been primed, but only among participants who had also been threatened. The religion prime had no effect on participants’ commitment when they had not been threatened. These findings suggest that a subtle religious belief system prime increases adherence to personal religious beliefs, but often only in the face of threat.

### **TESTING THE THEORY: A SUMMARY OF THE FINDINGS**

We tested our theory that a religious belief system prime would curb hostility after threat across seven studies using complementary methods (see Table 1 for a summary of all manipulations and measures and Schumann, McGregor, Nash, & Ross, 2014 for more details regarding method and results). In four of these studies, we experimentally varied the presence of both a threat and a religious belief system prime and tested their combined influence on participants’ subsequent thoughts, behaviors, and judgments. These studies yielded highly consistent results that were in line with our predictions. Specifically, participants who had been primed with their religious belief system acted with less hostility than participants who had not been primed, but only when they were under a state of psychological threat (see Figure 1 for an example of the pattern found in the four studies, and Table 2 for a summary of all study designs and findings). This pattern of results occurred across two types of psychological threat and four types of hostile outcomes, reflecting the robustness and generalizability of these findings.





*Figure 1.* Endorsement of revenge toward corporate offenders (possible range: 1-9) as a function of threat condition and religious belief system prime, Study 3.

Table 1. Summary of Manipulations and Measures across Studies

<b>Summary of Manipulations and Measures across Studies</b>
<p><b>Threat Manipulations</b></p> <p><i>Mortality Salience vs. Dental Pain Control</i></p> <ul style="list-style-type: none"> <li>- Participants in the threat condition described the emotions that thinking of their own death aroused in them and their thoughts about what will happen to their bodies as they physically die.</li> <li>- Participants in the control condition described the emotions that a painful visit to the dentist aroused in them and their thoughts about unpleasant or painful experiences at the dentist.</li> </ul> <p><i>Academic Uncertainty vs. Easy Control</i></p> <ul style="list-style-type: none"> <li>- Participants in the academic uncertainty condition read a difficult, graduate-level statistics passage on SEM.</li> <li>- Participants in the control condition read a straightforward undergraduate-level introductory statistics passage.</li> </ul> <p><b>Prime Manipulations</b></p> <p><i>Religious Belief System Prime vs. No Prime</i></p> <ul style="list-style-type: none"> <li>- Participants in the prime condition were asked “Which religious belief system do you most identify with?” They selected their response from a list of major religious belief systems (as well as agnostic, atheist, or “other”).</li> <li>- Participants in the no prime condition were not asked about their religious belief system.</li> </ul> <p><i>Magnanimous Ideals Prime vs. No Prime</i></p> <ul style="list-style-type: none"> <li>- Participants in the magnanimous ideals prime condition unscrambled 10 sentences. Five sentences made magnanimous ideals salient (e.g., “The people are forgiving”). The other 5 were unrelated to magnanimity.</li> <li>- Participants in the no prime condition unscrambled 10 five-word sentences that were unrelated to magnanimity.</li> </ul> <p><b>Additional Predictors</b></p> <p><i>Belief that own religion endorsed the Golden Rule</i></p> <ul style="list-style-type: none"> <li>- Participants indicated the extent to which their religious belief system encourages “the Golden Rule (do unto others as you would have them do unto you)” on a 9-point scale (1 = <i>strongly discourages</i>; 9 = <i>strongly encourages</i>). High and low belief were represented as 1 standard deviation above and below the mean.</li> </ul>

*Promotion Focus*

- Participants responded to nine items assessing their dispositional level of promotion focus (e.g., “I see myself as someone who is primarily trying to reach my ‘ideal self’”) on a 4-point scale (1 = *not at all true of me*; 4 = *very true of me*). High and low promotion focus were represented as 1 standard deviation above and below the mean.

**Outcome Variables***Accessibility of Revenge Words*

- Participants studied a list of 21 words (7 of which were revenge-themed words, e.g., “retaliate”) for 1 minute, and then completed a recall test. Accessibility was represented by the number of revenge words recalled.

*Retribution toward Offending Gender Outgroup*

- Participants decided how to distribute funds between their own victimized gender group and the offending gender outgroup. Retribution was represented as more funds allocated to own gender group.

*Endorsement of Revenge toward Corporate Offenders*

- Participants read an article describing greedy corporate executives taking advantage of taxpayers then indicated their endorsement of revenge against these executives.

