SPIRITUALITY, RELIGIOSITY, AND HEALTH IN GLOBAL PERSPECTIVE

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Review Article

Spirituality, religiosity, aging and health in global perspective: A review

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\textbf{ABSTRACT}

Persistent population aging worldwide is focusing attention on modifiable factors that can improve later life health. There is evidence that religiosity and spirituality are among such factors. Older people tend to have high rates of involvement in religious and/or spiritual endeavors and it is possible that population aging will be associated with increasing prevalence of religious and spiritual activity worldwide. Despite increasing research on religiosity, spirituality and health among older persons, population aging worldwide suggests the need for a globally integrated approach. As a step toward this, we review a subset of the literature on the impact of religiosity and spirituality on health in later life. We find that much of this has looked at the relationship between religiosity/spirituality and longevity as well as physical and mental health. Mechanisms include social support, health behaviors, stress and psychosocial factors. We identify a number of gaps in current knowledge. Many previous studies have taken place in the U.S. and Europe. Much data is cross-sectional, limiting ability to make causal inference. Religiosity and spirituality can be difficult to define and distinguish and the two concepts are often considered together, though on balance religiosity has received more attention than spirituality. The latter may however be equally important. Although there is evidence that religiosity is associated with longer life and better physical and mental health, these outcomes have been investigated separately rather than together such as in measures of health expectancy. In conclusion, there is a need for a unified and nuanced approach to understanding how religiosity and spirituality impact on health and longevity within a context of global aging, in particular whether they result in longer healthy life rather than just longer life.

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Global ‘Population aging’

‘Population aging’ is ‘growth’ in the older segment of a population

‘Population aging’ is occurring throughout the world

Percent of global population 60+ and 0-14 by year

Percent of Thai population 60+ and 0-14 by year

- Yellow line: 0 to 14
- Red line: 60+
Reason 1: Drop in fertility

When fertility declines, ‘older’ generations are large relative to ‘younger’.

Fertility rates

- World
- Thailand

![Graph showing fertility rates over time for World and Thailand](image-url)
Reason 2: Chance of living to old age increasing

![Graph showing the probability of surviving to age 60 for Thailand and the world from 1955 to 2065. The graph indicates an increasing trend in both countries, with Thailand slightly higher than the world average in recent years.](image-url)
Old people are more likely to live to advanced ages

Probability that a 60 year old survives to age 80

- World
- Thailand

![Graph showing the probability of survival to age 80 for 60-year-olds in the World compared to Thailand. The graph indicates an increase in survival probability over time, with Thailand showing slightly higher survival rates than the World average.]
These combined forces have quite extreme effects on population composition

Japan 2050
Summarizing the demographics

• Globally, the population is aging and old people are living to ever advanced ages.

• This is a function of:

  • Fertility decline
  • Greater likelihood of surviving to old age
  • Once old, good chance of living to a very old age
What is the impact of population aging and increasing longevity on quality of life and costs of care?

* Demographically, the impact depends on:

  * Whether extra years of life are lived healthy or unhealthy
  * Compression versus expansion of morbidity
  * Heterogeneous compression
    Idea that compression is occurring for subsets of the population
Where does religion factor in?

* Based on past evidence, religion may be one characteristic influencing heterogeneous compression.

* Research in the U.S. has indicated religious people live longer and healthier lives than others.

* Mechanisms
  - Support
  - Behaviors
  - Stress
  - Other psychosocial factors
  - Selectivity
  - Reverse causality

* Religion has some negative effects on health.

* People near the end of life may turn to religion for support and meaning.
Older people tend to be more ‘religious’ than younger

Percent saying they are religious in selected countries, WVS data, younger versus older persons

* Older significantly different from younger

Note: Older = 60+  Younger = 18-39
Our project is addressing some unanswered questions

1) Does religion associate with ‘healthy’ life expectancy?

‘Healthy’ life expectancy is number of years people in a population live on average in a healthy state.

Combines mortality and morbidity.

Can help us to determine if religion is influencing quality in addition to quantity of life.
Models for calculating healthy life expectancy

1. Prevalence models (e.g., Sullivan Method)

2. Multistate life table models (e.g., IMaCh or SPACE)
Minimum data requirements

1. Prevalence models (e.g., Sullivan Method)

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Probability of dying between ages x and x + 1</th>
<th>Number surviving to age x</th>
<th>Number dying between ages x and x + 1</th>
<th>Person-years lived between ages x and x + 1</th>
<th>Total number of person-years lived above age x</th>
<th>Expectation of life at age x</th>
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<td>0-1</td>
<td>0.000023</td>
<td>100.000</td>
<td>100.000</td>
<td>90.426</td>
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<td>90.106</td>
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</tbody>
</table>

Cross-sectional data

Age and sex specific health prevalence - not so easy to incorporate religion

2. Multistate life table models

Longitudinal panel data

Baseline (T1) ➔ Follow-up (T2)

Health ➔ Survival status

Age and sex ➔ Health

Religiosity

Other covariates
Another unanswered question

2) How universal is the association between religion and health?

