RELIGION AND PSYCHOLOGICAL DISTRESS IN A COMMUNITY SAMPLE

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Abstract—This paper examines the effect of religious attendance and affiliation on psychological distress
in a longitudinal community study of 720 adults. Religious affiliation is unrelated to mental health status.
In contrast, although religious attendance does not directly reduce psychological distress, it buffers
the deleterious effects of stress on mental health. That is, in the face of stressful events and physical health
problems, religious attendance reduces the adverse consequences of these stressors on psychological
well-being.

Key words—religion, psychological distress, stress

The relationship between religion and health status has been receiving increasing scientific attention in
recent years. One indicator of this interest is the growing number of reviews focused on religious
variables that have appeared in the medical and social science literature [1-7]. In terms of mental health
outcomes, the literature indicates that more often than not, religion measures are inversely associated
with indicators of psychological distress. Bergin [5] reviewed 26 studies that assessed the association be-
tween religion and mental health status. He reported that almost half of the studies found an inverse
association between religion and psychological symp-
toms with the remainder about equally divided be-
tween those that found a positive relationship and those that reported no association. However, given that
80% of the studies reviewed by Bergin [5] utilized student samples, it is difficult to draw conclusions
about the generalizability of these findings.

Studies employing more representative samples present a similar mixed pattern of findings. Two studies
based on national probability samples have reported an inverse association between religious attendance
and psychological distress [8, 9]. Simi-
larly, several community studies have reported in-
verse associations between measures of religion and
scores on screening scales of global distress [10-13].
At the same time, other community studies report no
association between religion and mental health status
[14-16].

The literature assessing the mental health conse-
quencies of religion is plagued with conceptual and
methodological limitations which require that great
cautions should be exercised in interpreting the find-
ings. For example, with few exceptions [16, 17]
most of the existing studies have used cross-sectional
designs which assess associations between religious involvement and mental health status are measured simultaneously. A given level of psychological functioning can be either

a cause or a consequence of religious beliefs and
behavior. In cross-sectional analyses it is impossible to
detect causal directionality in the relationships observed. Researchers have also given inadequate
attention to the measurement of the religious variable and
to the underlying processes by which religion may affect health status [2, 10, 17-20].

One way in which religious involvement may affect health status is by modifying the relationship between
stress and illness. Stress has been shown to have
pervasive negative effects on physical and mental
health [21], but psychosocial resources can compen-
sate for or moderate the impact of stress on health
[22]. Recently, Krause and Van Tran [23] docu-
mented that religious involvement is a critical psycho-
social factor that counteracts the adverse effects of stress on feelings of self-esteem and mastery. The
literature on stress recognizes that a given psychoso-
cial resource, such as religion, may affect psycholog-
ical distress by directly enhancing mental health
status, irrespective of the level of stress, and by
buffering the effects of stress on health [22]. The
buffering hypothesis postulates that in the face of
stress, religion can protect the individual from the
potentially negative consequences of stress. To our
knowledge, there have been no attempts to empiri-
cally assess the dynamics of the association between
religion, stress and psychological distress.

This paper seeks to enhance our understanding of
the relationship between religious behavior and mental health by examining how two measures of
religious involvement, religious attendance and reli-
gious affiliation, combine with stress to affect psycho-
logical distress. In 1967, a random sample of resi-
dents of metropolitan New Haven were interviewed.
Lindenthal et al. [13] have reported on the cross-
sectional associations between religion and mental
health status. They found that both religious affilia-
tion and religious attendance were inversely associ-

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ated with psychological distress. Two years later, a second wave of data was collected from these New Haven residents. To date, no analyses have related the 1967 religion measures to distress in 1969. In addition, although controls were utilized for sociodemographic variables in the original study, no attempts were made to assess the extent to which the association between religion and psychological distress varies for structural characteristics such as race or socioeconomic status. A growing body of evidence indicates that stress, the resources to cope with stress, and the efficacy of these resources vary for groups occupying different structural positions in society [22].

