# Slippery slope thinking links religiosity to punishment

Rajen A. Anderson[a]*, Benjamin C. Ruisch[b], & Maryam Kouchaki[c]

[a] University of Leeds, Leeds University Business School

[b] University of Kent, School of Psychology

[c] Northwestern University, Kellogg School of Management

* Corresponding Author

This research did not receive any specific grant from funding agencies in the public, commercial, or non-profit sectors.

**Abstract**

Major contemporary religions tend to emphasize self-control and moral purity in their believers. Such belief systems may have implications for moral judgments and social predictions. One topic that has received attention—with mixed results—is the relative punitiveness of religious believers. In the present research, we examine whether religiosity predicts punitive attitudes and propose a novel mechanism: slippery slope thinking, in which small changes are predicted to have potentially disastrous consequences. In eight samples across three nations and religious traditions, we find that greater religiosity is associated with greater slippery slope thinking. This association is related to psychological tendencies to believe in karma and moralize matters of self-control. Furthermore, we find that slippery slope thinking helps explain why more religious people are more punitive, especially for relatively minor transgressions. This research provides insight into the psychology of religious beliefs and provides a cognitive mechanism (slippery slope thinking) linking religiosity and punishment.

**Keywords**: religion, punishment, slippery slope thinking, morality

Many contemporary religions and belief systems have evolved to emphasize self-control (Carter et al., 2012; McCullough & Willoughby, 2009; Mooijman et al., 2018; Rounding et al., 2012) and moral purity (Graham et al., 2011; McKay & Whitehouse, 2015; Norenzayan et al., 2016; Norenzayan & Shariff, 2008), along with threats of supernatural punishment for failing to adhere to these edicts. Religion may have taken on these qualities for functional reasons, allowing religions and their followers to better cooperate en masse (Norenzayan et al., 2016; Norenzayan & Shariff, 2008; Peoples et al., 2016). Alternatively, religions over time may have moralized as a tool to expand their control over their followers (Caluori et al., 2020; Kay et al., 2008). Whatever the origin, how do these dual tendencies impact the modern moral judgment of religious versus non-religious individuals?

One topic that has received some attention is whether more religious people are more prone to punishing others for their perceived transgressions. Punishment is a costly but essential process in large-scale complex human societies that works to regulate and deter cheaters, free-riders, and other potentially harmful agents (Fehr & Gächter, 2000; Gürerk et al., 2006; Jordan et al., 2016). Evolutionary accounts of the emergence of religion argue that the need for costly punishment partially led to the spread of moralizing gods who could act as the ultimate judge to mete out reward and punishment (Atran & Henrich, 2010; Norenzayan & Shariff, 2008). By extension, many religious beliefs explicitly deal with punishment (e.g., damnation as eternal punishment), which may translate into punitiveness norms amongst believers (Caluori et al., 2020; Jackson et al., 2021). Understanding the relation between religiosity and punishment can therefore provide broader insights into how particular religious norms develop, while also helping to explain real-world cases of religiously motivated punishment (e.g., religious extremism and fundamentalist movements, the historical Christian Inquisition, etc.).

Past research suggests that more religious people are more punitive (Grasmick et al., 1991, 1992), at least when holding certain kinds of religious beliefs (Laurin et al., 2012). However, open questions remain regarding the cognitive mechanisms that explain why more religious people are more punitive—and for which violations. What judgments would motivate more religious people to enact greater punishment? In the present research, we aim to advance this debate by providing a systematic examination of the relation between religiosity and punitiveness, while also testing a novel psychological mechanism that may help explain this association. Specifically, we argue that one critical—yet thus far overlooked—psychological trait characterizes the thinking of religious individuals and has implications for punishment: slippery slope thinking.

The notion of slippery slope thinking has long existed in popular discourse (Haigh et al., 2016; Stenvoll, 2008), referring to the idea that a small, relatively innocuous change will lead to increasingly negative cascades of downstream outcomes (Schauer, 1985; van der Burg, 1991; Volokh, 2003). Intriguingly, in recent years scholars have found that slippery slope thinking is not only a feature of specific kinds of arguments and rhetoric, but also of some people (Adelman et al., 2021; Svedholm-Häkkinen & Kiikeri, 2022): Slippery slope thinking appears to be an important cognitive tendency that varies between individuals, permeating a wide range of both social and non-social judgments, and creating a bias in how people perceive the causal relations between actions and consequences (Corner et al., 2011).

Why might religiosity be associated with slippery slope thinking? Anecdotally, many religious beliefs appear to exhibit a slippery slope structure (e.g., giving in to sin leads to other negative consequences). More critically, we predict that two key dimensions associated with religiosity align with slippery slope thinking and can then connect with punishment: the

moralization of self-control and belief in karma. First, religions tend to moralize issues of self-control (Mooijman et al., 2018), whereby individuals treat even nonharmful lapses in self-control as immoral. For example, even a momentary break in one's diet (e.g., eating one cookie too many) may be condemned as immoral due to being seen as a lapse in self-control. Given the typical construction of slippery slope arguments, in which minor changes (e.g., lapses in self-control) lead to disastrous consequences, greater moralization of self-control may therefore heighten negative judgments of the first step in a slippery slope argument. Similarly, slippery slope thinking—in which relatively minor changes are predicted to have harmful, potentially unforeseen consequences—may likewise place moral emphasis on self-control and avoiding actions that would lead someone to "fall" down a slippery slope (Anderson et al., 2023). In addition, slippery slope thinking is heightened when people perceive a similarity between the initial step and the ultimate conclusion (Corner et al., 2011): When people moralize self-control (vs. when they do not), they may judge the initial step as more harmful (e.g., eating that extra cookie) and thus more similar to the ultimate conclusion (e.g., gaining too much weight). Thus, if more religious people are more likely to treat even small lapses in self-control as immoral, they may then engage in greater slippery slope thinking .

Second, the concept of supernatural karma—in which good is followed by good and bad is followed by bad—may also link religiosity with slippery slope thinking (White et al., 2019, 2021). Many modern world-religions—including Christianity, Islam, and Hinduism studied in the present research—include components of supernatural karma that reward good behavior and punish bad behavior (Callan et al., 2014). At least concerning negative behavior, slippery slope thinking shares a similar structure with karma: Even slightly negative actions (i.e., the first step of the slope) are predicted to lead to negative consequences. Similarly, belief in karma and

slippery slope thinking may both rely on similar cognitive causal models about the longer-term consequences of immoral actions (White et al., 2019, 2021): An initial transgression is predicted to initiate an inevitable harm-related conclusion in the future (punishment in the case of karma, even greater offenses in the case of slippery slope thinking). However, belief in karma and slippery slope thinking may differ in terms of the targets of their predicted consequences: Karma anticipates harm to the perpetrator in the form of cosmic justice, whereas slippery slope thinking often anticipates harm to self and others or society more broadly due to those greater offenses. Despite these differences in target, their structural similarities led us to expect that belief in karma may serve as an additional (though not complete) cognitive mechanism linking religiosity and slippery slope thinking.

In turn, slippery slope thinking may provide the cognitive machinery linking religiosity to punishment. Slippery slope thinking operates on an assumption that small changes lead to worse outcomes. As such, slippery slope thinking could lead people to intuit that, in order to stop those worse outcomes from occurring in the future, punishment may be necessary now to deter the person from continuing "down the slope" (Bregant et al., 2016; Hafer & Bègue, 2005; Hafer & Choma, 2009). Furthermore, if slippery slope thinking helps to explain an association between religiosity and punishment, it may highlight when such an association would be strongest. Specifically, this tendency to punish based on slippery slope thinking may be especially true for relatively minor violations (vs. more severe transgressions): Minor violations may more closely align with the initial change associated with the beginning of a slippery slope, whereas more severe violations may represent the "bottom" of the slope.

**Present Research**

We examine these predictions across samples recruited from three countries representing different major world religions: the U.S. (Christianity), India (Hinduism), and Türkiye (Islam). Given that psychological processes involved in religiosity have been found to be culturally flexible (Gervais et al., 2018), we believe that this cross-cultural replication offers greater insight into the relation between religiosity, punishment, and slippery slope thinking. As part of this investigation, we consider the underlying psychological/cognitive mechanisms underlying an association between religiosity and slippery slope thinking (Studies 1-2), experimentally examine when this association may be strongest (Study 4), and consider cross-cultural differences in slippery slope thinking and the effects of religiosity on punishment (Study 6). We set our sample sizes for all studies before data collection, to ensure power > .80 for $r > .20$, and all sample sizes were sufficiently powered to reach this threshold. All studies, measures, manipulations, and exclusion criteria are reported. All preregistration information, preregistration deviations, materials, data, and analysis scripts are available on the OSF page for this project, https://osf.io/xh2ku/?view_only=06a162856ea94946afbb51a376618b05.

## Pilot Study

### *Participants*

We recruited a total of 398 participants through CloudResearch; After excluding 6 participants for failing an attention check, we had a final sample of 392 ($M_{age}$ = 38.60, SD = 10.81; 139 women, 250 men, 3 blank; 313 White, 38 Black or African American, 35 Asian, 20 Latino/a or Hispanic, 6 American Indian or Alaska Native, 1 Native Hawaiian or Pacific Islander, 1 Other; political orientation: $M$ = 3.35, SD = 1.82, from 1 *Very Liberal* to 7 *Conservative*). We did not collect any additional demographic information. Sensitivity analyses

conducted using G*Power 3.1 (Faul et al., 2009) indicated that this study was powered at .80 to detect an effect of $\beta > .13$ at alpha = .05.

***Procedure***

The pilot study was originally collected as two separate samples, with slightly different procedures. We control for the effect of sample in the analyses below. In both samples, after providing informed consent, participants were informed that they would be asked to rate several arguments according to how logical or illogical they perceived them to be. They were also specifically informed that "we are NOT interested in whether you agree with the conclusion of the argument—we simply wish to know the degree to which you see the conclusion as following logically from the argument that is made."

After receiving these instructions, participants viewed six slippery slope arguments, presented on the screen one at a time and in random order. In Pilot Sample A, the arguments all had a consistent structure, each consisting of three distinct steps and using a third-person framing to describe the actions of another person. The arguments covered a variety of domains, including spending habits, punctuality, cleanliness, academic performance, and dieting. For example: "If Jim eats that extra 100 calories today, tomorrow he'll eat an extra 500, and before you know it he'll have gained 15 pounds." In Pilot Sample B, participants viewed a different set of six slippery slope arguments that had a wider variety of structures (e.g., "If you allow the students to redo this test, they are going to want to redo every assignment for the rest of the year"). For both samples, we asked participants to rate the soundness of each argument on a 9-point scale ranging from "Completely illogical" to "Completely logical," with the midpoint labeled "Neither illogical nor logical." The reliability of participants ratings of these six arguments was acceptably

high for both samples (Sample A: $\alpha = .83$; Sample B: $\alpha = .81$), and so we averaged them into a single index of slippery slope thinking.

