

# Religion and Health Among Black and White Adults: Examining Social Support and Consolation\*

KENNETH F. FERRARO†  
JEROME R. KOCH†

Previous research indicates a qualitative difference in the religious expression of white and African-American congregations and suggests that these differences may influence the association between religion and health. The social support and religious consolation hypotheses are examined for main and interactive effects on health by race. A national sample of adults, Americans' Changing Lives, surveyed in 1986 is used for the analysis (N = 3,497). Three dimensions of religiosity are strongest among black adults and women; yet their health is generally poorer. Evidence for the social support hypothesis is found, but the effect on health is similar for black and white respondents. The religious consolation hypothesis is supported only among the black respondents. In addition, a positive link between religious practice and health was observed among African Americans.

**S**ocial scientists and epidemiologists have made important contributions to current knowledge about health and illness by identifying how social structures and processes are related to health and illness. Although religion has long been regarded as consequential for one's well-being, recent research on the possible link between religion and health provides new evidence about how the structure of social environments can influence individual actors. Not only can religion affect the mind but emerging evidence shows that religious beliefs and practice may affect bodily states and health conditions more generally. Most studies reveal that religion has a salutary effect on health but the precise mechanism by which this occurs is still the subject of much debate (Levin and Markides 1986; Mullen 1990).

Given the major differences in the organization of and programmatic emphases within churches that are predominantly African-American or white, it is surprising that so few studies pay much attention to the way in which religion might affect health across ethnic or racial groups. The prevalence of religious activity and participation in specific religious groups clearly varies by ethnicity (Chaves and Higgins 1992). The structure and mission of most congregations are often tailored to their constituents based on ethnicity, social class, and community characteristics (e.g., Ammerman 1987). Given these differences in individual religiosity and the social organization of religion, the purpose of this paper is to

*\* This paper was originally prepared for presentation at the annual meeting of the Society for the Scientific Study of Religion, November 1993, Raleigh, NC. The data used in this paper were made available by the Inter-University Consortium for Political and Social Research. The data for Americans' Changing Lives: Wave I, 1986 were originally collected by James S. House. Neither the collector of the original data nor the Consortium bears any responsibility for the analyses or interpretations presented here. We appreciate the helpful comments of Margaret Cole, Christopher Ellison, Roger Finke, and three anonymous reviewers on earlier drafts of the manuscript.*

† Kenneth F. Ferraro is a professor of sociology at Purdue University, 1365 Stone Hall, West Lafayette, IN 47907-1365 (E-mail: ferraro@vm.cc.purdue.edu).

† Jerome R. Koch is a visiting assistant professor of sociology at Texas Tech University, Lubbock, TX 79409 (E-mail: ccjrk@ttacs1.ttu.edu).

determine if these ethnic differences may affect the way in which religion is related to health. The specific aims of the paper are to articulate and test two hypotheses regarding the link between religion and health and how that link may vary among African-American and white adults. The first concerns the role of religion as a mechanism of social integration, while the second concerns religion as a coping resource when people face structural and/or health disadvantages.

### LITERATURE REVIEW AND HYPOTHESES

Previous research has generated mixed results when seeking to demonstrate an empirical relationship between religion and health (Mullen 1990). Various studies show that religion has positive (e.g., Pollner 1989) or negative (e.g., Jarvis and Northcott 1987) links with health, while some studies do not find any connection (e.g., Blazer and Palmore 1976). Other studies find that select features of religious practice and affiliation can have either positive or negative effects on a single sample of subjects (Comstock and Partridge 1972; Ferraro and Albrecht-Jensen 1991). Most findings, however, point to positive relationships between religion and health. For instance, Johnson, Williams, and Bromley (1986) and Pollner (1989) reported positive associations between prayer and individuals' perceptions of their health and well-being, and Graham et al. (1978) reported that regular church attendance is related to lower blood pressure. Hannay (1980) and Zuckerman et al. (1984) also reported that religious belief and practice improved physical health and lowered mortality (see also Berkman and Syme 1979; Gardner and Lyon 1982).

