Is Religiosity Associated with Cancer Screening?: Results from a National Survey

Bryan Leyva[1], Anh B. Nguyen,[1] Jennifer D. Allen,[2]
Stephen H. Taplin,[1,] Richard P. Moser[1]
[1]National Cancer Institute; [2]Dana-Farber Cancer Institute; [3]Harvard Medical School

Background

- Mixed evidence for the relationship between religiosity and cancer screening
- Few studies have examined the mechanisms through which religiosity impacts health behaviors
- Understanding the role of religiosity in screening behavior can inform cancer control efforts

Study Objectives

This study examines:

1. relationships between religiosity and use of screening for breast, cervical, and colorectal cancers
2. the potential mediating role of social support in these relationships
3. the potential moderating effect of race/ethnicity

Methods

- 2005 Health Information National Trends Survey (HINTS 3)
  - random digit dialing and telephone interviews, 61% response rate
- Present study, n=5,102
  - non-Hispanic Whites (n = 4152)
  - Hispanics (n=496)
  - Blacks (n= 454)

Measures

- ***Religious service attendance***
  - "Not including funerals and weddings, how often do you attend religious services?" *(every week/once or twice a month/a few times a year/never).*
- ***A Social Support Index***
  - How many community organizations are you currently a member of?" (*values provided by respondents*)
  - Do you have friends or family members that you talk to about your health?" (*yes/no*)
  - How many people live near you who you can rely on in case you need a ride to visit your health care provider?"(*values provided by respondents)*
- ***Recent cancer screening***
  - "When did you have your most recent Pap smear/ mammogram/ stool blood test using a home kit/sigmoidoscopy or colonoscopy ?."

U.S. Preventive Services TASK FORCE

Statistical analysis

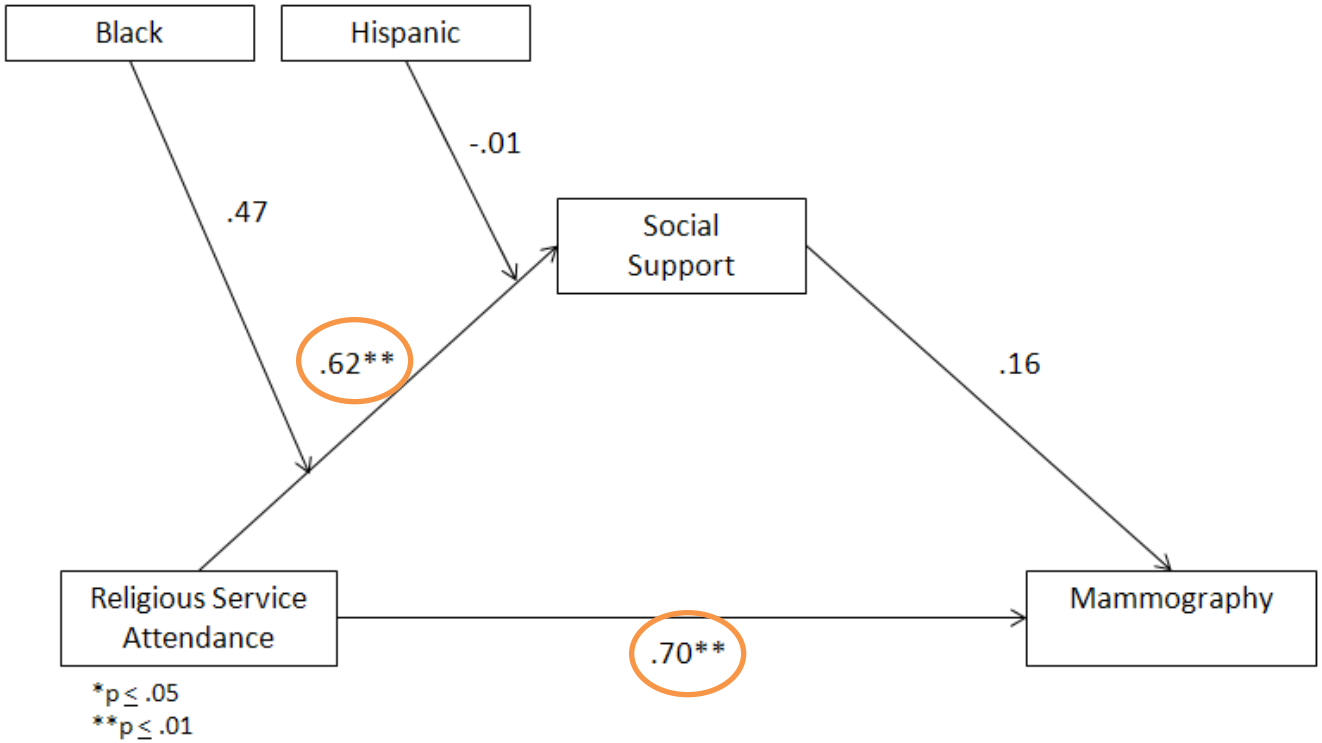
- Moderated mediation analyses following conditional process modeling approaches
  - simultaneous testing of both moderated and mediated relationships
  - not equipped to handle sampling weights
  - adjusted for relevant covariates (i.e., age, educational attainment, household income, and insurance status).
- SAS and SAS-callable SUDAAN