After completing the slippery slope arguments, participants indicated their religious beliefs. In Pilot Sample A, participants rated their agreement with the existence of four supernatural agents (presented in random order): God, the devil, angels, and spirits or souls (1 = *Strongly disagree*, 7 = *Strongly agree*; adapted from Gervais & Norenzayan, 2012). Agreement between these items exhibited strong reliability ($\alpha = .96$), so we averaged them into a single index of religiosity. In Pilot Sample B, participants indicated how much they agreed with two statements: "Overall, I would classify myself as a religious person." and "My religious beliefs are what guide my whole approach to life." (1 = *Strongly disagree*, 7 = *Strongly agree*). These two items were highly correlated with each other ($r(197) = .94$), so we averaged them into a single index of religiosity. Finally, participants completed demographic measures, including age, gender, and race/ethnicity.

**Results**

Consistent with our predictions, we found a significant association between religiosity and slippery slope thinking: More religious people tended to engage in more slippery slope thinking (see Figure 1; $\beta = .26$, $t(389) = 5.24$, $p < .001$). This association between religiosity and slippery slope thinking held when controlling for participants' age, gender, political orientation, and political party identification ($\beta = .24$, $t(383) = 4.53$, $p < .001$).

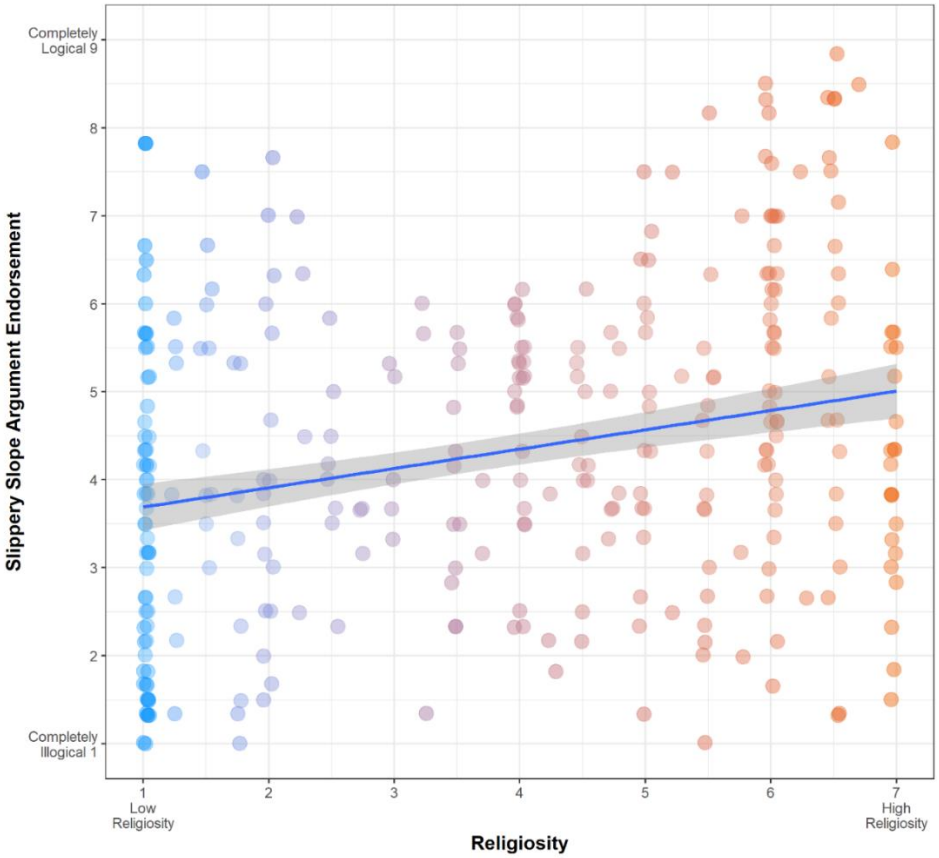


Figure 1. Pilot study scatterplot illustrating the relation between and mean ratings of slippery slope arguments. Shaded area represents the 95% confidence interval of the regression line.

## Study 1

In Study 1, we tested the association between religiosity and slippery slope thinking. We also examined six potential cognitive mechanisms, drawn from past research and theory on the psychological underpinnings of religious beliefs (Caluori et al., 2020; Graham et al., 2011; Kay et al., 2008; Norenzayan & Gervais, 2013; White et al., 2019) and from theory on the nature and structure of slippery slope thinking (Adelman et al., 2021; Corner et al., 2011; Svedholm-Häkkinen & Kiikeri, 2022; Volokh, 2003). Based on our theorizing, we examined that belief in karma and the moralization of self-control would emerge as the strongest mediators. We

additionally measured general trust in others (Yamagishi et al., 2015), the degree to which people felt that they had control in their lives (Kay et al., 2008), political conservatism (Adelman et al., 2021), and individual differences in intuitive (vs. deliberative) thinking styles (Gervais & Norenzayan, 2012; Norenzayan & Gervais, 2013). Based on our theorizing, we structured our mediation models such that religiosity predicted slippery slope through these mechanisms, such that these mechanisms could potentially explain the connection between religiosity and slippery slope thinking. We acknowledge that alternative orderings of the variables in the model may provide equally (or potentially more) accurate models of the true relation between these variables (Fiedler et al., 2011, 2018); We return to this issue in the General Discussion.

### *Participants*

We initially recruited 402 U.S. participants through Prolific. We excluded 21 participants for failing an attention check, leaving a final sample of 381 ($M_{age}$ = 39.83, SD = 14.18; 192 women, 186 men, 2 nonbinary, 1 blank; 258 White, 81 Black or African American, 25 Asian, 22 Latino/a or Hispanic, 6 American Indian or Alaskan Native, 3 Native Hawaiian or Pacific Islander, 7 Other; median annual family income: $60,000-$69,999; median education level: 4 year degree). In terms of religious beliefs, 230 identified with Christianity, 112 identified with atheism/agnostic/non-religious, 5 with Islam, 5 with Judaism, 4 with Buddhism, 2 with Hinduism, and 23 as Other. Sensitivity analyses conducted using G*Power 3.1 (Faul et al., 2009) indicated that this study was powered at .80 to detect an effect of $\beta > .14$ at alpha = .05.

### *Measures*

**Slippery slope thinking**. We included two measures of slippery slope thinking to capture the breadth of the construct. Participants completed the twelve slippery slope arguments used in the pilot study ($\alpha = .87$). We also used the six-item slippery slope scale (Adelman et al., 2021), in

which participants indicated their agreement with statements related to slippery slope thinking (e.g., "Small concessions often go from bad to worse."; 1 = *Strongly disagree*, 7 = *Strongly agree*; α = .87). Given the strong correlation between agreement with the slippery slope arguments and scores on the slippery slope scale, $r(379) = .62$, we z-scored the two measures and averaged them together to form a composite index of slippery slope thinking.

**Religiosity**. Participants completed the four-item measure of belief in supernatural agents used in Pilot Sample A (α = .94) and the two-item measure of religious importance used in Pilot Sample B ($r(379) = .91$). The correlation between these two measures was high, $r(379) = .91$, so we averaged them together to form a single composite index of religiosity[1].

**Belief in karma**. We measured belief in karma using the five-item belief in karmic justice subscale from the belief in karma questionnaire (α = .85; White et al., 2019). Example item: "In the long-run, good things happen to good people and bad things happen to bad people" (1 = *Strongly disagree*, 7 = *Strongly agree*).

**Moralization of self-control**. Participants completed the six-item self-control moralization scale, in which participants rate how immoral different activities are (α = .91; see Study 7 from Mooijman et al., 2018). Example item: "put off work that needed to get done" (1 = *not immoral at all*, 6 = *extremely immoral*).

**Trust in others**. Participants completed a five-item measure of generalized trust in others (α = .91; adapted from Yamagishi et al., 2015). Example item: "Most people are trustworthy" (1 = *Strongly disagree*, 7 = *Strongly agree*).

[1] As a robustness check, we additionally calculated religiosity simply as the average of all six items. Across all studies, the correlation between the two composites was incredibly high, rs > .98. As such, the pattern of results is the same across all studies if we use this alternative calculation of religiosity.

**Sense of control**. We measured sense of control using a four-item scale in which participants indicated their agreement with statements relating to having control over their lives and their actions (α = .75; adapted from Kay et al., 2008). Example item: "The events in my life are mainly determined by my own actions" (1 = *Strongly disagree*, 7 = *Strongly agree*).

**Political conservatism**. To measure political conservatism, we asked participants to self-identify their political beliefs, on a scale from 1 *Very liberal* to 7 *Very conservative*.

**Intuitive versus deliberative thinking style**. We assessed thinking style using three measures. First, we included the CRT-2 (Frederick, 2005; Thomson & Oppenheimer, 2016), which consists of four questions that assess an individual's tendency to override intuitive, but incorrect, responses with more effortful deliberative thinking to arrive at the correct response (e.g., "Emily's father has three daughters. The first two are named April and May. What is the third daughter's name?"; intuitive answer: June, correct answer: Emily). Participants score on the CRT-2 is the number of correct (i.e. the non-intuitive) answers they provide. We also used the Rationality scale (e.g., "I enjoy intellectual challenges."; α = .91) and the Experientiality scale (e.g., "I like to rely on my intuitive impressions."; α = .92) from the Rational-Experiential Inventory (Pacini & Epstein, 1999). These different measures of thinking style only loosely correlated with each other, $|rs|(400) < .21$; therefore, we treat them as separate constructs in our analyses.

### *Procedure*

After providing consent, participants completed the twelve slippery slope arguments. Following that, we presented participants with the slippery slope scale (Adelman et al., 2021). Then, in random order, participants completed the measures of religiosity, belief in karma, moralization of self-control, trust in others, sense of control, and intuitive versus deliberative

thinking style. Finally, participants completed demographic questions, along with the measure of political conservatism.

**Results**

Supporting our initial predictions, we found a significant association between religiosity and slippery slope thinking (see Table 1 for all correlation results). We also found that religiosity and slippery slope thinking significantly correlated with many (but not all) of the potential mediator variables. To examine the relative explanatory strength of these mechanisms, we conducted a series of linear regression models predicting slippery slope thinking (see Table 2). In these models, we always included religiosity as a predictor and then included one of the mechanisms (Models 1-8) or all of the mechanisms together (Model 9).

Several findings are worth highlighting. First, when compared against individual mediators (i.e., in Models 1-8), religiosity always remained a significant predictor of slippery slope thinking. This suggests that each individual mediator does not fully explain the association between religious beliefs and slippery slope thinking. Second, belief in karma (see Model 1) and moralization of self-control (see Model 2) emerged as the strongest predictors of slippery slope thinking, remaining significant while including all mediators in a single model (see Model 9). Building on these results, we next examined whether belief in karma and moralization of self-control statistically mediated the association between religiosity and slippery slope thinking. To do so, we used PROCESS model 4 (Hayes, 2018) with 10,000 bootstrapped samples, designating religiosity as the IV, slippery slope thinking as the DV, and both belief in karma and moralization of self-control as the mediators. We found that belief in karma ($b$ = 0.07, $SE$ = .02, 95% CI [0.04, 0.10]) and moralization of self-control ($b$ = 0.05, $SE$ = .01, 95% CI [0.03, 0.07]) significantly mediated the association between religiosity and slippery slope thinking. Both

mediation results remained significant when controlling for demographics (belief in karma: $b$ = 0.06, $SE$ = .01, 95% CI [0.03, 0.09]; moralization of self-control: $b$ = 0.04, $SE$ = .01, 95% CI [0.02, 0.06]).

