Development and validation of instruments to assess potential mechanisms of the religion-health connection

Cheryl L. Holt, PhD
Assistant Professor
Department of Medicine
Division of Preventive Medicine
The University of Alabama at Birmingham

Introduction

- Background
- Instrument development process
- Psychometric findings
- Conclusion- future directions
Background

• Study of religion-health connection has grown in interest
• Many but not all studies suggest positive association ("salutary impact")
• Studies have increased in measurement sophistication (e.g., multidimensional religiosity)

Background

• Field appears to have moved beyond the *if* question to the *why* question
• Theoretical models in literature but often little data
• Mechanisms (mediators) of the religion-health connection
Religion-health connection

Religious Involvement
Beliefs
- Positive Affect
- Coping
- Positive Self-perceptions
- Social Support
- Social Influence
- Scriptural Influence
- Meaning
- Illness as Punishment
- Spiritual Health Locus

Behaviors

Cancer Behaviors
- Risk
- Prevention
- Screening

Background

- Population- African American men and women
  - Health disparities context
  - High religious involvement in general
Background

• Aim of present study
  – Develop instruments to assess mechanisms
    1. Perceived religious influence on health behavior
    2. Illness as punishment for sin

Background

Perceived religious influence on health behavior
• Religiously involved people have healthier lifestyles and perform fewer unhealthy behaviors in accord with their religious beliefs\textsuperscript{1-7}
Background

Illness as punishment for sin

- Illness may be seen as being one’s fault due to having sinned or poor character; may lead to guilt, shame, loss of self-worth or loss of faith\(^1,8\)
- Negative mechanism

Method

- 9-step systematic process of instrument development
Method

• Step 1: search literature for existing instruments
  – Databases, search terms, multidisciplinary, author contacts

Method

• Step 2: original item development
  – Each Investigator developed ~10 items for each of the 2 constructs
Method

• Step 3: initial item review & rating
  – Team and Advisory Panel (3 Pastors) review
  – Rating of items
    • Face validity/appropriateness
    • Potential for variability in responses
    • Items below mean rating eliminated

Method

• Step 4: item editing
  – Team and Advisory Panel (3 Pastors) edited items
Method

• Step 5-6: cognitive response testing & editing
  – Review by 15 African Americans from community
  – Determine if items were understandable and appropriate

  • Terms: religion vs. spirituality; God; people vs. I language

Method

• Step 7-8: second wave cognitive response testing & editing
  – Review by 15 African Americans from community
  – Final editing and refinement
Method

• Step 9: final items for psychometric testing
  – Final items selected by Investigative team
  – Those performing best in testing
  – Avoiding redundancy
  – Surveys administered by telephone to national probability sample of 55 African Americans
  – 2-week retest (temporal stability)

Method

Perceived religious influence on health Behavior (10 items)
• “I tend to avoid things harmful to my body because of my religious/spiritual beliefs.”
• “God helps me maintain a healthy lifestyle.”
• “Following religious/spiritual beliefs makes it easier to avoid unhealthy behaviors.”
Method

Illness as punishment for sin (8 items)
• “Illness is the result of one’s negative thoughts.”
• “God uses sickness to send a message to people.”
• “Illness is a punishment from God for sinful behaviors or lifestyle.”

Findings

• 55 completed initial interview
• 53 completed retest (96% retention)
  – 115 refused
  – 32% response rate = 55/170; completed/[completed+refused]
  – 125 ineligible (e.g., Not AA)
Findings

• Age 23-87 (mean=50.93; SD=16.72)
• Half men, half women
• Most were single (40%) or married (33%)
• Most were employed full time (40%) or retired (26%)
• Average high school education

Findings

Perceived religious influence on health behavior
• Possible scores 10-40
• Mean=31.67; SD=5.05
• $\alpha = .83$
• Unidimensional
• Test retest reliability $r = .59$, $p < .001$
Findings

• Convergent validity - scores correlated with spiritual health locus of control (10-12% shared variance)
• Discriminant validity - scores not correlated with Self-efficacy scores

Findings

Illness as punishment for sin
• Possible scores 8-32
• Mean=17.40; SD=5.23
• $\alpha = .91$
• Unidimensional
• Test retest reliability $r = .84$, $p < .001$
Findings

• Convergent validity - no comparable scales available
• Discriminant validity - scores not correlated with Self-efficacy scores

Conclusions

• Each of these instruments evidenced reliability and validity
• Next step is model testing with national probability sample of N=2,500 African Americans
• Determine mediating role, if any, between religious involvement and cancer risk, prevention, and screening behaviors
Conclusions

• Challenges
  – Assessing complex constructs
  – Discussing uncomfortable issues

Collaborators

• Eddie Clark, PhD  Saint Louis University
• David Roth, PhD  UAB
• Martha Crowther, PhD  Univ. Alabama
• Connie Kohler, DrPH  UAB
• Mona Fouad, MD, MPH  UAB
• Rusty Foushee, PhD  UAB
• Patricia Lee, PhD  California Dep’t of Health
• Penny Southward, MPPM  UAB
• Mel Johnson  UAB
Support

- This project was supported by a grant from the National Cancer Institute (1R01 CA105202) and was approved by the UAB IRB (X051116001).

Literature Cited

Thank You