

The Relationship Between Counterfactual Reasoning, Religious Supernatural Causality, and Religious Exposure

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Introduction

- Counterfactual reasoning skills begin to develop within early- to middle-childhood and may be related to other cognitive abilities such as causal reasoning and possibility judgments.^{1,2}
 - E.g., a child's ability to reason about how an event could or could not happen may be related to her ability to think about causes that would allow for the event to happen as well as causes that would not allow the event to happen.*
- Current study examines if counterfactual reasoning skills are related to children's (1) endorsement of supernatural causal reasoning, (2) justifications for why God could/could not make an event possible, and (3) religious exposure

Participants

- Children 3.87- to 7.05-years old from four religious affiliations ($N = 135$):
 - Protestant Christian ($n = 38$; $M_{age} = 5.120$, $SD_{age} = .737$; 50% female)
 - Roman Catholic ($n = 25$; $M_{age} = 5.278$, $SD_{age} = .656$; 52% female)
 - Muslim ($n = 43$; $M_{age} = 5.611$, $SD_{age} = .737$; 60.5% female)
 - Religiously Non-Affiliated ($n = 29$; $M_{age} = 5.209$, $SD_{age} = .659$; 69% female)

Procedure

Counterfactual Reasoning¹

- Children asked to imagine how they could change two hypothetical situations (e.g., what they could have done for a dirty floor to be clean)
 - Solutions were coded as correct (e.g., take muddy shoes off) or incorrect (e.g., keep shoes on), and summed for total number of correct solutions