**Discussion**

We found that more religious people tend to engage in more slippery slope thinking, as measured by endorsement of slippery slope arguments. It is worth noting that these arguments were relatively mundane in nature, not referring to any "hot button" sociopolitical issues but instead everyday kinds of behaviors and arguments (e.g., breaking one's diet). In addition, we examined a host of potential cognitive mechanisms to link religiosity to slippery slope thinking. We found that two of these mechanisms—belief in karma and the moralization of self-control—emerged as potential explanations for this association: More religious people tended to more strongly moralize issues of self-control and believe in karma, which statistically mediated their greater tendency to engage in slippery slope thinking. In Study 2, we experimentally manipulated one of these mechanisms—the moralization of self-control—to provide more direct causal evidence for its role to support our theorizing.

| | Religiosity | Slippery Slope Thinking | Belief in Karma | Moralization of Self-Control | Trust in Others | Sense of Control | Political Ideology | Cognitive Reflection | Rationality Scale | Experientiality Scale |
|---|---|---|---|---|---|---|---|---|---|---|
| Religiosity | 1 | .33*** | .48*** | .42*** | .10† | .14** | .38*** | -.08 | .07 | .19*** |
| Slippery Slope Thinking | | 1 | .45*** | .41*** | -.05 | .06 | .15** | -.05 | -.07 | .12* |
| Belief in Karma | | | 1 | .39*** | .08 | .22*** | .22*** | -.04 | -.04 | .30*** |
| Moralization of Self-Control | | | | 1 | .00 | -.01 | .22*** | .01 | .01 | .08 |
| Trust in Others | | | | | 1 | .17*** | .08 | .03 | .03 | .12* |
| Sense of Control | | | | | | 1 | .17*** | .04 | .21*** | .22*** |
| Political Ideology | | | | | | | 1 | -.06 | -.06 | .06 |
| Cognitive Reflection | | | | | | | | 1 | .07 | -.16** |
| Rationality Scale | | | | | | | | | 1 | .21*** |
| Experientiality Scale | | | | | | | | | | 1 |

Table 1

Study 1. Zero-order correlations between religiosity, slippery slope thinking, and the potential mechanisms. $N = 381$
† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 |
|---|---|---|---|---|---|---|---|---|---|
| Religiosity | .15** | .20*** | .34*** | .33*** | .32*** | .33*** | .34*** | .32*** | .09 |
| Belief in Karma | .38*** | | | | | | | | .31*** |
| Moralization of Self-Control | | .32*** | | | | | | | .25*** |
| Trust in Others | | | -.08† | | | | | | -.08† |
| Sense of Control | | | | .01 | | | | | .01 |
| Political Ideology | | | | | .03 | | | | -.01 |
| Cognitive Reflection | | | | | | -.02 | | | -.02 |
| Rationality Scale | | | | | | | -.10* | | -.07 |
| Experientiality Scale | | | | | | | | .07 | .02 |

Table 2

Study 1. Standardized beta weights from linear regression models predicting slippery slope thinking. Models 1-8 have $df = 378$, Model 9 has $df = 371$.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

## Study 2

Study 1 provided correlational evidence supporting two distinct cognitive mechanisms linking religiosity and slippery slope thinking: the moralization of self-control and belief in supernatural karma. In Study 2, we aimed to provide more direct causal evidence supporting the religiosity-slippery slope thinking association by experimentally manipulating moralization of self-control using a "manipulate the mediator" approach (Pirlott & MacKinnon, 2016). To do so, we adapted a paradigm for experimentally manipulating moralization of self-control (Goenka & Thomas, 2020; Mooijman et al., 2018; Oyserman & Lee, 2008), in which participants read about a purported historical figure from Ancient Sumer that exemplified the moral virtues of self-control and thus acting as a situational reminder of those values (vs. a control target). We conducted a pilot test of this manipulation ($N$ = 202) and found that the *moralization* condition ($M$ = 3.47, SD = 1.13), versus the control condition ($M$ = 2.96, SD = 1.17), significantly increased moralization of self-control (using the same scale as in Study 1, $\alpha$ = .90; $t(199) = 3.13$, $p$ = .002, $d$ = 0.44).

We initially reasoned that because more religious individuals tend to moralize self-control more strongly than less religious individuals, priming moralization might reduce this gap. Specifically, by increasing the moralization of self-control among less religious individuals, the experimental manipulation could weaken the overall effect of religiosity. Therefore, we predicted that the relationship between religiosity and slippery slope thinking would be weaker in the moralization-of-self-control condition compared to the control condition. However, as a post hoc reevaluation, manipulating the moralization of self-control could present an alternative pattern of results by reminding people who are high in moralization of self-control (e.g., more religious people) of those specific beliefs and situationally activate the effect of those beliefs

more strongly. Thus, when primed to moralize self-control, more religious people (vs. less religious people) would therefore increase in their slippery slope thinking.

## Method

### *Participants*

We initially recruited 401 participants from Prolific. We excluded participants that failed our attention checks, leaving a final sample of 367 participants ($M_{age}$ = 41.33, SD = 13.38; 186 men, 179 women, 2 nonbinary; 278 White, 89 non-White; median household income: $70,000-$79,999; median education: 4 year degree; political orientation: *M* = 4.05, SD = 1.93, from 1 *Very Liberal* to 7 *Very Conservative*). In terms of religious self-identification, 245 identified with Christianity, 82 with Atheism/Agnostic/Non-religious, 10 with Islam, 7 Judaism, 4 with Buddhism, 1 with Hinduism, and 18 as Other. Sensitivity analyses conducted using G*Power 3.1 (Faul et al., 2009) indicated that this study was powered at .80 to detect an effect of $\beta > .13$ at alpha = .05.

### *Procedure*

Participants were randomly assigned to one of two between-subjects conditions: the *control* condition or the *moralization* condition. In both conditions, participants read a short story about a person who lived in Ancient Sumer (see the OSF page for full text; adapted from Mooijman et al., 2018; Oyserman & Lee, 2008). In the *control* condition, the vignette described the person as a potter without reference to morality. In the *moralization* condition, the vignette described the person as a warrior and "a man of exceptional character" who thought that "having self-control, restraint, and patience was of the utmost moral importance". To be included in our analyses, participants needed to successfully answer three attention/manipulation checks asking where the person lived, what his occupation was, and what he was known for.

After reading the vignettes, participants then completed the six slippery slope arguments used in Pilot Sample A (α = .79). Participants then completed the measures of belief in supernatural agents (α = .93) and religious importance ($r(399) = .89$). There was a strong correlation between the measures of religiosity ($r(399) = .75$), so we collapsed them into single index. Finally, participants completed the demographic measures.

**Results and Discussion**

Replicating our previous studies, we found that—collapsing across conditions—religiosity was a significant predictor of slippery slope thinking (β = .29, $t(365) = 5.76$, $p < .001$). We additionally found no significant differences between conditions in either religiosity (*control*: $M = 4.80$, SD = 1.85; *moralization*: $M = 4.76$, $SD = 1.89$; $t(365) = 0.19$, $p = .850$, $d = 0.02$) or slippery slope thinking (*control*: $M = 4.60$, $SD = 1.73$; *moralization*: $M = 4.55$, SD = 1.91; $t(365) = 0.28$, $p = .783$, $d = 0.03$). Most critically, we found a significant interaction between condition and religiosity in predicting slippery slope thinking (see Figure 2; $b = .22$, SE = 0.10, $t(363) = 2.27$, $p = .024$). In both conditions, greater religiosity predicted greater slippery slope thinking, but this effect was stronger in the *moralization* condition ($b = 0.39$, SE = 0.07, $t(363) = 5.71$, $p < .001$) than in the *control* condition ($b = 0.17$, SE = 0.07, $t(363) = 2.46$, $p = .015$). As an additional exploratory demonstration, we examined participants who were relatively high in religiosity ($n = 120$; greater than 6 out of 7 in religiosity, the top ~30%) and relatively low in religiosity ($n = 120$; lower than 4 out of 7 in religiosity, the bottom ~30%). For more religious participants, there was marginally more slippery slope thinking in the *moralization* condition ($M = 5.51$, SD = 1.98) than in the *control* condition ($M = 4.95$, SD = 1.87), $F(1, 236) = 3.04$, $p = .083$. For less religious participants, we saw the opposite pattern, such that there was

marginally more slippery slope thinking in the *control* condition ($M$ = 4.20, SD = 1.69) than in the *moralization* condition ($M$ = 3.64, SD = 1.52), $F(1, 236) = 2.96$, $p = .087$.

These experimental results support the latter prediction described earlier: When participants were situationally primed to moralize self-control more strongly, the effect of religiosity on slippery slope thinking became stronger. We believe these results provide tentative evidence for the causal role of moralization of self-control linking religiosity and slippery slope thinking: Manipulating the moralization of self-control did moderate the link between religiosity and slippery slope thinking, albeit in an unexpected pattern in comparison to our initial prediction. Furthermore, although the exploratory marginal reduction in slippery slope thinking among less religious participants in the *moralization* condition was also unexpected, it is possible that there was reactance *against* the manipulation. If participants weakly hold a moral value (e.g., as among low-religious individuals and moralization of self-control), priming them with that value may trigger reactance and lead to reductions of that value (Díaz & Cova, 2022; Pavey et al., 2024). If so, this would support the interpretation of the manipulation as not increasing the strength of moralization in general, but instead acting as a situational reminder of one's one values (to the degree that such values are held). Given the somewhat unexpected pattern of results, we caution against over-interpretation of these findings; We encourage future research to experimentally and systematically test what factors situationally drive slippery slope thinking.

