Religiosity and Cardiovascular Reactivity: Does Type of Religiosity Predict Response to an Interpersonal Stressor?

Marcin T. Szot, Nicole H. Weiss, Andrea Knestel, & Kevin S. Masters Ph.D.

Abstract

Prior research suggests a link between religiosity and beneficial health outcomes. It is believed that certain types of religious orientations, in particular intrinsic religiosity, may provide health benefits for hypertensive adults in the form of lowered cardiovascular reactivity. This study aims to illuminate whether intrinsic or behavioral religious factors, such as the number of times one meditates, the number of times one prays, or church attendance correlate with heart rate in response to a stressful interpersonal encounter. A sample of older adults (N=44, Age=40-70) completed religiosity and physical well-being measures following administration of such an interpersonal stressor. Analyses were conducted using a factor and multiple regression analysis, and the results indicate that a composite of behavioral religious factors can predict lowered reactivity during preparation for an interpersonal confrontation. The number of times an individual meditated was found to play the largest role in this correlation. However, internal religious factors were not found to have a significant effect on lowering reactivity.

Introduction

Prior research has established a relationship between religiosity and health. Recent research in the field of religiosity has moved towards more conceptually grounded measures such as intrinsic and extrinsic motivations for religious orientations. Intrinsic religiosity is characteristic of individuals who internalize and genuinely believe in religious practices while extrinsic religiosity is associated with individuals who use religion to satisfy their own needs. It has been found that intrinsic religion has been associated with lower cardiovascular reactivity to stressful situations when compared against those who are extrinsically religious. However, researchers have also used concrete measures such as church attendance and denominational affiliation to study the religious-health relationship. Specifically, investigators have found that greater levels of practicing these overt behaviors were related to lower levels of blood pressure. Our study is attempting to determine the specific types of religious variables which will lower cardiovascular reactivity to a stressful interpersonal encounter. The following two composites will be studied:

- Internal Religious Variables – Deeply held beliefs about religion
- Behavioral Religious Variables – Engagement in religious practices.

And we hope to find that these variables will have a significant effect in lowering the following type(s) of cardiovascular activity when an individual is stressed:

- Systolic Blood Pressure
- Diastolic Blood Pressure
- Heart Rate
- Mean Arterial Pressure

Method

44 Participants aged 40-70 completed the following measures at the beginning of the laboratory session:

- Orientation to Life Questionnaire
- Religious Beliefs Questionnaire

The participants were then involved in stress inducing situations during which their systolic and diastolic blood pressure, heart rate and mean arterial pressure were measured using a blood pressure cuff attached to their arm. These measurements were taken as follows during the following times:

- Baseline 1
- Mental Arithmetic Test
- Baseline 2
- Preparation for Interpersonal Confrontation
- Interpersonal Confrontation
- Baseline 3

The data was then analyzed using a factor and multiple regression analysis in SPSS to determine whether there were any significant correlations between an individual’s religiosity and their cardiovascular reactivity to the interpersonal confrontation.

Conclusion

In our study, the tendency of older adults to respond to the preparation for a stressful interpersonal encounter with increases in heart rate was moderated by a composite of specific behavioral religious factors such as how often a person reads religious texts or attends a church. In particular, the number of times an individual meditated was the most important in lowering heart rate reactivity in preparation for a stressful interpersonal encounter. However these health benefits were not apparent for the interpersonal encounter itself. Meanwhile the cognitive religious factor had no effect on heart rate, systolic, diastolic blood pressure, or mean arterial pressure for either the preparation or the confrontation itself.

References


Results

Results indicate that out of the behavioral religious factors the times a person meditates is the most significantly correlated with a lower heart rate while preparing for an interpersonal confrontation. The other variables also have an effect, albeit much smaller. These results however were not found to be true for the confrontation itself. Meanwhile the cognitive religious factor had no effect on heart rate, systolic, diastolic blood pressure, or mean arterial pressure for either the preparation or the confrontation itself.

Intrinsic vs Behavioral Religious Factors: Which variables promote lower heart rate reactivity to the interpersonal confrontation? (Greater Effect Size indicates a stronger correlation)