(Hayes, 2013)

Results

- Religiosity was associated with increased screening for breast, cervical, and colorectal cancers
- Religiosity was associated with increased social support

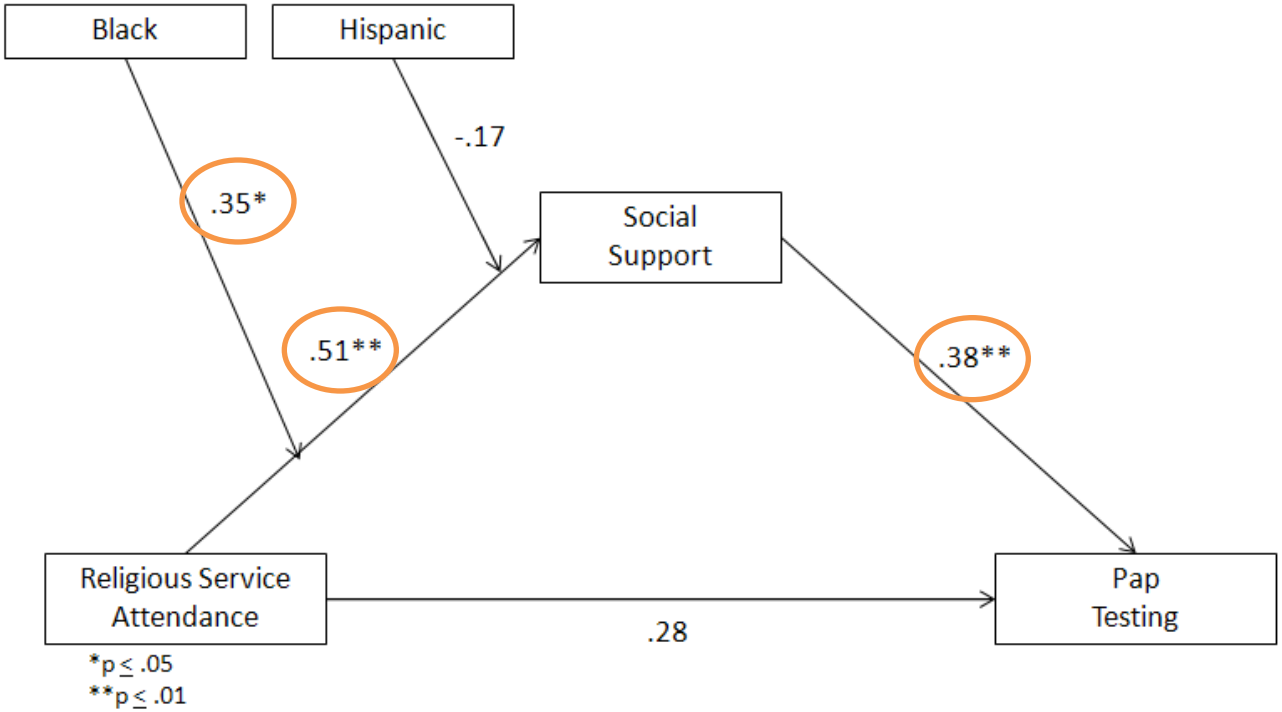
Figure 1.
Conditional Process Model for Recent Mammography **n=1286**



Conditional Process Model for Breast Cancer Screening

- The direct path from religious service attendance on recent mammogram screening was significant and was associated with higher likelihood of a recent receipt of a mammogram ($\beta = .70$, $\chi^2(1) = 3.96$, $p \leq .001$).
- Religious service attendance was positively associated with social support, ($\beta = .62$, $t(1284) = 13.31$, $p \leq .001$).
- The relationship between social support and recent mammogram screening was not significant ($\beta = .16$, $\chi^2(1) = 1.51$, $p = .13$).
- The findings **do not indicate a mediated model**.
- Racial identification did not moderate the relationship between religious service attendance and social support.