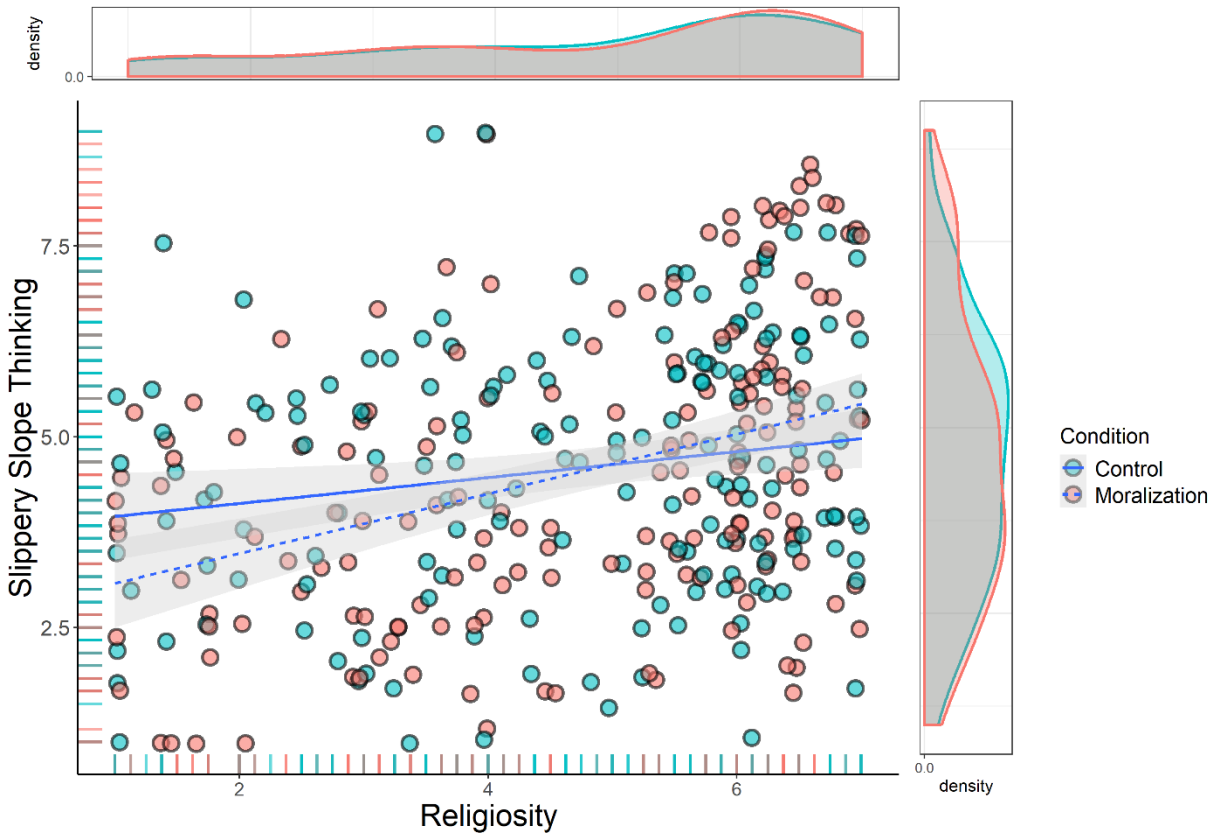


Figure 2. Relation in Study 2 between religiosity and slippery slope thinking, plotted separately for the control condition (solid line) and the moralization condition (dashed line).

## Study 3

In the remaining studies, we examined one potential consequence of religious beliefs leading to greater slippery slope thinking: punishment. We hypothesized that, when people engage in slippery slope thinking, they predict that small changes and behaviors lead to worse outcomes in the future. One potential response to these predicted outcomes would be to attempt to stop the cascade of increasingly negative behaviors and outcomes, a goal which punishment can serve given its ability to regulate behavior (Balliet et al., 2011; Fehr & Gächter, 2000; Jordan et al., 2016). This possibility is further supported by the two mechanisms we identified in Study 1: Religiosity's link with belief in karma (e.g., bad acts will be punished in the future) and

moralization of self-control (e.g., moral condemnation of even minor lapses in self-control) may help facilitate punishment via slippery slope thinking.

As a secondary set of analyses, we also examined the role of holding specific beliefs about God (e.g., God as punitive) in slippery slope thinking and punishment. Inspired by past research on similar topics (e.g., social conflict and feelings of control among religious believers; Caluori et al., 2020), we examined whether holding different sets of religious beliefs—those tending more towards punitiveness or more towards benevolence—may differentially predict slippery slope thinking and punishment. Based on our theorizing, we predicted that holding more punitive beliefs about God would be a stronger predictor of slippery slope thinking than holding more benevolent beliefs about God.

## Method

### *Participants*

We recruited 402 U.S. participants through CloudResearch ($M_{age}$ = 39.01, SD = 11.21; 172 women, 225 men, 3 nonbinary, 2 blank; political orientation: *M* = 4.23, SD = 2.37, from 1 *Extremely Liberal* to 9 *Extremely Conservative*). We did not exclude any participants or collect any additional demographic information. Sensitivity analyses conducted using G*Power 3.1 (Faul et al., 2009) indicated that this study was powered at .80 to detect an effect of $\beta > .13$ at alpha = .05.

### *Procedure*

After providing consent, participants evaluated the logic of twelve slippery slope arguments, including the six arguments used in Pilot Sample A and six new arguments covering moral violations (e.g., “If Frank takes $10 from the cash register at work today, then next week he will be stealing $50. In just a short time, he will be stealing from anywhere whenever he gets

the chance."). As before, we averaged together agreement with these arguments (α = .89). Given the high correlation ($r$(400) = .60) with the slippery slope scale (α = .89; Adelman et al., 2021), we combined the two scales to form a composite index of slippery slope thinking.

For each of the twelve slippery slope arguments, participants completed two additional questions about their behavioral intentions and how they might act in response to the behavior described in the argument. We asked participants to assume they were friends with the person described in the argument and asked them how much they would try to stop the person from doing the first step in the argument (e.g., taking $10 from the cash register at work today) and, if the person did take the first step in the argument, how much would they express disapproval towards his behavior (both from 1 = *Not at all*, 9 = *A great deal*). We averaged these questions across the twelve arguments, giving composite indices for willingness to intervene (α = .86) and willingness to socially sanction (α = .86).

Participants also completed the measure of belief in supernatural agents (α = .96) and the measure of religious importance (α = .97). We averaged these two scales together to form a composite index of religiosity (α = .89).

Finally, participants that indicated at least 4 out of 7 (*Neither agree nor disagree*) on the belief in God item were presented with an additional set of measures asking about more specific conceptualizations of God (Caluori et al., 2020; Johnson et al., 2015). Participants rated God on 18 adjective traits (1 = *Strongly disagree*, 7 = *Strongly agree*) relating to God as punitive (e.g., "wrathful", "angry"; α = .94) and as loving (e.g., "caring", "compassionate"; α = .97).

**Results**

For zero-order correlations between main variables of interest, see Table 3. Replicating our previous studies, we found that religiosity significantly predicted slippery slope thinking (β =

.26, $t(400) = 5.49$, $p < .001$). Supporting our prediction that more religious individuals would express more punitive attitudes, we found that religiosity significantly predicted willingness to intervene on ($\beta = .24$, $t(400) = 4.93$, $p < .001$) and willingness to socially sanction individuals described as potentially susceptible to "falling" down a slippery slope ($\beta = .27$, $t(400) = 5.60$, $p < .001$). Likewise, slippery slope thinking predicted willingness to intervene ($\beta = .53$, $t(400) = 12.57$, $p < .001$) and willingness to socially sanction ($\beta = .60$, $t(400) = 14.97$, $p < .001$).

We then conducted a series of mediation models (PROCESS model 4 with 10,000 bootstrapped samples; Hayes, 2018), with religiosity predicting both behavioral intervention measures mediated by slippery slope thinking. We found significant mediation for both models: The effect of religiosity was mediated by slippery slope thinking for both participants' willingness to intervene and stop someone from beginning on a slippery slope ($\beta = .09$, 95% CI [.05, .12]) and participants' willingness to socially punish someone who had completed the first step on a slippery slope ($\beta = .10$, 95% CI [.06, .14]). These results suggest that—consistent with some past work (Grasmick et al., 1991, 1992; Laurin et al., 2012)—religion can promote harsher punishment for norm violators, while also offering a cognitive mechanism via slippery slope thinking.

| | Religiosity | Slippery Slope Thinking | Willingness to Intervene | Willingness to Socially Sanction | Punitive God Beliefs | Loving God Beliefs |
|---|---|---|---|---|---|---|
| Religiosity | 1 | .26*** | .24*** | .27*** | .23*** | .61*** |
| Slippery Slope Thinking | | 1 | .53*** | .60*** | .31*** | .13* |
| Willingness to Intervene | | | 1 | .86*** | .13* | .14* |
| Willingness to Socially Sanction | | | | 1 | .21*** | .18** |
| Punitive God Beliefs | | | | | 1 | .02 |
| Loving God Beliefs | | | | | | 1 |

Table 3
Zero-order correlations between main measures of Study 3. $N$ = 402, but $N$ = 265 for correlations involving punitive god beliefs and loving god beliefs. * $p < .05$, ** $p < .01$, *** $p < .001$

As an additional test of the links between religious beliefs, slippery slope thinking, and punitive attitudes, we examined the effect of more specific beliefs about God as punitive (vs. loving) on slippery slope thinking. We conducted a linear regression model, with punitive God beliefs and loving God beliefs simultaneously predicting slippery slope thinking. We found that punitive God beliefs were a stronger predictor of slippery slope thinking ($\beta = .31$, $t(262) = 5.36$, $p < .001$) than loving God beliefs ($\beta = .13$, $t(262) = 2.17$, $p = .031$). We next examined the effect of these beliefs on behavioral intentions by conducting two linear regression models, predicting each behavioral intentions measure and including both sets of beliefs as joint predictors (see Table 4). We found that, when controlling for each other, both sets of beliefs about God significantly predicted both willingness to intervene and willingness to socially sanction agents

described in slippery slope arguments. These results further support a link between specific religious beliefs (i.e., believing God as being punitive and authoritative) and willingness to punish people who commit minor transgressions and may "fall" down a slippery slope. While unexpected, the continued predictive value of loving God beliefs on these behavioral intentions may reflect other components of religious belief not covered by the punitive God beliefs. As we highlight in the General Discussion, future research should continue to examine how different aspects of religiosity may differentially motivate punishment (see also Laurin et al., 2012).

| | Willingness to intervene | Willingness to socially sanction |
|---|---|---|
| Punitive God Beliefs | $\beta = .13$, $t(264) = 2.07$, $p = .040$ | $\beta = .21$, $t(264) = 3.56$, $p < .001$ |
| Loving God Beliefs | $\beta = .14$, $t(264) = 2.30$, $p = .022$ | $\beta = .18$, $t(264) = 3.01$, $p = .003$ |

Table 4

Study 3 results from linear regressions models including both sets of God beliefs as predictors of willingness to intervene and willingness to socially sanction an agent described in a slippery slope argument.

## Study 4

With Study 4, we aimed to experimentally examine one implication of slippery slope thinking—whether slippery slope thinking (and by extension religiosity) is a stronger predictor of punishment towards *minor* transgressions versus *severe* transgressions. We based this prediction on the logic of slippery slope thinking—that small changes can lead to worse outcomes: A small change (i.e., a minor transgression) is where interventions could be most effective to prevent behavior from getting worse. This prediction builds on past work by illuminating not just *whether* there is an association between religiosity and punishment, but also *when* this association is likely to be strongest.

### *Participants*

After excluding three participants for failing our attention check, our final sample included 600 U.S. participants through CloudResearch ($M_{age}$ = 40.88, SD = 11.98; 251 women, 342 men, 1 agender, 2 non-binary, 1 left blank; 474 White, 60 Black or African American, 5 American Indian or Alaska Native, 51 Asian, 5 Native Hawaiian or Pacific Islander, 45 Latino/a or Hispanic, 1 Other; median annual family income: $50,000-$59,999; median education level: 4 year degree; political orientation: *M* = 3.38, SD = 1.86, from 1 *Very Liberal* to 7 *Very Conservative*). In terms of religious self-identification, our sample was majority Christian (124 Protestant, 134 Catholic, 33 Other Christian), followed by 250 participants who identified as atheism/agnostic/non-religious, along with 13 participants who identified with Judaism, 9 participants who identified with Islam, 8 participants who identified with Buddhism, 2 participants who identified with Hinduism, and 22 participants who identified as Other. Sensitivity analyses conducted using G*Power 3.1 (Faul et al., 2009) indicated that this study was powered at .80 to detect $\beta > .13$ and a difference in regression slopes > .19 at alpha = .05.