This paper focuses on the original respondents who were reinterviewed in 1969. We assess the extent to which the pattern of findings in the cross-sectional analyses remains robust in the more rigorous prospective analyses. Specifically, we address the following research questions:

1. how do religious attendance and affiliation relate to psychological distress?
2. Do the consequences of religious involvement vary by major sociodemographic characteristics such as age, race, education and gender?
3. To what extent can measures of religious involvement buffer or moderate the effects of stress on health?

METHODOLOGY

The analyses reported here use data from the Myers et al. [24, 25] longitudinal study of mental health in New Haven, Connecticut. The sample consists of 720 adults who were reinterviewed in 1969 from an original sample of 930 respondents who were first interviewed in 1967. Table 1 lists the means, standard deviations and intercorrelations among the variables utilized. One sample is 44% male, 11% black, 26% unmarried, and has a median education level of 12 years and a median age of 48.8 years.

Psychological distress is measured by the Gurin et al. [8] symptom checklist scale. This scale consists of 20 statements of psychophysiological symptoms that indicate the presence of moods of depression and anxiety. The symptoms of the Gurin scale were selected from among those most frequently mentioned by patients in treatment and they allow for respondents to be ordered on a continuum of reported distress. Respondents reported the frequency with which each symptom was experienced.

Score on the Gurin scale thus range from 20 (all symptoms experienced 'often') to 80 (all symptoms occurring 'never'). In contrast to our use of the Gurin scale as a continuous measure, the scale is sometimes used qualitatively to distinguish between the mentally impaired (score = 66 or lower), and the non-impaired. We believe that our continuous measure of psychological distress is more theoretically appropriate for the study of the association between religion and mental health than a more qualitative distinction between psychiatric cases and normals. If religion has positive effects on mental health, they are likely to be evident throughout the continuum of mental health status and not only at the extremes of the distribution.

Two measures of religious commitment at wave one (1967) are utilized. Religious attendance measures the usual frequency of attending religious services (values range from 1 = never to 6 = more than once a week). To facilitate interpretation of product terms in the regression analyses, the religious attendance measure was converted to a standard score based on the mean and standard deviation of the total sample, and a constant was added to this standardized variable so that the lowest actual value is zero. The religious affiliation measure is based on the response to the question: 'Are you affiliated with any church or religious group?' (1 = yes; 0 otherwise).

Two summary measures of stressful life experiences, occurring during the two years between the interviews are utilized. Both measure of stress are listed in the Appendix. The first is an index of undesirable life events. The second was measured as a sum of the number of physical health problems experienced. To avoid confounding between the measures of psychological distress and the health problems index, following Kessler and Cleary [26], we excluded those health complaints that intuitively appeared to have a strong psychosomatic component. From a list of 44 symptoms, we selected those 16 health complaints for which a psychosomatic component would be minimal.

Ordinary least squares (OLS) regression analyses utilizing the reprogramming program in SAS [27] are used for estimating the magnitude and statistical significance of the relationships among religious

![Table 1](https://example.com/table1.png)

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<td>12</td>
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<tr>
<td>Mean</td>
<td>Standard deviation</td>
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<tr>
<td>46.81</td>
<td>15.67</td>
<td>3.57</td>
<td>1.50</td>
<td>25.54</td>
<td>5.64</td>
<td>0.44</td>
<td>0.50</td>
<td>0.31</td>
<td>0.52</td>
<td>1.68</td>
<td>1.00</td>
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The significances variable is coded as follows: 1 = less than 7 years, 2 = 7-9 years, 3 = 10-11 years, 4 = 12 years, 5 = 13-15 years, 6 = college graduate and 7 = graduate on professional training.
involvement, stress and psychological distress. OLS regression is fully appropriate for our continuous dependent variable. The correlation matrix from which the regression models were estimated is presented in Table 1. Pairwise present correlations were used in all regression analyses. The analyses proceeded in a series of steps in which we estimated the effects of religious involvement on psychological distress. This relationship was then adjusted for potentially confounding sociodemographic factors. The sociodemographic variables utilized are age (in years), education (in years), and gender (male, female). The sociodemographic factors utilized are age (in years), education (in years), and gender (male, female). Subsequent regression models assessed the association between stress and psychological distress and the extent to which religious involvement may buffer the effects of stress on health. A final step in a series analyses involved entering the Time 1 Gurin score as a predictor of Time 2 Gurin. The use of the Time 1 distress measure effectively converts the Time 2 outcome into change scores. This is appropriate in these analyses because it allows us to determine the extent to which any improved mental health functioning found among those high on religious involvement is significantly greater than any improvement found among those having lower scores on the religion measures.