*Worldview Defense*

- Participants read two essays ostensibly written by recent immigrants to Canada, one that was pro-Canada (shared worldview) and one that was anti-Canada (opposing worldview). They then evaluated the essay authors. Worldview defense was represented by difference score (shared-opposing), which reflected greater bolstering of person who shared worldview and denigration of person who didn't.

*Support for Hostility against Imagined Offenders*

- Participants read hypothetical offenses and indicated their support for hostile responses from the victims.

Table 2. Summary of Study Designs and Findings

Summary of Study Designs and Findings						
Study	Threat Manipulation	Prime Manipulation	Additional Predictor	Outcome Variable	Main Result	
1	Mortality salience vs. dental pain control	Religious belief system prime vs. no prime	None	Accessibility of revenge words	Under threat, primed Ps recalled fewer revenge words than non-primed Ps. No effect of prime under no threat.	
2	Mortality salience vs. dental pain control	Religious belief system prime vs. no prime	None	Retribution toward offending gender outgroup	Under threat, primed Ps selected a less vengeful distribution of funds than non-primed Ps. No effect of prime under no threat.	
3	Academic uncertainty vs. easy control	Religious belief system prime vs. no prime	None	Endorsement of revenge against corporate offenders	Under threat, primed Ps endorsed revenge less than non-primed Ps. No effect of prime under no threat.	
4	Academic uncertainty vs. easy control	Religious belief system prime vs. no prime	None	Worldview defense	Under threat, primed Ps showed less worldview defense than non-primed Ps. Under no threat, primed Ps showed more worldview defense than non-primed Ps.	
5	Mortality salience vs. dental pain control	All participants primed	Belief that religion endorses Golden Rule	Support for hostility against imagined offenders	Under threat, Ps with higher belief that religion endorses Golden Rule reported greater feelings of forgiveness. Under no threat, no association between belief and feelings of forgiveness.	
6	Academic uncertainty vs. easy control	Religious belief system prime vs. no prime	High vs. low promotion focus	Retribution toward offending gender outgroup	Under threat, primed Ps selected a less vengeful distribution of funds than non-primed Ps, but only for Ps with high promotion-focus.	
7	Academic uncertainty vs. easy control	Magnanimous ideal prime vs. no prime	High vs. low promotion focus	Retribution toward offending gender outgroup	Under threat, primed Ps selected a less vengeful distribution of funds than non-primed Ps, but only for Ps with high promotion-focus.	

In three additional studies, we sought to more directly examine whether the religious belief system prime reduced hostility after threat by activating magnanimous ideals. We approached this question by examining whether the pattern of results observed in Studies 1-4 emerged primarily for people who would be most likely to have or adhere to magnanimous religious ideals. In Study 5, we found that threatened and primed participants showed a reduction in hostility if they believed their religion strongly endorsed the Golden Rule, suggesting that the prime was most likely to promote magnanimity among people who strongly associated their religion with magnanimous ideals. In Study 6, we found that threatened and primed participants showed a reduction in hostility if they were higher in promotion focus, a dispositional tendency to focus on and pursue their ideals. The prime was thus most likely to promote magnanimity among people who were most motivated to act in accordance with the ideals that were activated by the prime. Finally, in Study 7, we directly primed participants with magnanimous ideals (rather than their religious belief system) and found that this prime produced nearly identical results to the religious belief system prime: threatened and primed participants showed a reduction in hostility if they were higher in promotion focus. This study thus provided evidence that the religious belief system prime functions similarly to a magnanimous ideal prime, thereby suggesting that the religious belief system prime reduces hostility after threat by activating magnanimous ideals. Together, this set of seven studies provides clear, consistent, and strong support for the ability of a subtle reminder of one's religious belief system to promote more magnanimous behavior during times when people are motivated to act hostile. Because these studies used a non-directive religion prime, this research was the first to provide evidence that explicit prosocial religious teachings are not necessary for religion to promote more compassionate responses following threat. This research thus suggests that religion might normatively function as a prosocial guide when people are faced with various conflicts and uncertainties in their daily lives.

Two additional aspects of the findings are worth noting. First, although we recruited participants ascribing to diverse religious belief systems, the sample sizes within each study were insufficient to test for differences between religious groups. However, we standardized outcome measures across studies and combined samples to create a sample that had an adequate number of multiple religious subgroups (Christians, Muslims, Jews, Hindus, and "Other") to be able to examine the pattern of results within each of these subgroups. The pattern of means was similar for each religious group, with less hostile behavior under threat being observed among participants who had been primed with their religious belief system compared to those who had not been primed. Although future research with larger samples of non-

Christian religious groups is needed, it appears that people across diverse religious groups associate their religion with magnanimous ideals, and act in accordance with these ideals when confronted with a psychological threat.