***Procedure***

After giving consent, participants first completed the Slippery Slope scale ($\alpha = .93$; Adelman et al., 2021). Then, participants read four scenarios describing different people engaging in immoral behavior. For each scenario, we created a *minor violation* version, in which the magnitude of the immoral behavior was relatively lower (e.g., stealing a $50 item), and a *severe violation* version, in which the magnitude of the immoral behavior was relatively higher (e.g., stealing a $400 item). Besides the magnitude of the violation, the content of the scenario was otherwise kept constant across the versions. Participants were randomly assigned to viewing only either the *minor violation* versions or the *severe violation* versions. For each scenario, participants also indicated how morally wrong the behavior was (1 = *Not at all*, 7 = *A great*

*deal*)[2] and how much punishment the immoral agent deserved for their behavior (1 = *None at all*, 7 = *A great deal*). Reliability across the moral wrongness judgments (α = .75) and the punishment judgments (α = .81) were acceptably high, so we averaged across scenarios to form composite indices. After the scenarios, participants completed the measure of belief in supernatural agents (α = .95) and the measure of religious importance (α = .93). We averaged these two scales together to form a composite index of religiosity (α = .81).

**Results**

Replicating our previous studies, we again found that religious beliefs correlated with slippery slope thinking (see Table 5). Consistent with our predictions, we also found that both religiosity and slippery slope thinking correlated with punishment judgments, although not with wrongness judgments. This asymmetry suggests that people who engage in more slippery slope thinking might not necessarily be viewing the violations as more wrong or immoral but may instead be making a prediction of the agent's future behavior (e.g., increasingly worse violations) that could motivate punishment to deter that future behavior. We also found that slippery slope thinking statistically mediated the association between religiosity and punishment, β = .02, 95% CI (.01, .04). We found that, when including both as predictors in a linear regression, slippery slope thinking (β = .13, $t(594) = 3.06$, $p = .002$) and religiosity (β = .11, $t(594) = 2.56$, $p = .011$) both significantly and independently predict punishment judgments.

[2] Analyses examining moral wrongness judgments were treated as exploratory in all relevant studies. Our main hypotheses are regarding the effect of religiosity and slippery slope thinking on punishment.

| | Religiosity | Slippery Slope Scale | Wrongness Judgments | Punishment Judgments |
|---|---|---|---|---|
| Religiosity | 1 | .34*** | .04 | .15*** |
| Slippery Slope Scale | | 1 | -.01 | .17*** |
| Wrongness Judgments | | | 1 | .62*** |
| Punishment Judgments | | | | 1 |

Table 5

Zero-order correlations between main measures of Study 4. $N = 597$. *** $p < .001$

We next examined differences between conditions. Unsurprisingly, participants rated the behaviors in the *severe violation* condition as more morally wrong than those in the *minor violation* condition ($M_{severe} = 6.21$ vs. $M_{minor} = 5.82$; $t(595) = 5.04$, $p < .001$, $d = 0.41$) and as more deserving of punishment ($M_{severe} = 5.42$ vs. $M_{minor} = 4.86$; $t(595) = 5.88$, $p < .001$, $d = 0.48$). We then turned to whether slippery slope thinking was a stronger predictor of punishment judgments in the *minor violation* condition versus the *severe violation* condition, testing the prediction that slippery slope thinking might especially motivate punishment for less severe violations in order to deter the agent from committing even greater violations in the future (see Figure 3). We found a marginally significant interaction ($\beta = -.31$, $t(593) = 1.75$, $p = .081$). Breaking down this interaction, we found that slippery slope thinking significantly predicted punishment in the *minor violation* condition ($\beta = .22$, $t(296) = 3.83$, $p < .001$), but not in the *severe violation* condition ($\beta = .08$, $t(297) = 1.45$, $p = .149$). Together, these results suggest that religiosity and slippery slope thinking might be especially sensitive to relatively minor (vs. more severe) violations in motivating punishment.

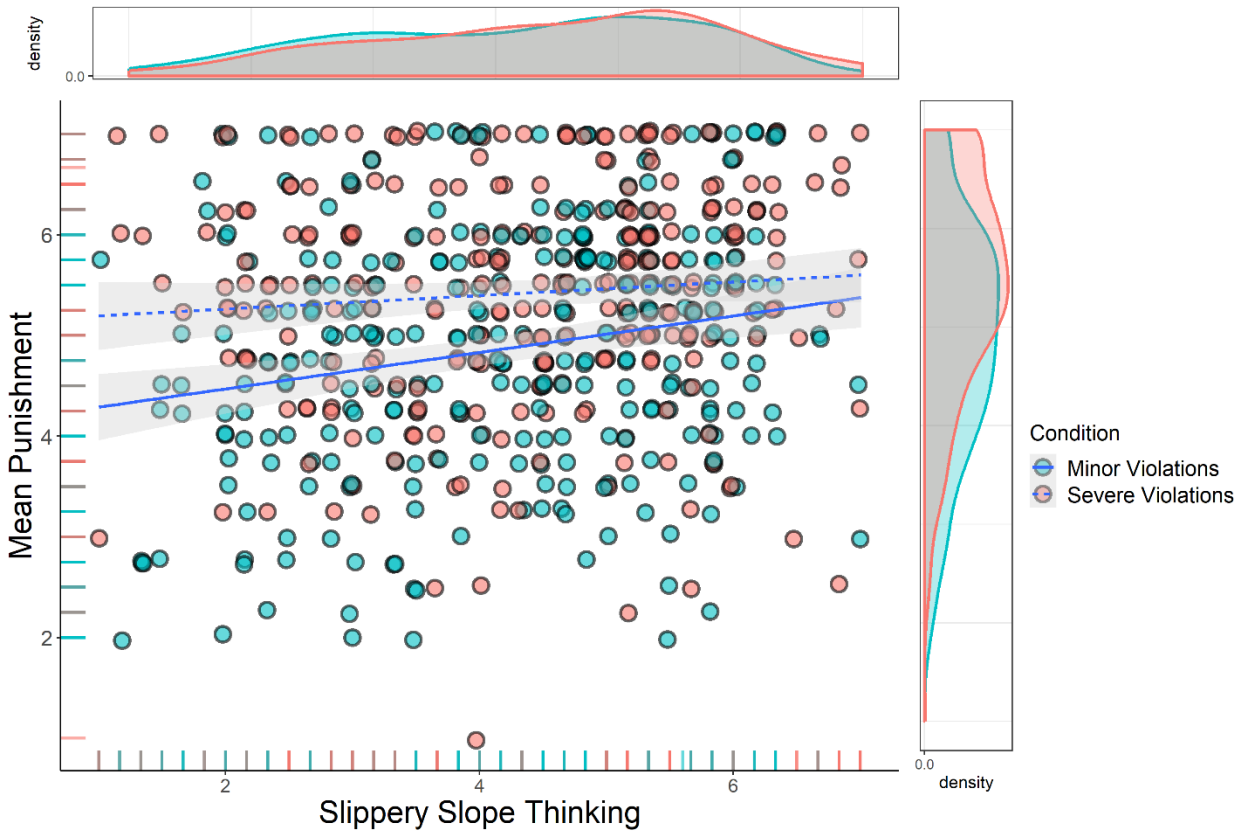


Figure 3. Relation in Study 4 between slippery slope thinking and punishment, plotted separately for minor violations (solid line) and severe violations (dashed line).

## Study 5

With Study 5, we aimed to replicate the key finding from Study 4—that slippery slope thinking statistically mediates the relation between religiosity and punishment of minor transgression—while ruling out two alternative explanations. First, it is possible that individual differences in slippery slope thinking may also reflect more pessimistic beliefs about human nature: People may believe that humans are prone to badness, which may manifest as slippery slope thinking. Second, slippery slope thinking may alternatively reflect a broader tendency to make dispositional (vs. situational) attributions: If negative behavior is generally ascribed to internal versus external factors, people may similarly engage in greater slippery slope thinking. Alternatively, there may be a methodological overlap, such that individual differences in

pessimistic beliefs of human nature or tendencies to make dispositional attributions may lead people to endorse items related to slippery slope thinking without actually endorsing slippery slope thinking. In Study 5, we measured and statistically ruled out these alternative explanations.

## Method

### *Participants*

We recruited 400 participants from Prolific. We exclude 10 participants for failing our attention check, leaving a final sample of N = 390 ($M_{age}$ = 39.11, SD = 12.94; 193 women, 195 men, 2 non-binary; 271 White, 91 Black or African American, 5 American Indian or Alaska Native, 23 Asian, 1 Native Hawaiian or Pacific Islander, 21 Latino/a or Hispanic, 4 Other; median annual family income: $70,000-$79,999; median education level: 4 year degree; political orientation: *M* = 3.82, SD = 1.83, from 1 *Very Liberal* to 7 *Very Conservative*). In terms of religious self-identification, our sample was majority Christian (104 Protestant, 100 Catholic, 37 Other Christian), followed by 117 participants who identified as atheism/agnostic/non-religious, along with 5 participants who identified with Judaism, 3 participants who identified with Islam, 4 participants who identified with Buddhism, and 20 participants who identified as Other. Sensitivity analyses conducted using G*Power 3.1 (Faul et al., 2009) indicated that this study was powered at .80 to detect an effect of $\beta > .18$ at alpha = .05.

### *Procedure*

Participants first completed the four vignettes from the *minor violation* condition from Study 4, completing the same measures of wrongness ($\alpha = .74$) and punishment ($\alpha = .82$). Then, in random order, participants completed the Slippery Slope scale ($\alpha = .89$; Adelman et al., 2021), the composite measure of religiosity ($r(388) = .81$, $p < .001$) based on belief in four supernatural agents ($\alpha = .94$) and the two-item measure of religious importance ($r(388) = .93$, $p < .001$), and

the two alternative mechanisms. To measure pessimistic beliefs about human nature, we used the trustworthiness and altruism subscales from the philosophies of human nature scale (Wrightsman, 1964). Participants rate their agreement with ten statements regarding how most people tend to behave ($\alpha = .82$; e.g., "Most people would tell a lie if they could gain by it." from *1 Strongly disagree* to *7 Strongly agree*). To measure attribution style, we adapted a meritocratic scale (To et al., 2024) to assess the tendency to make dispositional versus situational attributions for people's behavior. Participants responded to six items asking them about the typical causes of people's behavior ($\alpha = .89$; e.g., from 1 *Something the person has no power over* to 6 *Something the person has power over*).