RESULTS
Religion and psychological distress

Table 2 presents the results of three regression analyses that assess the association between psychological distress and religion. In the first model, Time 2 (1969) Gurin scores are regressed on the Time 1 (1967) religious attendance and affiliation. In the second regression model, controls are introduced for sociodemographic factors (age, education, marital status, gender and race) that were measured at Time 1. The third model adds the Time 1 (1967) Gurin score as a predictor of the Time 2 Gurin score. The results in Table 2 indicate that although religious affiliation is unrelated to psychological distress, religious attendance is positively associated with the Time 2 (1969) Gurin score. Persons who attend religious services regularly report lower levels of psychological distress than infrequent attenders and non-attenders. This relationship remains robust when adjusted for the sociodemographic variables but it is reduced to non-significance when controlled for Time 1 (1967) psychological distress. Religious attendance at Time 1 is associated with increases in psychological well-being, as measured by the Gurin scales. Thus, in the face of rigorous statistical controls for the possible confounding of public religious participation with scores on the Gurin scale, we find that attendance is unrelated to psychological distress. Our prospective analyses have failed to replicate the inverse associations between religious commitment and psychological distress that were reported for the cross-sectional analyses at Time 1 [13].

We tested for nonlinearity in the association between religious attendance and mental health status.

Table 2: Analyses of the association between Time 2 (1969) Gurin scores and the religion measures at Time 1 (1967)

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<tr>
<td></td>
<td>Gurin score</td>
<td>Gurin score</td>
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<tr>
<td>Attended</td>
<td>0.77**</td>
<td>0.65**</td>
</tr>
<tr>
<td>Attended</td>
<td>0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>Affiliation</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Age</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Education</td>
<td>0.45*</td>
<td>0.46*</td>
</tr>
<tr>
<td>Married</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Race (black = 1)</td>
<td>0.65*</td>
<td>0.65*</td>
</tr>
<tr>
<td>Gurin 1967</td>
<td>0.45*</td>
<td>0.45*</td>
</tr>
</tbody>
</table>

** P < 0.01; 2-tailed tests.

Shaver et al. [28] reported a curvilinear relationship between religious measures and psychological symptoms. The very religious and the non-religious enjoyed the best reported health. Accordingly, to a regression equation that included the demographic variables and Time 1 (1967) religious attendance, we added the squared coefficient for religious attendance (quadratic term). A significant quadratic term would indicate that the association between religious attendance and distress is curvilinear. The quadratic term was not significant (analysis not shown), indicating the absence of curvilinearity in the association between religion and psychological distress.

We also explored the extent to which variations exist by race, gender and educational level in the association between the religion measures and psychological distress. Specifically, for each of these sociodemographic variables, we regressed Time 2 (1969) Gurin scores on the two religion variables, all of the sociodemographic variables, and the relevant multiplicative term for the interaction between each religion measure and the sociodemographic correlate under consideration. In these analyses (not shown), none of the interaction tests were significant.