Religious Exposure

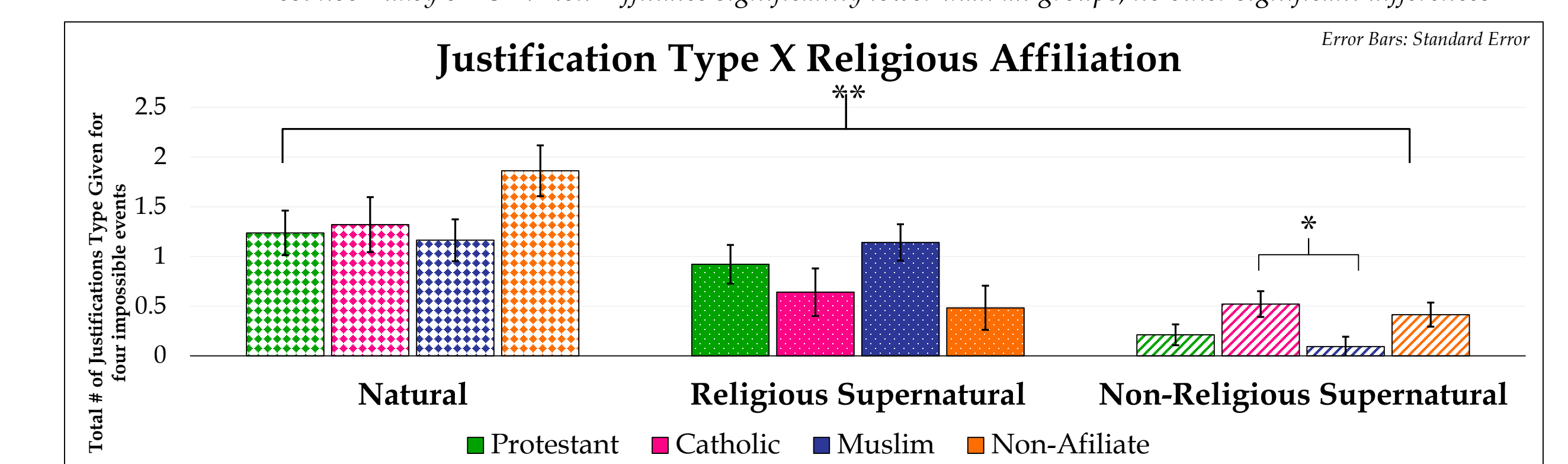
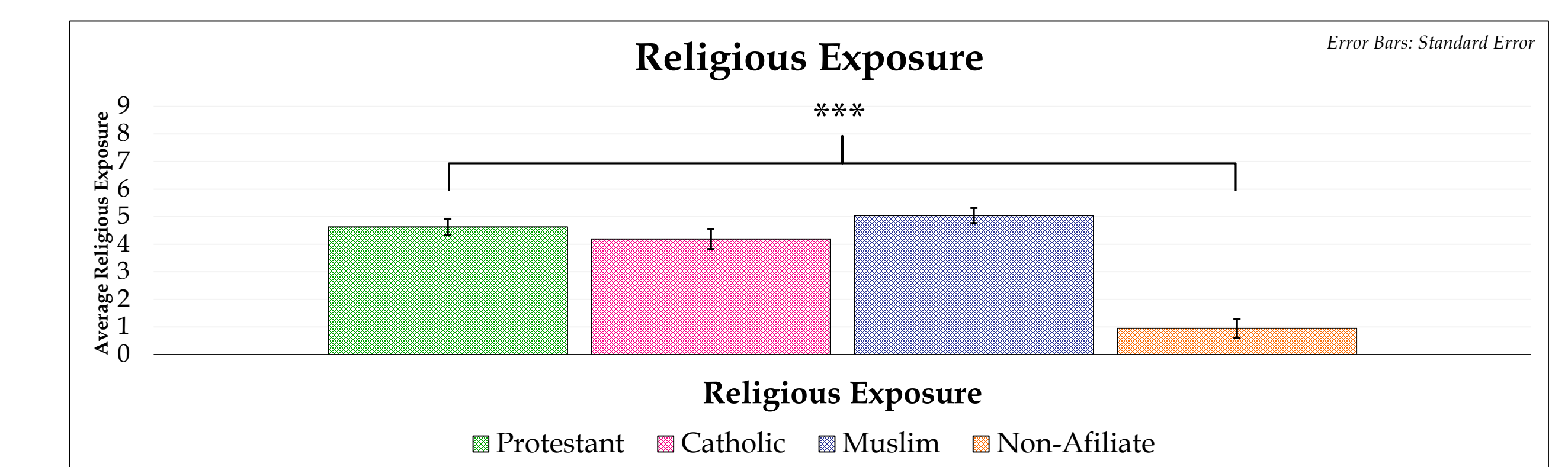
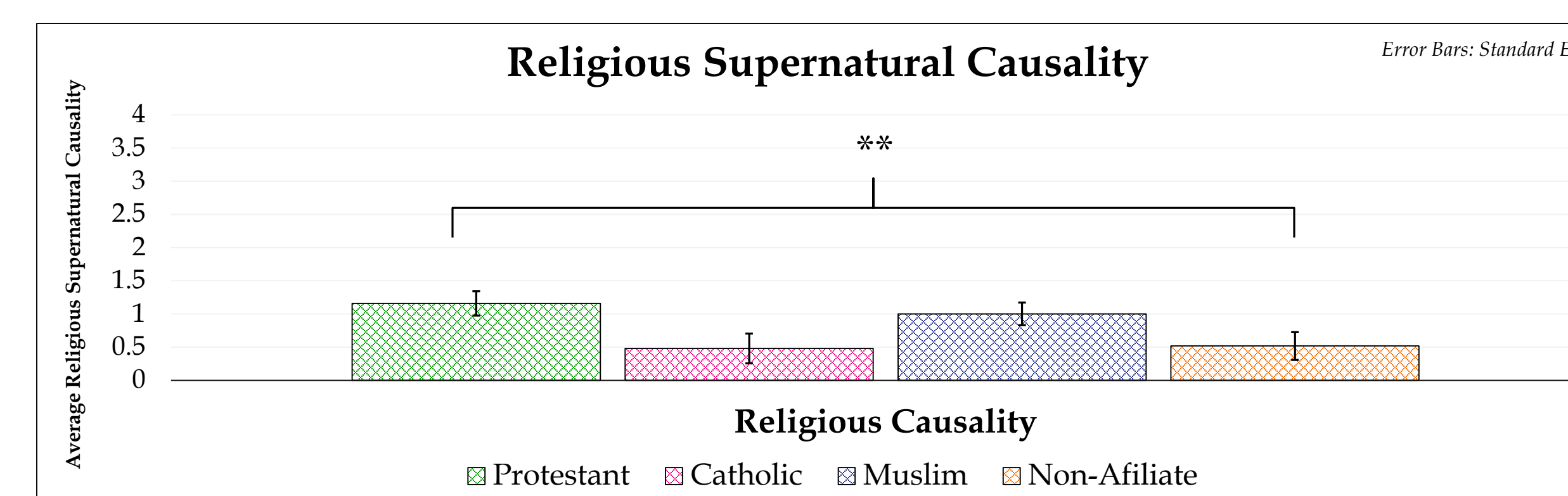
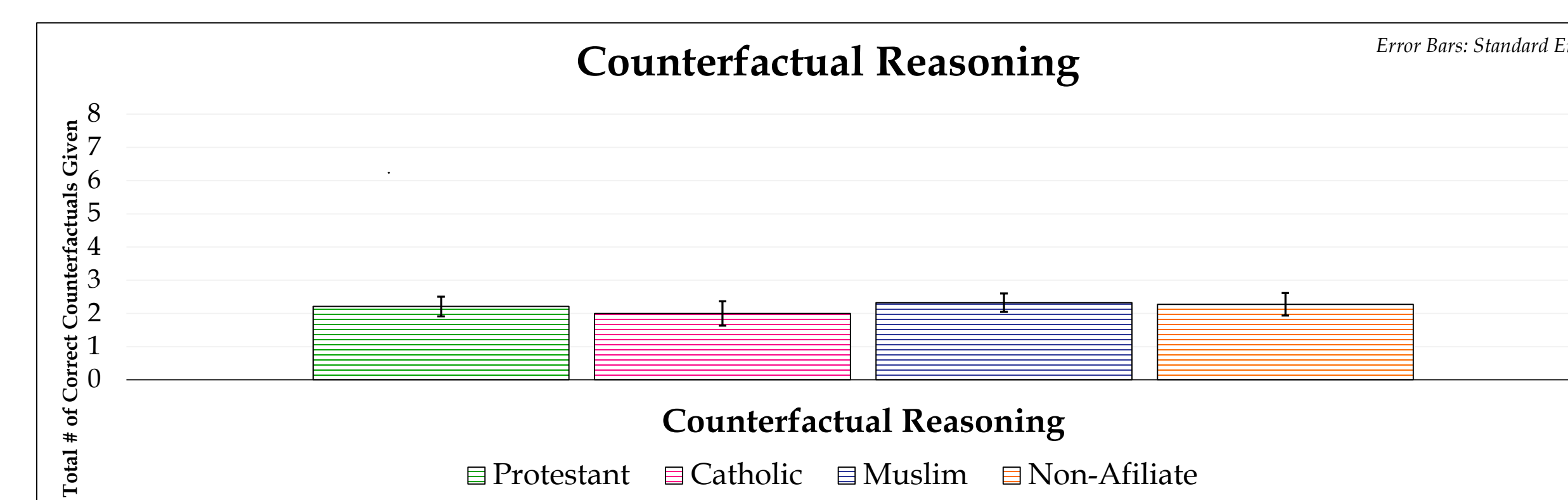
- Average of parent report for how frequently children engaged in public and private religious practices, attended religious events, and received formal religious instruction ([0] never to [8] multiple times a day) and if children attend a religiously affiliated school ([1] yes, [0] no)