**Results and Discussion**

For zero-order correlations between all measures, see Table 6. Replicating our previous results, we found that religiosity was a significant predictor of slippery slope thinking ($\beta = .39$, $t(386) = 8.28$, $p < .001$) and of punishment judgments ($\beta = .35$, $t(386) = 7.32$, $p < .001$). In turn, slippery slope thinking was a significant predictor of punishment judgments ($\beta = .31$, $t(386) = 6.35$, $p < .001$), an effect which held when controlling for pessimistic beliefs about human nature, attribution style, and the perceived wrongness of the violations ($\beta = .24$, $t(383) = 5.34$, $p < .001$). We next conducted a simultaneous mediation model using PROCESS Model 4 and 10,000 bootstrapped samples (Hayes, 2018), with religiosity as the predictor, punishment as the outcome, and including slippery slope thinking, pessimistic beliefs about human nature, attribution style, and the perceived wrongness of the violations as mediators. We found that only slippery slope thinking ($b = .04$, SE = .01, 95% CI (0.008, 0.07)) and wrongness judgments ($b = .03$, SE = .02, 95% CI (0.003, 0.07)) emerged as significant mediators; Pessimistic beliefs of human nature ($b = -.002$, SE = .003, 95% CI (-0.009, 0.004)) and attribution style ($b = .0006$, SE

= .002, 95% CI (-0.003, 0.005)) failed to reach significance as mediators. Together, these results replicate our previous findings—slippery slope thinking helps explain why more religious people engage in more punishment—while ruling out alternative explanations related to beliefs about the immoral nature of humans and tendencies to make dispositional attributions for behavior.

| | Religiosity | Slippery Slope Scale | Beliefs about Human Nature | Dispositional Attribution Style | Wrongness Judgments | Punishment Judgments |
|---|---|---|---|---|---|---|
| Religiosity | 1 | .39*** | .03 | .09 | .11* | .35*** |
| Slippery Slope Scale | | 1 | .08 | .35*** | .16** | .31*** |
| Beliefs about Human Nature | | | 1 | .01 | .16** | .13* |
| Dispositional Attribution Style | | | | 1 | .001 | .05 |
| Wrongness Judgments | | | | | 1 | .54*** |
| Punishment Judgments | | | | | | 1 |

Table 6

Zero-order correlations between main measures of Study 5. $N = 390$.

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

**Studies 6a and 6b**

With Studies 6a and 6b, we aimed to replicate the key finding from Study 4 and 5—that slippery slope thinking mediates the relation between religiosity and punishment—using non-U.S. samples: India (Study 6a) and Türkiye (Study 6b). By replicating our results in other cultural contexts (e.g., beyond "WEIRD" samples; Henrich et al., 2010), we aim to speak to broader trends about religious belief systems. Christianity (exemplified by the U.S. in the previous studies), Hinduism (exemplified by India), and Islam (exemplified by Türkiye) cover distinct religious traditions—with unique belief structures and doctrines—and collectively represent about 70% of the world's population (Pew Research Center, 2022).

## Study 6a

### *Participants*

We recruited a total of 759 participants living in India through the online survey platform Cint (www.cint.com). We had initially preregistered a sample of 300 participants, but over-recruited due to a technical error. To maximize power, we retain this larger sample. However, the results are nearly identical if only the first 300 participants are included. We excluded 6 participants for failing an initial data quality check (failing to agree to read all material carefully), leaving a final sample of 753 participants ($M_{age}$ = 33.82, SD = 10.41; 406 male, 287 female, 60 missing gender information; political orientation: $M$ = 4.77, from 1 *Very Left-wing* to 7 *Very Right-wing*). We did not collect any additional demographic information. Sensitivity analyses conducted using G*Power 3.1 (Faul et al., 2009) indicated that this study was powered at .80 to detect an effect of $\beta > .10$ at alpha = .05.

### *Procedure*

Participants first completed the Slippery Slope scale ($\alpha$ = .83; Adelman et al., 2021). Participants then read modified versions of the four *minor violation* scenarios used in Study 4,

updated to include masculine Indian names and in equivalent amount of money in Indian rupees. As in Study 4, participants rated how morally wrong the agent's behavior was (α = .86) and how much punishment the agent deserved for their behavior (α = .81). After the scenarios, participants completed the measure of belief in supernatural agents (α = .79) and the measure of religious importance (α = .87). We averaged these two scales together to form a composite index of religiosity (α = .68).

**Study 6b**

***Participants***

We recruited a total of 509 participants living in Türkiye through the online survey platform Besample, which pre-screens participants for English proficiency (besample.app). We excluded 13 participants who did not consent to participate, 30 participants for failing to finish the survey, 13 participants for failing an initial data quality check (failing to agree to read all material carefully), and 164 participants for failing an attention check (providing an incorrect answer to an instructional attention check). In total, we excluded 237 participants, leaving a final sample of 272 participants ($M_{age}$ = 30.13, SD = 9.86; 162 male, 109 female, 1 missing gender information; political orientation: *M* = 3.81, from 1 *Very Left-wing* to 7 *Very Right-wing*). We did not collect any additional demographic information. Sensitivity analyses conducted using G*Power 3.1 (Faul et al., 2009) indicated that this study was powered at .80 to detect an effect of β > .18 at alpha = .05.

***Procedure***

All materials were presented in English. Participants completed both a modified version of the six slippery slope arguments from Pilot Sample A (α = .78) and the Slippery Slope scale (α = .58; Adelman et al., 2021). Unlike in previous studies, these two measures of slippery slope

thinking were not highly correlated with each other, $r(264) = .42$; analyses reported below are based on ratings of the slippery slope arguments. Participants also read modified versions of the four *minor violation* scenarios used in Study 4. As in Study 4, participants rated how morally wrong the agent's behavior was ($\alpha = .92$) and how much punishment the agent deserved for their behavior ($\alpha = .86$). For both the slippery slope arguments and the scenarios, we used masculine Turkish names and money values expressed in Turkish lira. Participants were randomly assigned to complete either the slippery slope measures first (with randomized order for the Slippery Slope scale and the slippery slope arguments) or the violation scenarios. After the scenarios, participants completed the measure of belief in supernatural agents ($\alpha = .95$) and the measure of religious importance ($\alpha = .92$). We averaged these two scales together to form a composite index of religiosity ($\alpha = .84$).

**Results and Discussion**

***Cross-Cultural Variation in Slippery Slope Thinking***

To help contextualize the cross-cultural analyses that follow, we examined the within- and between-cultural variance in the measures of slippery slope thinking. To do so, in addition to the data from Studies 6a (i.e., India) and 6b (i.e., Türkiye), we examined data from Study 1 as this was the U.S.-based study that had the largest sample size and included both measures of slippery slope thinking (i.e., agreement with slippery slope statements from Pilot Sample A and the Slippery Slope scale from Adelman et al., 2021).

There was relatively similar reliability in the Slippery Slope scale for Study 1 ($\alpha = .87$) and Study 6a ($\alpha = .83$), with weaker reliability for Study 6b ($\alpha = .58$). There was similar reliability in agreement with the slippery slope arguments for Study 1 ($\alpha = .82$) and Study 6b ($\alpha$

= .78). As previously noted, analyses for Study 6b are based on the more reliable measure of agreement with the slippery slope arguments.

We found that there were cultural differences in slippery slope thinking, both for agreement with slippery slope arguments (Study 1: $M = 4.15$, $SD = 1.81$; Study 6b: $M = 4.88$, $SD = 1.92$; $F(1, 645) = 25.06$, $p < .001$, $\eta_p^2 = .04$) and using the Slippery Slope scale (Study 1: $M = 4.23$, $SD = 1.19$; Study 6b: $M = 4.97$, $SD = 0.91$; Study 6a: $M = 5.37$, $SD = 1.23$; $F(2, 1375) = 119.05$, $p < .001$, $\eta_p^2 = .15$). In short, slippery slope thinking was lowest in Study 1, higher in Study 6b, and then higher still in Study 6a. In addition, Levene's tests for equality of variances found a significant difference in variance for the Slippery Slope scale ($F(2, 1375) = 10.72$, $p < .001$)—less variation in Study 6b, more variation in Study 1 and Study 6a—but not for agreement with slippery slope arguments ($F(1, 645) = 0.54$, $p = .464$). These results highlight cultural variation in slippery slope thinking, offering a promising avenue for future research (see the General Discussion below).

We additionally tested measurement invariance of the two slippery slope scales across the different country samples using multi-group confirmatory factor analysis (Putnick & Bornstein, 2016). For the Slippery Slope scale, configural and metric invariance were supported ($\Delta$CFI = 0.001, $\Delta$RMSEA = 0.003), indicating that the factor structure and loadings are equivalent across groups. For slippery slope arguments, both configural and metric invariance were supported ($\Delta$CFI = 0.005, $\Delta$RMSEA = 0.002). These results indicate that both measures of slippery slope thinking exhibited similar variance structure across the different cultural contexts.

***Study 6a Results***

For zero-order correlations between main measures, see Table 7. We conducted a series of linear regressions as the formal examinations of our hypotheses. We found that religiosity

emerged as a significant predictor of both slippery slope thinking (β = .44, $t(703) = 12.83$, $p < .001$) and of punishment judgments (β = .31, $t(703) = 8.56$, $p < .001$). These effects held in exploratory analyses (not included in our pre-registration) when controlling for participants' age, gender, and political orientation (slippery slope thinking: β = .30, $t(614) = 7.73$, $p < .001$; punishment: β = .22, $t(614) = 5.54$, $p < .001$). Likewise, greater slippery slope thinking predicted harsher punishment towards those who have committed minor moral transgression (β = .32, $t(715) = 9.01$, $p < .001$; controlling for demographics; β = .27, $t(614) = 6.86$, $p < .001$). Using PROCESS Model 4 and 10,000 bootstrapped samples (Hayes, 2018), we found that slippery slope thinking significantly mediated the relation between religiosity and punishment judgments, $b = .12$, SE = .03, 95% CI (0.07, 0.17).

| | Religiosity | Slippery Slope Scale | Wrongness Judgments | Punishment Judgments |
|---|---|---|---|---|
| Religiosity | 1 | .44 | .28 | .31 |
| Slippery Slope Scale | | 1 | .34 | .32 |
| Wrongness Judgments | | | 1 | .73 |
| Punishment Judgments | | | | 1 |

Table 7

Zero-order correlations between main measures of Study 6a. $N = 705$. All correlations significant at $p < .001$.