In cross-sectional studies researchers frequently assume that the reported level of religious involvement is a stable characteristic of the respondent. In contrast, religious behavior may be a fairly transitory phenomenon. Lindenthal et al. [11], for example, noted that when faced with stress, respondents reported a decline in religious attendance. The fact that we are working with panel data allows us to explore the nature of changes in religious attendance between 1967 and 1969 and the consequences that these changes could have for mental health status. First, we noted that attendance levels were relatively stable over the course of 2 years. Table 1 reveals that the correlation between religious attendance at Time 1 (1967) and Time 2 (1969) was 0.54.
At each time point, all respondents were classified into one of three categories: high attenders (persons who attended religious services once a week or more), moderate attenders (individuals who attended once a month to two or three times a month) and low attenders (those who never attended as well as those who attended a few times a year or less). Respondents were then assigned to one of five categories based on their 1967 and 1969 attendance. The study high group (n = 219) consists of persons who were high attenders at both time points. The newly high (n = 70) are high attenders in 1969 who were either moderate or low attenders in 1967. The declining attendance group (n = 99) is comprised of high attenders at Time 1 who were moderate or low attenders at Time 2. The moderate group (n = 152) consists of persons who were moderate-attenders at both time points, as well as those who fluctuated from the moderate to low level or vice versa between the two data collection points. Finally, the newly low (n = 149) were low attenders at both time points.

Table 3 presents the results of analyses that examined the relationship between attendance patterns and psychological distress. We anticipated that those who reported consistently high levels of attendance and those who increased their attendance would have lower levels of psychological distress than persons with consistently low attendance levels. The first model in Table 3 indicates that the study high, the newly high and the declining attendance group all had significantly higher scores on the Gurin scale (that is, less psychological distress) than the study low attendance group. Thus, a high level of religious attendance in 1969, irrespective of their attendance level at the other time point, is predictive of psychological well-being. However, similar to the findings in Table 2, these associations do not remain significant when adjusted for Time 1 (1967) distress scores.

Religion, stress and mental health.

We have noted that religious does not directly enhance the psychological well-being of its adherents.

Table 4 presents the findings of our analysis of the association between Time 1 (1969) Gurin scores and attendance at Time 1 (1967) combined with Time 2 (1969) Gurin scores.

We now turn to examine the buffering hypothesis. Can religion protect individuals from at least some of the negative outcomes of stress? Table 4 presents four models that explored the associations among religion, stress and psychological distress. The use of the Time 1 measures of religion in these analyses excludes the possibility that any modifying effects that we observe are due to changes in religious involvement resulting from stress. The first model shows the association of the two stress measures and the two religion measures to the Time 2 (1969) Gurin scale, controlling for the sociodemographic variables. The second model adds adjustment for the Time 1 (1967) Gurin score, and models three and four tests for interactions between religious attendance and life events, and attendance and health problems, respectively.


<table>
<thead>
<tr>
<th>Independent variables</th>
<th>I</th>
<th>II</th>
<th>III</th>
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<tbody>
<tr>
<td>Attendance</td>
<td>-0.22</td>
<td>0.11</td>
<td>-0.23</td>
<td>-0.32</td>
</tr>
<tr>
<td>Affiliation</td>
<td>-0.84</td>
<td>-0.83</td>
<td>-0.87</td>
<td>-0.65</td>
</tr>
<tr>
<td>Life events (LE)</td>
<td>-1.77</td>
<td>-1.15**</td>
<td>-2.26**</td>
<td>-1.35**</td>
</tr>
<tr>
<td>Health problems (HP)</td>
<td>-2.69**</td>
<td>-1.65**</td>
<td>-1.88**</td>
<td>-2.70**</td>
</tr>
<tr>
<td>Gurin 1967</td>
<td>0.80**</td>
<td>0.38**</td>
<td>0.80**</td>
<td>0.80**</td>
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<tr>
<td>Attendance * LE</td>
<td>0.43**</td>
<td>0.25**</td>
<td>0.43**</td>
<td>0.25**</td>
</tr>
<tr>
<td>Attendance * HP</td>
<td>0.52**</td>
<td>0.28**</td>
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We found the association of religion and attendance with Time 1 (1967) Gurin scores and religious attendance at Time 1 (1967) to be significant. As expected, stress is positively related to psychological distress. Model 2 indicates that the coefficients for stress are reduced.
but remain significant when controlled for Time 1 (1967) psychological distress. Model II also reveals that the relationship between attendance and distress is reduced 'o non-significance when controlled for TI distress. Models three and four reveal that both of the multiplicative terms for interactions between stress and religious attendance are significant. The interaction terms capture operant religious effects that would go unaccounted otherwise. Moreover, the sign is positive for both interaction coefficients. This pattern of results reflects classic buffering effects. That is, at low levels of religious attendance, stress is associated with increased levels of psychological distress. However, as the level of religious attendance increases, the adverse consequences of stress are reduced. Similar analyses for the association between religious affiliation and the stress outcomes were not significant.