Levin and Vanderpool (1987) pointed out that some of the apparent positive effect of religion on health could be due to other reasons (see also Levin and Markides 1986; Levin and Vanderpool 1989). First, a failure to control for relevant variables may simply render the correlation between religion and health spurious. Second, when religion is measured by attendance at religious services, it may actually be the *consequence* of good physical function, especially among older people, rather than the cause of better health. Despite these criticisms, several other recent studies that control for other variables and consider alternative measures of religion and religiosity nonetheless find a positive relationship with health (e.g., Idler 1987).

Most of the studies reviewed consider racial differences by simply adding a term to control for race or ethnic status. This is informative, but evidence continues to accumulate from a wide array of sources that race and ethnicity often interact with structural features and resources in affecting health, wealth, and well-being (Kessler and Neighbors 1986; Mutchler and Burr 1991; Pettigrew 1981). Given the differences in the degree of religiosity among black and white Americans and both the structure and salience of the church as a social institution for the respective groups, one wonders if religion may affect health in the same way for black and white persons. Although religion may influence health among black and white adults in many ways, two such mechanisms merit attention and will be examined here.

#### *Social Support Hypothesis*

Religious activity and religious organizations represent ways in which people often find social support and a feeling of belonging. Building on Durkheim's (1951) findings on the value of social integration, research on religion and health has identified how such ties to religious groups may provide "emotional, cognitive and material support, fostering the individual's perception that he is cared for and esteemed" (Idler 1987:228). This salutary effect has come to be known as the social support or social integration hypothesis, and evi-

dence for it has come from numerous studies (Gilk 1990; Idler 1987; Idler and Kasl 1992; Jarvis and Northcott 1987; McGuire 1988).

Social networks and organizational participation outside of religious circles have also been identified as having a positive influence on health and wellness. Social support, especially among the elderly, appears to have a direct and positive effect in the short term and to buffer the effects of stress over the long run (Bloom et al. 1991; House, Umberson, and Landis 1988; Mor-Barak and Miller 1991). Thus, social integration in religious groups may have special properties which make it beneficial to health but other forms of social integration appear equally suitable to benefit health. Religion is simply one gateway to such supportive relationships.<sup>1</sup>

Although social support has been found to play a salutary role on health, the uniqueness of the black religious experience could have special benefits to health. Taylor and Chatters (1986) present evidence that church-based informal support is a source of "material and psychological sustenance (for) black Americans generally, and older blacks in particular" (637). They further argue that black churches not only provide "information and advice" to their members, but also "are extremely involved in the provision of . . . material, emotional, and spiritual assistance with one another" (Taylor and Chatters 1988:194; see also Chatters and Taylor 1989).

Chaves and Higgins (1992) presented data that suggest that white congregations (at least 80% white membership) tend to focus their outreach ministries on the following sorts of activities: recreation/camp programs for youth; right to life; refugee-related programs (434). Conversely, African-American congregations (at least 80% black membership) tend to focus their outreach ministries on these activities: meal service; civil rights and social justice; community development; public education on disease (434). The authors conclude that their study represents a direct systematic comparison of random samples of both black and white congregations with "evidence supporting the idea that black congregations in fact participate more actively than do white congregations in certain secular affairs of their communities" (Chaves and Higgins 1992:439; see also Lincoln and Mamiya 1990; Marx 1967).

Although there is important evidence on the functions of the black church in America, one should not simply assume that it is homogeneous and without its contradictions (Marx 1967; Nelsen and Nelsen 1975; Wilmore 1972). The social institution of the black church is quite diverse, including both protest and accommodation, but, in comparison to most predominantly white churches, does much more to provide for the overall well-being of its members (Baer and Singer 1992; Frazier 1963). Because African-American congregations give so much attention to local needs, it is possible that social support among religious persons in such churches may yield special benefits. Social support has been widely found to be beneficial to health, but the intensive and tangible efforts by black churches to local needs may enhance the salutary effect on health. Testing this hypothesis requires detection of statistical interaction: The effect of social support on health will be stronger among African Americans.