***Study 6b Results***

For zero-order correlations between main measures, see Table 8. Turning to the formal tests of our hypotheses, we found that religiosity emerged as a significant predictor of punishment judgments (β = .20, $t(270) = 3.31$, $p = .001$). This significant association held in an

exploratory analysis (not included in our pre-registration) controlling for participants' age, gender, and political orientation (β = .20, $t(257) = 2.99$, $p = .003$). In addition, we found that religiosity also significantly predicted slippery slope thinking (β = .15, $t(264) = 2.51$, $p = .013$). However, when including participant demographics, this association between religiosity and slippery slope thinking dropped to nonsignifiance (β = .10, $t(251) = 1.51$, $p = .132$). Slippery slope thinking marginally predicted greater punishment towards moral norm transgressors (β = .12, $t(264) = 1.93$, $p = .055$), which reached traditional levels of significance in an exploratory analysis including demographics (β = .14, $t(251) = 2.18$, $p = .030$). Finally, using PROCESS Model 4 and 10,000 bootstrapped samples (Hayes, 2018), we did not find that endorsement of slippery slope arguments significantly mediated the relation between religiosity and punishment judgments, $b = .01$, SE = .01, 95% CI (-0.005, 0.03). In summary, Study 6b presents mostly consistent support linking religiosity, slippery slope thinking, and punishment, albeit somewhat weaker compared to Studies 4 and 6a. This weaker support could be due to the relatively smaller sample size of Study 6b or could alternatively suggest there may be cultural and religious variation in how religious beliefs connect to slippery slope thinking and punishment.

| | Religiosity | Slippery Slope Arguments | Wrongness Judgments | Punishment Judgments |
|---|---|---|---|---|
| Religiosity | 1 | .15* | .04 | .21*** |
| Slippery Slope Arguments | | 1 | .07 | .12† |
| Wrongness Judgments | | | 1 | .49*** |
| Punishment Judgments | | | | 1 |

Table 8

Zero-order correlations between main measures of Study 6b. $N = 266$.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

## General Discussion

We examined whether slippery slope thinking may help explain whether more religious people are more prone to punishing others for their perceived transgressions. Across our studies (with weaker results in Study 6b), we found that religiosity is associated with greater punitiveness, linked—at least in part—by greater slippery slope thinking. We found that religiosity is connected to slippery slope thinking, an effect which is correlationally mediated by belief in karma and the moralization of self-control (Study 1). Similarly, experimentally manipulating moralization of self-control can increase the effect of religiosity on slippery slope thinking (Study 2). We also find that slippery slope thinking predicts punishment (Study 3), with this effect emerging potentially more strongly for relatively minor transgressions (Study 4), an effect which cannot be explained by individual differences in holding pessimistic beliefs about human nature or tendencies to make dispositional attributions of behavior (Study 5). We replicated these latter results with a sample from India (Study 6a), with somewhat weaker and less consistent evidence with a sample from Türkiye (Study 6b). These cross-cultural results suggest both generalizability and variability across cultures and religious traditions (Henrich et al., 2010). Our findings shed light on the differing cognitive profiles between believers and non-believers (Norenzayan & Gervais, 2013; Pennycook et al., 2016; White et al., 2021) and potential cultural role of moralizing religions in facilitating cooperation (Kay et al., 2008; Laurin et al., 2012).

In this research, we aimed to extend past findings regarding whether, why, and when religious beliefs promote punishment (Grasmick et al., 1991, 1992; Laurin et al., 2012). We present evidence for a cognitive mechanism—slippery slope thinking—that can explain why religiosity would predict more punitive attitudes. That is, because slippery slope thinking can lead people to predict a chain of increasingly negative future behaviors, punishment can be a method to prevent those future behaviors. In addition, as seen in Study 4, we find that this connection is marginally more closely related to predicting punishment for minor (vs. severe) transgressions. Our findings thus suggest not just *why* religiosity would predict punishment but also *when* such psychological processes are likely to be strongest. This framework may help to explain why certain research (e.g., Hofmann et al., 2018) has failed to find a link between religiosity and punishment based on features of the transgressions studied (e.g., severity). Future research could more directly reconcile when religiosity does—and does not—predict punishment.

Our findings also contribute to a growing psychological understanding of slippery slope thinking (Adelman et al., 2021; Corner et al., 2011; Haigh et al., 2016; Svedholm-Häkkinen & Kiikeri, 2022), whereby increasingly negative events will follow from an initial act. While long discussed in philosophy (van der Burg, 1991) and legal studies (Schauer, 1985; Volokh, 2003), slippery slope thinking has only recently been investigated empirically. Perhaps most famously, slippery slope thinking is associated with argumentation (van der Burg, 1991); therefore, our results can speak to questions of for whom, and why, slippery slope arguments are persuasive.

As a limitation of our research, we acknowledge that statistical mediation—especially when every variable is measured—has limitations for causal inference and interpretation (Fiedler et al., 2011, 2018). We structured our mediation models as we did (e.g., in Study 1, from

religiosity to mechanisms to slippery slope thinking; in Studies 3-6, from religiosity to slippery slope thinking to punishment) based on our theorizing for the connections between these variables. Religiosity is a core component in the lives of most humans, with critical downstream consequences for their psychology (Atran & Henrich, 2010; Fogelin, 2007; Jackson et al., 2021; Laurin et al., 2012; White et al., 2021). However, there may be more complex, bidirectional connections between these variables, a possibility which can be examined in future research. Furthermore, we note that several of our studies rely on correlational analyses, which can limit causal inferences. We did conduct several experimental examinations of our effects (see Study 2 and Study 4), but we acknowledge that additional work should be done. Future research should explore experimental manipulations of both religiosity and slippery slope thinking to better understand the causal connections between these variables.

One additional limitation—and potential avenue for future research—was the relatively weaker evidence found in the Turkish sample of Study 6b, in which we failed to replicate some of the associations found in the U.S. and Indian samples (Studies 4 and 6a, respectively). Alternatively, there could be cultural and religious beliefs relevant to religiosity, slippery slope thinking, and punishment that distinguish Türkiye from the U.S. and India (perhaps related to the theorized mechanisms from Study 1, belief in karma and moralization of self-control). Future research should more directly explore the cultural factors that influence slippery slope thinking to understand where it is more (vs. less) connected to religiosity and punishment.

The current results present several other opportunities for extensions and additional study. While we included samples from three countries and religious traditions, future research should sample from other religious communities given the diversity of religious and spiritual beliefs (Lang et al., 2019; Willard & Cingl, 2017). We operationalized religiosity as belief in

supernatural agents and religious importance: Given the complexity and diversity of religious beliefs across the world, alternative operationalizations that focus on other kinds of beliefs—such as beliefs about the nature of God (e.g., belief that God is controlling; Kay et al., 2008; Laurin et al., 2008) or the role of religion in explaining aspects of the world (Jackson et al., 2023)—could help explain when and why religiosity predicts slippery slope thinking and punishment. More generally, based on Study 1, we would expect to replicate our results to the extent that any specific religion and measure of religiosity includes karmic beliefs and moralizes self-control.

Future research can also examine other implications of religious people being more prone to slippery slope thinking. For example, due to its tendency to catastrophize small changes, slippery slope thinking might explain religiously-motivated conservatism and doctrinal orthodoxy in organized religions (e.g., resisting change and perceived progressive stances in religious doctrine due to the belief that such changes will have disastrous downstream consequences for the religion). Finally, we have highlighted one consequence of slippery slope thinking: greater punitiveness. However, future research can explore other potential psychological and behavioral correlates of slippery slope thinking, outside of religion and punishment. Slippery slope thinking may lead individuals to perceive that certain aspects of the world are out of their control, changing faster and more dramatically than they prefer, which can motivate efforts to resist and prevent those perceived changes.

## Open Practices

Direct links to our preregistrations are available for Study 1 (https://aspredicted.org/k2b9-8g73.pdf), Study 2 (https://aspredicted.org/bbfm-p4xg.pdf), Study 3 (https://aspredicted.org/2w23-w5h9.pdf), Study 4 (https://aspredicted.org/t3kx-79xt.pdf), Study 5

(https://aspredicted.org/ngw5-n22n.pdf), Study 6a (https://aspredicted.org/d7nv-d8tz.pdf), and Study 6b (https://aspredicted.org/9p3d-dtyj.pdf). We include all preregistration information, preregistration deviations, materials, data, and analysis scripts for all studies on the OSF page for this project, https://osf.io/xh2ku/?view_only=06a162856ea94946afbb51a376618b05.

## References

Adelman, L., Verkuyten, M., Cárdenas, D., & Yogeeswaran, K. (2021). On a slippery slope to intolerance: Individual difference in slippery slope beliefs predict outgroup negativity. *Journal of Research in Personality, 94*, 104141. https://doi.org/10.1016/j.jrp.2021.104141

Anderson, R. A., Ruisch, B. C., & Pizarro, D. A. (2023). On the Highway to Hell: Slippery Slope Perceptions in Judgments of Moral Character. *Personality and Social Psychology Bulletin*, *50*(5), 679–693. https://doi.org/10.1177/01461672221143022

Atran, S., & Henrich, J. (2010). The Evolution of Religion: How Cognitive By-Products, Adaptive Learning Heuristics, Ritual Displays, and Group Competition Generate Deep Commitments to Prosocial Religions. *Biological Theory*, *5*(1), 18–30. https://doi.org/10.1162/BIOT_a_00018

Balliet, D., Mulder, L. B., & Van Lange, P. A. M. (2011). Reward, punishment, and cooperation: A meta-analysis. *Psychological Bulletin*, *137*(4), 594–615. https://doi.org/10.1037/a0023489

Bregant, J., Shaw, A., & Kinzler, K. D. (2016). Intuitive jurisprudence: Early reasoning about the functions of punishment. *Journal of Empirical Legal Studies*, *13*(4), 693–717. https://doi.org/10.1111/jels.12130

Callan, M. J., Sutton, R. M., Harvey, A. J., & Dawtry, R. J. (2014). Immanent Justice Reasoning. In *Advances in Experimental Social Psychology* (Vol. 49, pp. 105–161). Elsevier. https://doi.org/10.1016/B978-0-12-800052-6.00002-0

Caluori, N., Jackson, J. C., Gray, K., & Gelfand, M. (2020). Conflict Changes How People View God. *Psychological Science*, *31*(3), 280–292. https://doi.org/10.1177/0956797619895286

Carter, E. C., McCullough, M. E., & Carver, C. S. (2012). The Mediating Role of Monitoring in the Association of Religion With Self-Control. *Social Psychological and Personality Science*, *3*(6), 691–697. https://doi.org/10.1177/1948550612438925

Corner, A., Hahn, U., & Oaksford, M. (2011). The psychological mechanism of the slippery slope argument. *Journal of Memory and Language*, *64*(2), 133–152. https://doi.org/10.1016/j.jml.2010.10.002

Díaz, R., & Cova, F. (2022). Reactance, morality, and disgust: The relationship between affective dispositions and compliance with official health recommendations during the COVID-19 pandemic. *Cognition and Emotion*, *36*(1), 120–136. https://doi.org/10.1080/02699931.2021.1941783

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Fehr, E., & Gächter, S. (2000). Cooperation and punishment in public goods experiments. *American Economic Review*, *90*(4), 980–994. https://doi.org/10.1257/aer.90.4.980

Fiedler, K., Harris, C., & Schott, M. (2018). Unwarranted inferences from statistical mediation tests – An analysis of articles published in 2015. *Journal of Experimental Social Psychology*, *75*, 95–102. https://doi.org/10.1016/j.jesp.2017.11.008

Fiedler, K., Schott, M., & Meiser, T. (2011). What mediation analysis can (not) do. *Journal of Experimental Social Psychology*, *47*(6), 1231–1236. https://doi.org/10.1016/j.jesp.2011.05.007

Fogelin, L. (2007). The archaeology of religious ritual. *Annual Review of Anthropology*, *36*(1), 55–71. https://doi.org/10.1146/annurev.anthro.36.081406.094425

Frederick, S. (2005). Cognitive reflection and decision making. *Journal of Economic Perspectives*, *19*(4), 25–42. https://doi.org/10.1257/089533005775196732

Gervais, W. M., & Norenzayan, A. (2012). Analytic thinking promotes religious disbelief. *Science*, *336*(6080), 493–496. https://doi.org/10.1126/science.1215647

Gervais, W. M., van Elk, M., Xygalatas, D., McKay, R. T., Aveyard, M., Buchtel, E. E., Dar-Nimrod, I., Klocová, E. K., Ramsay, J. E., Riekki, T., Svedholm-Häkkinen, A. M., & Bulbulia, J. (2018). Analytic atheism: A cross-culturally weak and fickle phenomenon? *Judgment and Decision Making*, *13*, 268–274.