In sum, consistent with other research [7], we find that our measure of religious behavior (religious attendance) is more consequential for health status than our indicator of religious affiliation. The affiliation measure is unrelated to psychological distress. In contrast, although religious attendance does not directly reduce psychological distress, it does buffer the impact of stressful life events and physical health complaints on psychological well-being.

**DISCUSSION**

The findings reported here underscore the importance of giving more systematic research attention to the consequences of religious beliefs and behavior for health and well-being. National surveys reveal the complexity of religious involvement in contemporary American life [29]. Our results indicate that religion may be a potent coping strategy that facilitates adjustment to the stress of life. Further exploration of this issue merits serious and sustained attention.

One compelling reason to replicate these analyses reported here is the possibility that they may reflect period or cohort effects. The data utilized in this study are over 20 years old. It is possible that the findings demonstrated here are true only for that earlier time period and would not apply today. In a comprehensive review of the literature on religious involvement and subjective well-being, Witter et al. [30] found a stronger relationship between religion and subjective well-being in earlier studies than in more recent ones.

Our use of longitudinal survey data is clearly an improvement over merely studying cross-sectional associations but analyses of two wave panel data are subject to serious limitations [31]. For example, the invariance of Time 1 health status adjusts for baseline differences among respondents in the levels of health. However, if health status at Time 2 is also affected by other unmeasured causes, the Time 1 health status indicator is an inadequate proxy for the myriad factors that are not included in the prediction equation. The presence of measurement error is another serious limitation. Error of measurement can create spurious covariance among the variables in our regression models. Theoretically grounded research that utilizes multiple indicators of religion and that employs structural equation modeling procedures [32] can begin to address these limitations.

This paper also illustrates some of the critical shortcomings in current research on religion and mental health. Religious attendance and religious affiliation are the only measures of religious commitment that we utilized. These are two of the most commonly used measures in research on religion [1]. In contrast, religious involvement is a complex multidimensional phenomenon [33-35]. King and Hunt [33], for example, have identified more than a dozen different ways of being religious, and have developed and tested scales to measure each component. Similarly, Louis and associates [2, 3, 20-36] have proposed numerous theoretically informed mechanisms by which religion can affect health status that clearly consist of the most fruitful starting ground for empirical investigations of the effects of religion on health. The advancement of our understanding of the nature of the association between religion and health is contingent on efforts to comprehensively assess religion, and identify the critical dimensions of religious commitments that are linked to health status. Research efforts of this kind are necessary to understand even the results presented here. We reported that religious attendance buffers or moderates the relationship between stress and health. However, we are unable to tell if this effect is linked to anything intrinsically religious. Although we employ controls for formal education in all of the analyses, it is still possible that the attendance variable is a proxy for some aspect of social status. Sociologists have long noted that religious participation is frequently a badge of socioeconomic status, securer in character, and of no greater religious significance than participation in other community organizations [37]. And there is abundant evidence that participation in formal and informal social groups, religious and non-religious, improve health, reduce stress and buffer the effects of stress on health [22]. Moreover, besides social class, religious attendance may be confounded with functional health [36].

It follows that a simple measure of the frequency of religious attendance does not adequately capture public religious participation. A comprehensive assessment of public religious involvement must include attendance at religious meetings other than the main weekly worship service, financial support of religious organizations, and holding leadership and volunteer positions in religious groups [35]. Researchers ought then seek to identify how these public aspects of religious involvement relate to private dimensions of religious beliefs and behavior and how they combine to affect levels of health and well-being.

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