---

1. Another consideration in the relationship between social integration and health is that it may not always lead to better health. Ferraro and Albrecht-Jensen (1991) found that people affiliated with conservative religious groups reported slightly poorer health than those in more liberal denominations. The authors suggested that resistance to medical interventions and fatalism about health conditions may deter people from engaging in what are generally considered appropriate health behaviors. Denominational affiliation and social integration are not the same phenomenon, however. Integration's effect is generally salutary but involvement in certain denominations, sects, or cults may lead to what Suchman (1965) called a parochial sociomedical orientation.

### *Religious Consolation Hypothesis*

The second hypothesis that merits attention when considering the link between religion and health may be referred to as the religious consolation hypothesis (or the religious comfort hypothesis). Religion has long been identified as a coping mechanism for those faced with adversity, for it offers an explanation for many forms of adversity and suffering. Some, such as Karl Marx, have bemoaned this function of religion in squashing people's initiative for substantial social change: "*Religious* suffering is at the same time an *expression* of real suffering and a *protest* against real suffering. Religion is the sigh of the oppressed creature, the sentiment of a heartless world, and the soul of soulless conditions. It is the *opium* of the people" (1972:12). While Marx's characterization of this function of religion may not be widely held, it is clear that religion is used by oppressed people to make sense of their world of adversity. And, as Idler (1987) points out, religion is often useful to the individual when confronting *health* problems: "the Judeo-Christian tradition provides a rich source for the provision of interpretive schemes in situations of physical suffering" (229).

If religion is treated largely as a coping resource while facing poor health, then the causal direction is the opposite of what one would expect in the social support hypothesis. Instead of religion's positively influencing health, the religious consolation hypothesis anticipates poor health's affecting religion (an extreme case is "deathbed conversion"). Obviously, then, it is possible that both *processes* operate, but only longitudinal studies would be able to detect these effects definitively.

Given the centrality of black churches and religious associations to the African-American community (e.g., Frazier 1963), it is reasonable to expect that, faced with poor health (or other forms of adversity), blacks will be more likely than whites to turn to religion for consolation and comfort. If the religious consolation hypothesis is operant, then one should see a negative relationship between this religious expression and health. If this is more likely among black adults, this would again be a case of statistical interaction.

As noted above, the two hypotheses are not necessarily mutually exclusive and would ideally be tested with longitudinal data. The next aim of this paper is to test these hypotheses on a national sample of black and white adults. Although we do not have longitudinal data for this purpose, the national sample and the measures of religion and health used permit a test of both hypotheses, and therefore should help extend the current literature. First, an oversample of black subjects permits adequate statistical power; without an oversample, the deck is often stacked against finding effects, especially interaction effects, for a minority of only 10% of the sample (Andersen, Mullner, and Cornelius 1987). Second, the data to be used span a range of religiosity indicators that other researchers strongly view as critical to advancing the literature (Levin and Vanderpool 1987).

## METHOD

### *Sample*

The data used in this paper are from the first wave of Americans' Changing Lives, a national survey of 3,617 people (House 1990). The study population for the Americans' Changing Lives (ACL) survey included the entire continental United States household population age 25 years and older. Age-eligible individuals residing in group quarters or institutions are excluded from the survey population. The ACL study sample is selected under a multistage area probability sample design. In total, the sample design includes four distinct selection stages. The primary stage involves probability proportionate to size selection of U.S. Standard Metropolitan Statistical Area (SMSA) and non-SMSA counties. The sec-

ond stage involves area segments within the sampled Primary Sampling Units (PSUs). The third stage selection is preceded by a complete listing (enumeration) of all housing units that are physically located within the bounds of the selected area segment. It is a systematic selection of housing units from the housing units listings for the area segments. The fourth and final stage is the selection of the survey respondent(s) within a sample housing unit.

One of the advantages of this survey is that it oversampled the black and elderly populations so that random errors due to small percentages of certain groups of interest can be minimized.<sup>2</sup> Investigators using large national multistage samples generally face the question of whether (and how) to weight data from such complex designs. For descriptive analyses and to approximate population parameters, weighting is generally recommended (House 1990). When testing for differences between black and white respondents, however, weighting the sample to represent the population distribution of black and white respondents decreases statistical power (Andersen, Mullner, and Cornelius 1987). Because our analysis focuses on testing ethnic differences in the way religion may affect health, we use the black oversample in almost all analyses to assure adequate statistical power; we do not, however, use the oversample of older persons ( $N = 2,560$ ). In this way, we present findings based on the known age distribution of the United States at the time of the survey (U.S. Bureau of the Census 1989).