Goenka, S., & Thomas, M. (2020). The malleable morality of conspicuous consumption. *Journal of Personality and Social Psychology*, *118*(3), 562–583. https://doi.org/10.1037/pspp0000237

Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the moral domain. *Journal of Personality and Social Psychology*, *101*(2), 366–385. https://doi.org/10.1037/a0021847

Grasmick, H. G., Bursik, R. J., & Kimpel, M. (1991). Protestant Fundamentalism and Attitudes Toward Corporal Punishment of Children. *Violence and Victims*, *6*(4), 283–298. https://doi.org/10.1891/0886-6708.6.4.283

Grasmick, H. G., Morgan, C. S., & Kennedy, M. B. (1992). Support for corporal punishment in the schools: A comparison of the effects of socioeconomic status and religion. *Social Science Quarterly*, *73*, 177–187.

Gürerk, Ö., Irlenbusch, B., & Rockenbach, B. (2006). The Competitive Advantage of Sanctioning Institutions. *Science*, *312*(5770), 108–111. https://doi.org/10.1126/science.1123633

Hafer, C. L., & Bègue, L. (2005). Experimental Research on Just-World Theory: Problems, Developments, and Future Challenges. *Psychological Bulletin*, *131*(1), 128–167. https://doi.org/10.1037/0033-2909.131.1.128

Hafer, C. L., & Choma, B. L. (2009). Belief in a just world, perceived fairness, and justification of the status quo. In J. T. Jost, A. C. Kay, & H. Thorisdottir (Eds.), *Social and Psychological Bases of Ideology and System Justification* (pp. 107–125). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195320916.003.005

Haigh, M., Wood, J. S., & Stewart, A. J. (2016). Slippery slope arguments imply opposition to change. *Memory & Cognition*, *44*(5), 819–836. https://doi.org/10.3758/s13421-016-0596-9

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (Second edition). Guilford Press.

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*(2–3), 61–83. https://doi.org/10.1017/S0140525X0999152X

Hofmann, W., Brandt, M. J., Wisneski, D. C., Rockenbach, B., & Skitka, L. J. (2018). Moral punishment in everyday life. *Personality and Social Psychology Bulletin*, *44*(12), 1697–1711. https://doi.org/10.1177/0146167218775075

Jackson, J. C., Caluori, N., Abrams, S., Beckman, E., Gelfand, M., & Gray, K. (2021). Tight cultures and vengeful gods: How culture shapes religious belief. *Journal of Experimental Psychology: General*, *150*(10), 2057–2077. https://doi.org/10.1037/xge0001033

Jackson, J. C., Dillion, D., Bastian, B., Watts, J., Buckner, W., DiMaggio, N., & Gray, K. (2023). Supernatural explanations across 114 societies are more common for natural than social phenomena. *Nature Human Behaviour*, *7*(5), 707–717. https://doi.org/10.1038/s41562-023-01558-0

Johnson, K. A., Okun, M. A., & Cohen, A. B. (2015). The mind of the Lord: Measuring authoritarian and benevolent God representations. *Psychology of Religion and Spirituality*, *7*(3), 227–238. https://doi.org/10.1037/rel0000011

Jordan, J. J., Hoffman, M., Bloom, P., & Rand, D. G. (2016). Third-party punishment as a costly signal of trustworthiness. *Nature*, *530*(7591), 473–476. https://doi.org/10.1038/nature16981

Kay, A. C., Gaucher, D., Napier, J. L., Callan, M. J., & Laurin, K. (2008). God and the government: Testing a compensatory control mechanism for the support of external systems. *Journal of Personality and Social Psychology*, *95*(1), 18–35. https://doi.org/10.1037/0022-3514.95.1.18

Lang, M., Purzycki, B. G., Apicella, C. L., Atkinson, Q. D., Bolyanatz, A., Cohen, E., Handley, C., Kundtová Klocová, E., Lesorogol, C., Mathew, S., McNamara, R. A., Moya, C., Placek, C. D., Soler, M., Vardy, T., Weigel, J. L., Willard, A. K., Xygalatas, D.,

Norenzayan, A., & Henrich, J. (2019). Moralizing gods, impartiality and religious parochialism across 15 societies. *Proceedings of the Royal Society B: Biological Sciences*, *286*(1898), 20190202. https://doi.org/10.1098/rspb.2019.0202

Laurin, K., Kay, A. C., & Moscovitch, D. A. (2008). On the belief in God: Towards an understanding of the emotional substrates of compensatory control. *Journal of Experimental Social Psychology*, *44*(6), 1559–1562. https://doi.org/10.1016/j.jesp.2008.07.007

Laurin, K., Shariff, A. F., Henrich, J., & Kay, A. C. (2012). Outsourcing punishment to God: Beliefs in divine control reduce earthly punishment. *Proceedings of the Royal Society B: Biological Sciences*, *279*(1741), 3272–3281. https://doi.org/10.1098/rspb.2012.0615

McCullough, M. E., & Willoughby, B. L. B. (2009). Religion, self-regulation, and self-control: Associations, explanations, and implications. *Psychological Bulletin*, *135*(1), 69–93. https://doi.org/10.1037/a0014213

McKay, R., & Whitehouse, H. (2015). Religion and morality. *Psychological Bulletin*, *141*(2), 447–473. https://doi.org/10.1037/a0038455

Mooijman, M., Meindl, P., Oyserman, D., Monterosso, J., Dehghani, M., Doris, J. M., & Graham, J. (2018). Resisting temptation for the good of the group: Binding moral values and the moralization of self-control. *Journal of Personality and Social Psychology*, *115*(3), 585–599. https://doi.org/10.1037/pspp0000149

Norenzayan, A., & Gervais, W. M. (2013). The origins of religious disbelief. *Trends in Cognitive Sciences*, *17*(1), 20–25. https://doi.org/10.1016/j.tics.2012.11.006

Norenzayan, A., & Shariff, A. F. (2008). The Origin and Evolution of Religious Prosociality. *Science*, *322*(5898), 58–62. https://doi.org/10.1126/science.1158757

Norenzayan, A., Shariff, A. F., Gervais, W. M., Willard, A. K., McNamara, R. A., Slingerland, E., & Henrich, J. (2016). The cultural evolution of prosocial religions. *Behavioral and Brain Sciences*, *39*, e1. https://doi.org/10.1017/S0140525X14001356

Oyserman, D., & Lee, S. W. S. (2008). Does culture influence what and how we think? Effects of priming individualism and collectivism. *Psychological Bulletin*, *134*(2), 311–342. https://doi.org/10.1037/0033-2909.134.2.311

Pacini, R., & Epstein, S. (1999). The relation of rational and experiential information processing styles to personality, basic beliefs, and the ratio-bias phenomenon. *Journal of Personality and Social Psychology*, *76*(6), 972–987. https://doi.org/10.1037/0022-3514.76.6.972

Pavey, L., Rotella, A., & Vallée-Tourangeau, G. (2024). Moral obligation, autonomous motivation and vaccine hesitancy: Highlighting moral obligation increases reactance in hesitant individuals. *Applied Psychology: Health and Well-Being*, *16*(4), 1520–1538. https://doi.org/10.1111/aphw.12540

Pennycook, G., Ross, R. M., Koehler, D. J., & Fugelsang, J. A. (2016). Atheists and agnostics are more reflective than religious believers: Four empirical studies and a meta-analysis. *PLOS ONE*, *11*(4), e0153039. https://doi.org/10.1371/journal.pone.0153039

Peoples, H. C., Duda, P., & Marlowe, F. W. (2016). Hunter-Gatherers and the Origins of Religion. *Human Nature*, *27*(3), 261–282. https://doi.org/10.1007/s12110-016-9260-0

Pew Research Center. (2022). *Religious Composition by Country, 2010-2050*. Pew Research Center. https://www.pewresearch.org/religion/interactives/religious-composition-by-country-2010-2050/

Pirlott, A. G., & MacKinnon, D. P. (2016). Design approaches to experimental mediation. *Journal of Experimental Social Psychology, 66,* 29–38. https://doi.org/10.1016/j.jesp.2015.09.012

Putnick, D. L., & Bornstein, M. H. (2016). Measurement invariance conventions and reporting: The state of the art and future directions for psychological research. *Developmental Review, 41,* 71–90. https://doi.org/10.1016/j.dr.2016.06.004

Rounding, K., Lee, A., Jacobson, J. A., & Ji, L.-J. (2012). Religion Replenishes Self-Control. *Psychological Science*, *23*(6), 635–642. https://doi.org/10.1177/0956797611431987

Schauer, F. (1985). Slippery slopes. *Harvard Law Review*, *99*(2), 361. https://doi.org/10.2307/1341127

Stenvoll, D. (2008). Slippery slopes in political discourse. In T. Carver & J. Pikalo (Eds.), *Political Language and Metapor: Interpreting and changing the world* (pp. 28–40). Routledge.

Svedholm-Häkkinen, A. M., & Kiikeri, M. (2022). Cognitive miserliness in argument literacy? Effects of intuitive and analytic thinking on recognizing fallacies. *Judgment and Decision Making*, *17*(2), 331–361.

Thomson, K. S., & Oppenheimer, D. M. (2016). Investigating an alternate form of the cognitive reflection test. *Judgment and Decision Making*, *11*(1), 99–113.

To, C., Sherf, E. N., & Kouchaki, M. (2024). How Much Inequity Do You See? Structural Power, Perceptions of Gender and Racial Inequity, and Support for Diversity Initiatives. *Academy of Management Journal*, *67*(1), 126–149. https://doi.org/10.5465/amj.2022.0253

van der Burg, W. (1991). The slippery slope argument. *Ethics*, *102*(1), 42–65. https://doi.org/10.1086/293369

Volokh, E. (2003). The mechanisms of the slippery slope. *Harvard Law Review*, *116*(4), 1026–1137. https://doi.org/10.2307/1342743

White, C. J. M., Norenzayan, A., & Schaller, M. (2019). The Content and Correlates of Belief in Karma Across Cultures. *Personality and Social Psychology Bulletin*, *45*(8), 1184–1201. https://doi.org/10.1177/0146167218808502

White, C. J. M., Willard, A. K., Baimel, A., & Norenzayan, A. (2021). Cognitive Pathways to Belief in Karma and Belief in God. *Cognitive Science*, *45*(1). https://doi.org/10.1111/cogs.12935

Willard, A. K., & Cingl, L. (2017). Testing theories of secularization and religious belief in the Czech Republic and Slovakia. *Evolution and Human Behavior*, *38*(5), 604–615. https://doi.org/10.1016/j.evolhumbehav.2017.01.002

Wrightsman, L. S. (1964). Measurement of philosophies of human nature. *Psychological Reports*, *14*(3), 743–751. https://doi.org/10.2466/pr0.1964.14.3.743

Yamagishi, T., Akutsu, S., Cho, K., Inoue, Y., Li, Y., & Matsumoto, Y. (2015). Two-Component Model of General Trust: Predicting Behavioral Trust from Attitudinal Trust. *Social Cognition*, *33*(5), 436–458. https://doi.org/10.1521/soco.2015.33.5.436