Multiple Measures of Religiosity & Health: A Global Comparative Study

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Background

There is a large body of research on religion and health. Most suggests religion is salutary. (e.g., Lavretsky 2010; Krause, 2011; Koenig, 2012; Zimmer et al., 2016).

Demographers in particular have been influential, having shown that religious people live longer. (e.g., Hummer et al., 2004; Gillum et al, 2008; Hill et al., 2005; Musick et al., 2004).

Mechanisms:
- social networks
- behaviors
- psychosocial factors
Unresolved issues

Is the impact of religiosity context dependent?

Restrictions on religious behavior and religious diversity matter (Inglehart, 2010)

Religion is complex and encompasses many dimensions. E.g., distinction between participation and belief.
How does the religiosity health association differ across countries and measures of religiosity?

* World Values Surveys Waves 3 to 6, 1995 to 2012.
* 93 countries.
* N: 121,770.
* Covers 86% of global population.
Measures

**Health**
All in all, how would you describe your state of health these days:

- Very good
- Good
- Fair
- Poor

**Participation**
Apart from weddings and funerals, about how often do you attend religious services these days?

Original scale 1-7
Normalized to be between 0 and 1

**Belief**
How important is god in your life?

Original scale 1-10
Normalized to be between 0 and 1
Analysis 1

93 country-specific ordered logit regressions

LN\(\theta(\text{health} < k) = \text{intercept} < k + \text{religiosity} + \text{age} + \text{age}^2 + \text{sex}\)
93 country-specific log odds and confidence intervals, relationship between participation and health*

5 countries negative and significant to $p < .05$

64 countries non-significant at $p < .05$

24 countries positive and significant to $p < .05$

* Controlling for age, age-squared and sex. Country names are abbreviated.
93 country specific log odds and confidence intervals, relationship between belief and health*

17 countries negative and significant to $p < .05$

64 countries non-significant at $p < .05$

12 countries positive and significant to $p < .05$

* Controlling for age, age-squared and sex. Country names are abbreviated.
Conclusion: There is variation across countries and variation across measures.

Why?

Analysis 2: Multi-level model
Multi-level model

Combine data across countries

4 components:

1. Individual-level effects: Religiosity measure; Age; Age², Sex

2. Country-level effects: Religious diversity, SES, Communist

3. Cross-level interaction: Religiosity X Country-level effects

4. Random effect: Intercept & Slope
## Country-level measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Operationalized as</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious diversity</td>
<td>Simpson’s Diversity Index (D)</td>
<td>The degree of variation in religious affiliation</td>
</tr>
<tr>
<td>SES</td>
<td>HDI</td>
<td>Mortality, GNI, Literacy</td>
</tr>
<tr>
<td>Communism</td>
<td>Current or former communist government</td>
<td></td>
</tr>
</tbody>
</table>
Hypothesis

The preponderance of the relationship between religiosity and health is positive, but magnitude is stronger within contexts that offer religious diversity and tolerance, in higher SES countries where there are more options in how to spend leisure time, and non-communist countries where religious activity is more normalized.
## Country-level variables

<table>
<thead>
<tr>
<th>Measure</th>
<th>Range</th>
<th>Mean</th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDI</td>
<td>0 to 1</td>
<td>0.73</td>
<td>0.94</td>
<td>0.34 Australia</td>
</tr>
<tr>
<td>Diversity index (D)</td>
<td>0 to 1</td>
<td>0.44</td>
<td>0.85</td>
<td>0.01 Pakistan</td>
</tr>
<tr>
<td>Communism (C)</td>
<td>0 or 1</td>
<td>0.27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Summary of multilevel model with participation

<table>
<thead>
<tr>
<th>Model</th>
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<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Frequency of attendance</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>2. Country effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human development index (HDI)</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Diversity</td>
<td><em>n.s.</em></td>
<td><em>n.s.</em></td>
</tr>
<tr>
<td>Communist system of governance</td>
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<td></td>
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<td>3. Cross-level interactions</td>
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<td>+</td>
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<tr>
<td>Participation X Communist</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>4. Random slope</td>
<td><strong>.008</strong>*</td>
<td><strong>.006</strong>*</td>
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*Models control for age, age-squared and sex.*
Summary of multilevel model with belief

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*Models control for age, age-squared and sex.*
Predicted probability of having very good health by low and high levels of religiosity in selected countries

Participation

Belief
Conclusion

Raise some doubts about the long-standing idea that religiosity is good for health. It depends on the context and measure.

Religious participation is good for health in places where there is a lot of diversity and tolerance, like the United States, where most of this research comes from.

Religious belief is good for health in countries that generally have low levels of development as indicated by the Human Development Index.
Acknowledgements

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https://globalagingandcommunity.com/religion-and-health-expectancy/
Thank you
Dankie
Kea leboha
Ngiyabonga
Enkosi