### Measures

Descriptive information for most of the variables used is presented in Table 1. This includes means and standard deviations for all of the specific indicators by race. *Health status* is measured by an index of three items. The measures used provide information on subjective health, morbidity, and functional limitations. First, *subjective health* is measured with the widely used self-rating of health. It is an expression of how an individual generally perceives his or her health status (i.e., a global view of health). It is based on the question: "How would you rate your health at the present? Would you say it is (1) poor, (2) fair, (3) good, (4) very good, (5) excellent?" (Coding is indicated in the parentheses.) While they are reported by the respondents and thus contain some "subjectivity," they are specific enough to assess health status in a reliable fashion. Second, respondents were asked whether or not they had experienced any of 10 designated health problems. For most of the analysis, these conditions were summed to form an overall indicator of the number of *chronic conditions* (6 equals 6 or more) which was subsequently inverted to reflect health status. Third, *activity limitation* was assessed by the question: "How much are your daily activities limited in any way by your health or health-related problems — (1) a great deal, (2) quite a bit, (3) some, (4) a little, (5) or not at all?" The index of these three items manifests a Cronbach's coefficient of reliability equal to .78.

Recognizing the limitations of previous research on religion and health and the long-standing convention to consider the dimensions of *religiosity*, we probed three such dimensions in this investigation (Stark and Glock 1968). A series of exploratory factor analyses and reliability analyses was performed before identifying the variables specified below. The first is *religious practice* which is comprised of three indicators. Each question assessed the frequency of engaging in the selected activity, using six categories ranging from never

---

2. The compounding of the oversampling requirement for race and that for age produces the following pattern of relative selection rates for the four age-by-race subgroups of the study population: nonblack, ages 25-59 1:1; nonblack, ages 60+ 2:1; black, ages 25-59 2:1; black, ages 60+ 4:1. Respondents who did not identify themselves as either black or white (e.g., Hispanics) were excluded from the present analysis; the resulting sample is 3,443.

(scored 1) to more than once a week (6).<sup>3</sup> The three items examine: *attending* religious services or events, *reading* religious books, and *watching or listening* to religious television or radio. Given the shortcomings of past research on religion and health, where religion has often been assessed only by attendance at religious services, it was deemed important to develop a measure of religious practice that covered the various ways in which people engage in religious activities. As it is, two out of the three indicators do not require substantial physical function. The index possesses an alpha coefficient of reliability equal to .73.

TABLE 1  
MEANS AND STANDARD DEVIATIONS OF VARIABLES BY RACE

Variables	Black <sup>a</sup> (n = 889)	White (n = 1,671)	Full Sample (N = 3,417)
Health Status			
Health Index (3-items; alpha = .78) <sup>c</sup>	12.45 <sup>b</sup> (3.11) <sup>d</sup>	12.98** (2.91)	13.07 (2.85)
Religiosity			
Practice (3-items; alpha = .73)	12.45 (4.09)	9.32** (4.48)	9.56 (4.55)
Identity (1 = not important, 4 = very)	3.72 (.57)	3.23** (.90)	3.25 (.89)
Consolation (1 = never, 5 = almost always)	3.80 (1.29)	3.24** (1.49)	3.23 (1.49)
Religious Affiliation			
Catholic	.06 <sup>e</sup>	.27**	.26
Protestant	.79	.57**	.58
Jew	.00	.02**	.02
None	.05	.09**	.09
Social Integration			
Social Support (4-items; alpha = .68)	-.12 (1.14)	.06** (.98)	.02 (.99)
Voluntary Associations (1 = never, 6 = > weekly)	2.79 (1.88)	2.76 (1.79)	2.81 (1.81)
Status Characteristics			
SES (1 = low, 4 = high)	1.96 (.92)	2.48** (.98)	2.52 (.98)
Sex (Women)	.66	.59**	.53
Married (1 = yes)	.41	.64**	.69
Age (24 to 96 years)	47.08 (15.94)	48.55* (16.81)	47.55 (16.57)
South	.54	.32**	.33

<sup>a</sup>The number of cases varies slightly because of missing data. Race is coded 0 and 1 for whites and blacks, respectively. Tests of significance are for differences by race. Statistics for the column labeled full sample are based on the weighted sample to reflect the population of blacks and whites 25 years of age or older. The columns for black and white reflect the black oversample, but not the older person oversample.