Religious Supernatural Causality

- Participants first judged if four physically impossible events could happen in real life, and then if God could make the events possible
 - Summed for total number of times children changed from "No" without God to "Yes" with God
- Participants also asked to provide an explanation for why each event could/could not happen with God
 - Reponses coded as natural, religious supernatural, non-religious supernatural and summed

Results

	Overall	Protestant	Catholic	Muslim	Non-Affiliated
Bivariate correlation of Age & Counterfactual Reasoning	$r(133) = .434^{***}$	$r(36) = .428^{**}$	$r(23) = .495^*$	$r(41) = .346^*$	$r(27) = .574^{**}$
Partial Correlations with Counterfactual Reasoning (controlling for age)					
Religious Supernatural Causality	$r(132) = .067$	$r(36) = .196$	$r(22) = -.204$	$r(40) = -.053$	$r(26) = .283$
Justifications - Natural	$r(132) = -.036$	$r(36) = -.250$	$r(22) = -.052$	$r(40) = .008$	$r(26) = -.041$
Justifications - Religious Supernatural	$r(132) = .114$	$r(36) = .417^*$	$r(22) = .192$	$r(40) = -.062$	$r(26) = .163$
Justifications - Non-Religious Supernatural	$r(132) = .154^\dagger$	$r(36) = .199$	$r(22) = .208$	$r(40) = -.078$	$r(26) = .177$
Religious Exposure	$r(132) = -.220^*$	$r(36) = -.108$	$r(22) = -.449^*$	$r(40) = -.236$	$r(26) = -.224$



Summary of Results & Discussion

- No significant differences in the total number of counterfactuals given across all religious affiliations.
- Across religious affiliations, counterfactual reasoning skills not significantly related to (1) children's endorsement of religious supernatural causality, (2) natural justifications, or (3) non-religious supernatural justifications.
- For Protestants, counterfactual reasoning was positively related to religious supernatural justifications. Even though natural explanations were given most frequently, perhaps children raised in this religious tradition judge supernatural explanations as an alternative to natural explanations.
- Overall, and specifically for Catholics, counterfactual reasoning was negatively related to religious exposure. Perhaps children with more religious exposure may not be encouraged to think of more than one reason for how an event could happen.

Contact

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References

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