The universality is very uncertain.

Examples:
Do associations exist across religious expressions, norms, geo-political circumstances and epidemiological histories?

Do associations differ across public and private expressions?
<table>
<thead>
<tr>
<th>Study name</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and Retirement Study (HRS)</td>
<td>USA</td>
</tr>
<tr>
<td>English Longitudinal Study on Aging (ELSA)</td>
<td>England</td>
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<tr>
<td>Study of Health and Aging in Europe (SHARE)</td>
<td>19 European</td>
</tr>
<tr>
<td>Mexican Health and Aging Study (MHAS)</td>
<td>Mexico</td>
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<tr>
<td>The Irish Longitudinal Study on Ageing (TILDA)</td>
<td>Ireland</td>
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<tr>
<td>WHO Study on Global Ageing and Adult Health (SAGE)</td>
<td>6 Global</td>
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<tr>
<td>Panel on Health and Aging of Singaporean Elderly Survey (PHASE)</td>
<td>Singapore</td>
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<td>Survey of Aged in Kerala (KERALA)</td>
<td>India</td>
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<td>Costa Rican Longevity and Healthy Aging Study (CRELES)</td>
<td>Costa Rica</td>
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<tr>
<td>Chinese Longitudinal Healthy Longevity Study (CLHLS)</td>
<td>China</td>
</tr>
<tr>
<td>Korean Longitudinal Study of Aging (KLOSA)</td>
<td>South Korea</td>
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<td>Taiwan Longitudinal Study on Aging (TLSA)</td>
<td>Taiwan</td>
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<td>World Values Survey (WVS)</td>
<td>94 Global</td>
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<tr>
<td>European Values Study (EVS)</td>
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</tbody>
</table>
Disability-free expectancy by ‘public’ religious expression in Taiwan

Adding the ‘unaffiliated’

Disability-free expectancy by ‘private’ religious expression in Taiwan

Ordered regression log odds ratios showing 94 within country relationships between religious attendance and self-assessed health*

*Within country models adjust for sex, age and age-squared.
One hypothesis

Though the fundamental relationship between religious participation and health is positive the magnitude is stronger within national contexts that offer tolerance and choice in whether and which religious practice to pursue and how often to participate.

Proxies for tolerance and choice:

1. Human Development Index
2. Religious homogeneity
3. Current or former communist regime
Multi-level model of religious attendance and self-assessed health

4 components:

1. Individual-level effects, e.g., religious attendance

2. Country-level effect, e.g., religious homogeneity

3. Cross-level interaction, e.g., religious attendance X religious homogeneity

4. Random effect, that is, idiosyncratic effect specific to each country not explained by the first three effects
Quick results summary
What associates with self-assessed health?*

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Individual effects</strong></td>
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<tr>
<td>Religious participation (RP)</td>
<td>+ve</td>
<td>+ve</td>
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<td></td>
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<td><strong>2. Country effects</strong></td>
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<tr>
<td>Human development index (HDI)</td>
<td></td>
<td>+ve</td>
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<tr>
<td>Religious homogeneity (RH)</td>
<td></td>
<td>-ve</td>
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<td>Communist system of governance (CG)</td>
<td></td>
<td>-ve</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. Cross-level interactions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RP X HDI</td>
<td></td>
<td>Not significant</td>
</tr>
<tr>
<td>RP X RH</td>
<td></td>
<td>-ve</td>
</tr>
<tr>
<td>RP X CG</td>
<td></td>
<td>-ve</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4. Random slope</strong></td>
<td>.0075***</td>
<td>.0056***</td>
</tr>
</tbody>
</table>

*Models control for age and sex.
Estimated probability of excellent health, eleven countries, by level of religious participation, based on mixed effects model.

- USA
- Thailand
- Pakistan
- Brazil
- Japan
- Indonesia
- India
- China
- Nigeria
- Bangladesh
- Russia

Level of religious participation:
- Minimum participation
- Average participation
- Maximum participation
3) What about non-religious expressions of spirituality?

Religion is complex.

Distinguishing between religiosity and spirituality is difficult in a single culture let alone cross-nationally.

Religion – “specific principals organized around specific systems of beliefs, practices and rituals.”

Spirituality – “a notion of things sacred and transcendent.”

Religious person likely to define themselves as spiritual.
A spiritual person not as likely to define themselves as religious.
Percent that say they are religious and/or spiritual in selected countries, WVS data

* Spiritual significantly different from religious

Note: Spiritual based on question about thinking about meaning of life
* My study aims to provide a broad examination of how religiosity and spirituality link with health expectancy in the context of global population aging.

https://globalagingandcommunity.com/

https://globalagingandcommunity.com/religion-and-health-expectancy/
Thank you