<sup>b</sup>Mean.

<sup>c</sup>Range or coding algorithm.

<sup>d</sup>Standard Deviation.

<sup>e</sup>The standard deviations of dichotomous variables are omitted because they are simply a function of the mean. All dichotomous variables are scored zero and one (zero equals otherwise).

\*p < .05

\*\*p < .01

3. The six categories are: never, less than once a month, about once a month, 2 or 3 times a month, once a week, and more than once a week. Although some researchers prefer a distinction between private and public practice, the factor analyses did not substantiate this distinction.

*Religious identity* is the second dimension of religiosity considered in this study; it was assessed with the question: "In general, how important are religious or spiritual beliefs in your day-to-day life — would you say very important (4), fairly important (3), not too important (2), or not at all important (1)?"

A final dimension of religiosity probed is especially relevant for health studies because it examines comfort and consolation in the face of problems. Subjects were asked: "When you have problems or difficulties in your work, family or personal life, how often do you seek spiritual comfort and support — almost always (5), often (4), sometimes (3), rarely (2), or never (1)?" This dimension is termed *religious consolation*. Finally, although we anticipate the religion effects to operate through the religiosity items, dummy variables for *religious affiliation* were also included.<sup>4</sup>

Two measures of social integration involving supportive relations were used to cover the informal and formal types of social involvement. First, informal *social support* is a standardized index of four items indicating affectual support from friends, family and other relatives.<sup>5</sup> The alpha for the four items is .68. The second measure assesses participation in *voluntary associations*. Respondents were asked how often they "attend meetings or programs of groups, clubs or organizations" to which they belong. Responses are the same as those used for the religious practice items.

The measurement of most of the remaining variables is fairly straightforward. *Socioeconomic status* (SES) is a four-category socioeconomic status variable created from two variables: annual family income and education in years. It is defined as follows: (1) Low SES: 0-11 years of education and family income less than \$20,000; (2) Lower-middle SES: 0-11 years of education and family income \$20,000 or more, or more than 12 years of education and family income less than \$20,000; (3) Upper-middle SES: 12 to 15 years of education and income \$20,000 or more; (4) High SES: 16 or more years of education and income \$20,000 or more. Analyses separating the effects of education and income (10 categories) on both objective and subjective indicators of health produced no significant differences from the above measure in prediction equations. *Age* is coded in years, while *sex*, *race* and *marital status* are dummy variables (0, 1) with 1 equal to female, African American, and married. Given the interests of this paper in both religion and ethnicity, a binary variable differentiating the *southern* region of the country was also included (Ellison and Gay 1990; Robinson 1990).

### *Analytic Plan*

The analysis proceeds in four basic steps. First, descriptive differences between black and white adults are presented in tests of mean scores. Second, the dimensions of religiosity are regressed on the relevant predictor variables. Third, two regression models where health status is dependent are presented to highlight the contribution of the social integra-

---

4. We also constructed a dummy variable representing affiliation with a predominantly black church and included it in preliminary models. It was so strongly correlated with the dummy variable for black respondents that both were never significant. Thus, it was deleted from further analyses while the binary variables for denominational affiliation and black were retained.

5. The four items are: "The next few questions are about friends and relatives other than spouse, children, or parents. On the whole, how much do your friends and other relatives make you feel loved and cared for? Again, on the average, how much do you feel your friends and other relatives make too many demands on you? How much are these friends and relatives willing to listen when you need to talk about your worries or problems? How much are they critical of you or what you do?" Response categories range from 1 (not at all) to 5 (a great deal) but responses to items two and four were inverted to assure consistency. The index has been standardized; it has a mean of zero and standard deviation of one for the full sample (House 1990).

tion items. Fourth, separate equations are estimated for the black and white subsamples, and differences in slopes are tested to examine the extent to which religion and other variables affect health status differently for the two groups.