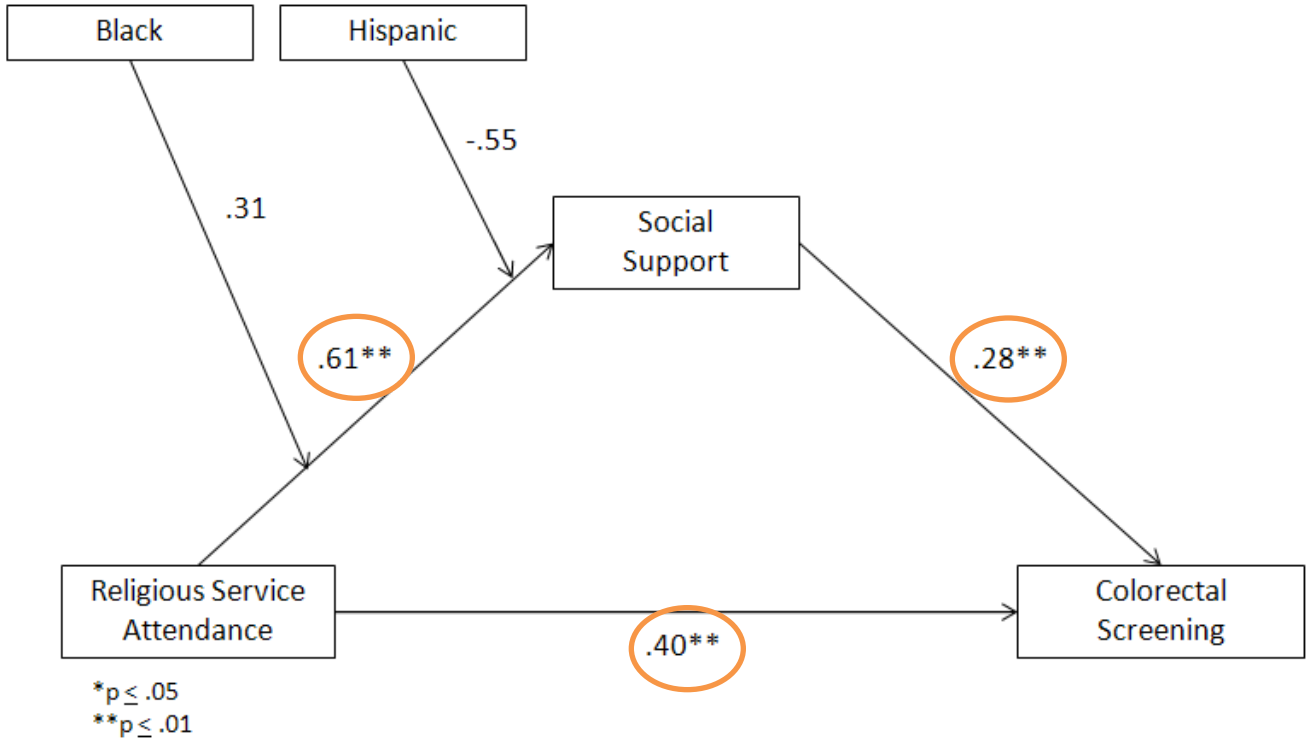
Figure 2 .
Conditional Process Model for Recent Pap Testing **n=1474**



Conditional Process Model for Cervical Cancer Screening

- The direct path from religious service attendance on recent Pap testing was not significant, ($\beta = .28$, $\chi^2(1) = 1.17$, $p = .24$).
- Religious service attendance was positively associated with social support, ($\beta = .51$, $t(1472) = 11.76$, $p \leq .001$).
- The association between the social support and recent Pap testing was significant, ($\beta = .38$, $\chi^2(1) = 2.75$, $p = .01$), indicating that higher levels of social support were associated with increased likelihood of having a recent Pap test.
- These findings suggest a **fully mediated model**; the indirect effect of religious service attendance = (.51)*(.38) = .19; 95% CI (.04, .36).
- Racial identification moderated the mediation model as the positive association between religious service attendance and social support was stronger for Blacks than it was for Whites, ($\beta = .35$, $t(1472) = 1.97$, $p = .05$).

Figure 3.
Conditional Process Model for Recent Colorectal Screening **n= 1373**



Conditional Process Model for Colorectal Cancer Screening

- The direct path from religious service attendance on recent colorectal screening was significant, ($\beta = .40$, $\chi^2(1) = 2.63$, $p \leq .001$).
- Religious service attendance was positively associated with social support, ($\beta = .61$, $t(1367) = 13.86$, $p \leq .001$).
- The association between social support and recent colorectal screening was significant and positive, ($\beta = .28$, $\chi^2(1) = 3.21$, $p \leq .001$).
- The findings suggest a **partially mediated** in model; the indirect effect of religious service attendance = (.61)*(.28) = .17; 95% CI (.07, .28).
- Racial identification did not moderate the relationship between religious service attendance and social support.

Results

- Social support
  - Full mediation for cervical cancer screening
  - Partial mediation for colorectal cancer screening
  - No mediation for breast cancer screening
- Race/ethnicity
  - Black racial identification moderated the relationship between religiosity and social support for the cervical cancer screening model.

Summary

- The underlying mechanisms that link religious service attendance and cancer screening may involve the various functions of social support found in social networks and communities.
- Harnessing the power of social ties and social support that is provided by faith-based organizations and networks may be a successful cancer control intervention strategy.

Implications

- Faith-based models of social influence may be particularly valuable for reaching underserved Blacks
- Researchers should seek new ways to utilize social influence and support structures in faith-based settings to promote the appropriate use of screening.