Second, because we did not expect the religious belief system prime to activate religious ideals among atheists and agnostics, we excluded the data from these individuals from all of the primary analyses. However, when examining this subgroup separately by combining them across studies, we found that they showed no effects of the religion prime, either under threat or no threat. This pattern is consistent with other work using religion primes<sup>38</sup> and suggests that you need some form of religious belief to be affected by a religious belief system prime. Notably, however, among participants who did ascribe to a religion, participants' pre-existing level of religiosity did not moderate any of the findings. This suggests that even less religious participants might associate their religion with the same types of magnanimous ideals and can be influenced to act in accordance with these ideals when they are reminded of them and motivated to adhere to them. Thus, although level of religiosity tends to predict prosocial behavior in the absence of a religion prime (likely because religion is more chronically salient to these more religious individuals), a religion prime might function similarly across levels of religiosity by making religion and its associated ideals salient to everyone.

## IMPLICATIONS AND UNANSWERED QUESTIONS

Across seven studies using diverse, complementary methods, we found support for the ability of a non-directive religious belief system prime to curb hostile reactions to threat. When people experience distress due to some form of threat, they adhere to ideals as a means of quelling that distress. Although this process typically yields hostile responses that protect or bolster the self, giving people an opportunity to downregulate their distress by clinging to salient religious ideals can transform this hostile reaction into a more magnanimous one. This work thus parallels research from other areas suggesting that religious beliefs can serve a protective, anxiety-reducing function.<sup>39</sup> For example, people who report higher belief in God or greater religious zeal are less likely to show reactivity in the anterior cingulate cortex—a

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<sup>38</sup> For a meta-analysis, see Shariff, Willard, Andersen, and Norenzayan, "Religious Priming," 27-48.

<sup>39</sup> Michael Inzlicht, Ian McGregor, Jacob B. Hirsh, and Kyle A. Nash, "Neural Markers of Religious Conviction," *Psychological Science* 20, no. 3 (2009): 385-392; Michael Inzlicht and Alexa M. Tullett, "Reflecting on God: Religious Affirmation Can Reduce Neurophysiological Response to Errors," *Psychological Science* 21, no. 8 (2010): 1184-1190.

cortical system involved in the experience of anxiety,<sup>40</sup> and religion primes reduce ACC reactivity among theists.<sup>41</sup> These studies suggest that religious beliefs can insulate people from distress, thereby making these beliefs a particularly effective resource to adhere to in times of threat.

The current work also demonstrated that people spontaneously associate their religion with magnanimous ideals. Where might this association between religion and magnanimity have originated? Scholars from diverse fields have argued that religion's emphasis on magnanimity evolved during contexts of revenge and violence as a way to steer people away from this hostility.<sup>42</sup> Philosopher Alain de Botton argues that "the origins of religious ethics lay in the pragmatic need of the earliest communities to control their members' tendencies toward violence, and to foster in them contrary habits of harmony and forgiveness."<sup>43</sup> Social psychologists have similarly argued that human cooperation in large, genetically unrelated groups was made possible (at least in part) by the belief in moralizing supernatural agents that police antisocial behavior.<sup>44</sup> That is, in the absence of other reasons to behave prosocially that are typically present when interacting in small groups (e.g., kin selection; reciprocity), fear of punishment from supernatural agents was needed to curb hostility and promote prosocial behavior in large, unrelated groups where prosocial motivation is limited. Thus, at a general level, religion might function to keep hostility in check.

However, because religious belief is complex, we anticipate that there are conditions under which the salience of religion may exacerbate rather than mitigate hostile responses to threat. There are certainly many instances of current and historical conflicts in which religion

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<sup>40</sup> Inzlicht, McGregor, Hirsh, and Nash, "Neural Markers of Religious Conviction," 385-392.

<sup>41</sup> Inzlicht and Tullett, "Reflecting on God," 1184-1190.

<sup>42</sup> For example, Karen Armstrong, *The Great Transformation: The Beginnings of Our Religious Traditions* (New York: Alfred A. Knopf, 2006); Alain de Botton, *Religion for Atheists: A Non-Believer's Guide to the Uses of Religion* (New York: Pantheon Books, 2012); Smith, *The Religions of Man*.