## FINDINGS

Table 1 presents means and standard deviations of the variables used in the analysis by race. (The black column includes the oversample but the column labeled Full Sample is weighted to represent the U.S. population 25 years of age or older. Significance tests are based on comparisons of the first two columns.) As expected, health status is superior among the white respondents, but each dimension of religiosity is stronger among the African-American subjects. There are no differences in the frequency of participation in voluntary associations, but white respondents generally report higher levels of social support. The differences in the status characteristics are fairly straightforward.

In order to first document the distribution of religiosity in the Americans' Changing Lives sample, Table 2 presents three regression equations using the denominational markers and status characteristics as independent variables. The first column indicates that religious practice is greater among persons who are lower social class, women, older people, married persons, and Southerners. The strongest effect among the independent variables is due to the substantially higher practice among black respondents in comparison to white subjects (beta = .27). Catholics and especially the Protestants score higher on practice than the comparison group.<sup>6</sup>

TABLE 2  
REGRESSIONS OF RELIGIOSITY ON INDEPENDENT VARIABLES (N = 2,560)

Independent Variables	Practice	Identity	Consolation
SES	-.21 <sup>a</sup> -.05 <sup>b</sup>	-.08** -.10	-.05 -.03
Women	1.37** .15	.30** .18	.66** .22
Age	.04** .16	.01** .11	.01** .09
Married	.71** .08	.14** .08	.16** .06
South	1.46** .16	.18** .11	.24** .08
Black	2.65** .27	.43** .25	.46** .15
Catholic	.91** .08	.42** .20	.46** .13
Protestant	1.71** .18	.41** .23	.54** .18
Intercept	4.74	2.48	1.96
R <sup>2</sup>	.22	.21	.14

<sup>a</sup>Unstandardized coefficient.

<sup>b</sup>Standardized coefficient.

\*p < .05

\*\*p < .01

6. The comparison group for these analyses include Jews, Other religions, and None. Approximately 14% of the sample serves as this reference group but each of the groups are represented by fairly small proportions. The basic classification of Catholics, Protestants, Jews, Other, and None is obviously an oversimplification of religious affiliation. While we find limited utility in such a scheme, it is included nonetheless as a control variable with comparisons made only for those groups large enough to make meaningful interpretations.



The equations for religious identity and religious consolation show fairly similar results to those for practice. The main exception is that SES is not associated with religious consolation. African Americans and Protestants manifest the highest levels of religious identity, but the difference between Protestants and Catholics is generally smaller on identity and consolation than it is for religious practice. Although blacks are more likely than whites to find consolation and comfort from their religion, the strongest effect is for gender: Women report higher levels of consolation. Most of these findings are fairly consistent with the existing literature on the prevalence of religiosity in American society (Roof and McKinney 1987).

Table 3 is presented to determine the effects of religiosity and social support on health in this sample. Two equations are presented for the total sample. The first includes all of the independent variables except for the two measures of social support while the second equation includes those measures as well. As expected, Model I shows that better health is found among people with higher social class, men, and younger persons. Aside from age, the next largest effect is due to social class. Once these and other variables are controlled, no differences in health exist by marital status, region, and race. The effects of all of the religion variables are modest or nonsignificant. Catholics report slightly better health than the reference group, while Protestants do not differ significantly.