<sup>43</sup> de Botton, *Religion for Atheists*, 79. See also Mircea Eliade, *Myths, Dreams, and Mysteries: The Encounter between Contemporary Faiths and Archaic Realities* (London: Harvill Press, 1960).

<sup>44</sup> Azim F. Shariff, Ara Norenzayan, and Joseph Henrich, "The Birth of High Gods: How the Cultural Evolution of Supernatural Policing Influenced the Emergence of Complex, Cooperative Human Societies, Paving the Way for Civilization," in *Evolution, Culture, and the Human Mind*, ed. Mark Schaller, Ara Norenzayan, Steven Heine, Toshio Yamagishi, and Tatsuya Kameda (New York: Psychology Press, 2010), 119-136; Jesse Graham and Jonathan Haidt, "Beyond Beliefs: Religions Bind Individuals into Moral Communities," *Personality and Social Psychology Review* 14, no. 1 (2010): 140-150.

seems to stoke rather than reduce hostility, and we suspect that a critical distinction may be whether the target violates the threatened individual's religious ideals. For example, threatened Christians who have been reminded of their religion might become more antagonistic toward those they perceive to have clashing religious worldviews. Because a group violates or challenges Christian ideals, approaching their religious ideals following threat is likely to yield hostility rather than compassion toward them. However, this pattern would likely be contingent on the specific ideals that people associated with their religion; to the extent that certain religions endorse more inclusive and compassionate values regarding religious outgroups, a religious belief system prime should promote magnanimity even toward these groups. In light of past work showing an association between religion and hostility toward various outgroups,<sup>45</sup> this is an important question for future research.

Another important direction for future research concerns how religion primes function in the real world. To what extent are people influenced by various reminders of their religious belief system that they encounter in their daily lives, such as places of worship, songs on the radio, bumper stickers, signs, symbolic jewelry, religious rituals, or religious holidays? How long do these reminders exert an influence on behavior? Do they become more or less powerful when people are exposed to multiple reminders? Do people need to be reminded of their own religious belief system, or does any reminder of religion cue ideals associated with one's personal religious beliefs? Other than contexts of threat, are there other situational predictors of when people will be influenced by these religious reminders? Given the ubiquity of religious belief and the frequency with which people encounter reminders of these beliefs, more work is needed to address these intriguing questions.


## CONCLUSION

Although the social psychological study of religion is still relatively young, scholars in this area have already made tremendous progress in

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<sup>45</sup> Penny Edgell, Joseph Gerteis, and Douglas Hartmann, "Atheists as 'Other': Moral Boundaries and Cultural Membership in American Society," *American Sociological Review* 71, no. 2 (2006): 211-234; Will M. Gervais, Azim F. Shariff, and Ara Norenzayan, "Do You Believe in Atheists? Distrust Is Central to Anti-Atheist Prejudice," *Journal of Personality and Social Psychology* 101, no. 6 (2011): 1189-1206; Johnson, Rowatt, and LaBouff, "Priming Christian Religious Concepts," 119-126; Wade C. Rowatt, Jordan LaBouff, Megan K. Johnson, Paul Froese, and Jo-Ann Tsang, "Associations Among Religiousness, Social Attitudes, and Prejudice in a National Random Sample of American Adults," *Psychology of Religion and Spirituality* 1, no. 1 (2009): 14-24; Rowatt, Tsang, Kelly, LaMartina, McCullers, and McKinley, "Associations Between Religious Personality Dimensions," 397-406.



understanding how religion affects people's social interactions, well-being, and lives more generally. The answers to these questions are complex and contextually determined, revealing both positive and negative consequences of religion under different circumstances. Inconsistent with the prevalent modern view that there is something inherent and unique about the phenomenon of religion (e.g., absolutism; irrationality; divisiveness) that promotes violence,<sup>46</sup> it seems that it is what people *associate* with their religious belief that determines how religion affects their behavior. The current work suggests that this association is one of magnanimity for many people, with religion presenting a set of compassionate, peaceful ideals to live by, especially during times of threat. Given the centrality of religion to so many people's lives, it is important that social psychologists maintain this area of study and engage in interdisciplinary dialogue with other religion scholars to continue to develop an understanding of the complexity of religious beliefs and the rich consequences of these beliefs. 

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<sup>46</sup> See William Cavanaugh, *The Myth of Religious Violence: Secular Ideology and the Roots of Modern Conflict* (New York: Oxford University Press, 2009) for opposition to this view of religion as violent.