TABLE 3

## REGRESSIONS OF HEALTH STATUS ON INDEPENDENT VARIABLES

Independent Variables	Total Sample (N = 2,550)		Black Subsample <sup>a</sup> (n = 883)		White Subsample <sup>a</sup> (n = 1,667)	
	I	II	I	II	I	II
SES	.75** <sup>b</sup> .25 <sup>c</sup>	.68** .23	.68** .20	.63** .19	.77** .26	.68** .23
Women	-.36** -.06	-.40** -.07	-.73** -.11	-.76** -.12	-.22* -.04	-.28** -.05
Age	-.07** -.39	-.07** -.41	-.08** -.42	-.09** -.44	-.07** -.38	-.07** -.40
Married	-.03 -.01	-.05 -.01	.15 .02	.09 .01	-.13 -.02	-.12 -.02
South	-.20 -.03	-.20 -.03	-.55** -.09	-.55** -.09	-.00 -.00	-.00 -.00
Black	-.10 -.02	-.03 -.01	—	—	—	—
Catholic	.39* .05	.43* .06	.31 .02	.31 .02	.44** .07	.48** .07
Protestant	.17 .03	.17 .03	.12 .02	.14 .02	.22 .04	.20 .03
Practice	.02 .03	.01 .01	.07** .09	.05* .06	-.00 -.01	-.02 -.03
Identity	-.08 -.02	-.08 -.02	-.09 -.02	-.09 -.02	-.11 -.04	-.12 -.04
Consolation	-.06 -.03	-.07 -.05	-.20** -.08	-.20** -.08	-.01 -.01	.00 .00
Social Support		.25** .09		.25** .09		.27** .09
Voluntary Associations		.10** .06		.09* .06		.11** .07
Intercept	14.90	15.20	15.76	16.21	14.62	14.89
R <sup>2</sup>	.30	.31	.32	.33	.29	.30

<sup>a</sup> Boldface coefficients are significantly different across the subsamples.

<sup>b</sup> Unstandardized coefficient.

<sup>c</sup> Standardized coefficient.

\*p < .05

\*\*p < .01

Adding the measures of social integration, model II manifests an increment to  $R^2$  that is significant but adds only about one percent to the explained variance. In both cases, the social integration measures are positively related to health. When these two measures are added to the equation, most of the effects of the other variables remain very similar. Thus far, the effects of religious belief and practice do not seem substantial, especially when one simultaneously considers social integration.

One of the major aims of this paper is to determine if the link between religion and health varies between whites and African Americans. To this end, separate equations for models I and II on the African-American and white subsamples are also presented in Table 3. Model parameter estimates *within* each subsample are quite similar; therefore, we focus on the differences in model II *across* subsamples. Both unstandardized and standardized coefficients are presented but comparisons across the two groups should be based only on the unstandardized coefficients. Slopes that are significantly different across the groups are indicated by boldface type. (Each variable so marked indicates statistical interaction by race.)<sup>7</sup> Socioeconomic status is significantly linked to better health for both groups. The slopes for gender are different across the subsamples: Black women report the poorest health status among the respondents. The effect of age is similar across the subsamples but the effect of region is not: The effect of southern region is much stronger among African-American than among white respondents, indicating that southern blacks are in much poorer health.

It appears reasonable to deduce from columns 3 and 5 of Table 3 that white Catholics have better health than black Catholics, but the data do not actually permit such a conclusion. The barrier to reaching that conclusion is the fact that there are so few black Catholics in the ACL sample that the accompanying standard error of the slope is very large. Note, however, that the positive effect of religious practice on health is significant among the black respondents but nonsignificant among the white respondents; the slopes are also significantly different when tested. Therefore, religious practice has a salutary effect on health among black subjects, above and beyond the role of social support, but this is not the case for white subjects. The remaining instance of statistical interaction concerns religious consolation: The negative effect is much stronger among black than white adults. Religion can function as an aid in coping with problems, but this is especially the case among African Americans, thus supporting the hypothesis that the effects of religious consolation are stronger among African Americans. (Supplementary analyses, not shown, where religious consolation is regressed on race, health, the interaction of race and health, and covariates, confirm this interpretation.)

Finally, the effects due to social support and voluntary associations are not statistically different across the two groups. Although we hypothesized that social support would aid the health of African Americans more than it would white Americans, this hypothesis was not supported. Additional tests for statistical interaction were also performed where

---

7. The effects among the black and white subsamples were tested to determine if they were significantly different. In order to compare findings across the subsamples, t-values for tests of differences of slopes were calculated on all slopes. All the t-values were calculated with the following formula:

$$t = \frac{b_1 - b_2}{\sqrt{SE_1^2 + SE_2^2}}$$

where b refers to the unstandardized coefficient, SE refers to standard error of b (Marascuilo and Levin 1983). (In addition, interaction terms were created and entered into the relevant equations as a confirmation of the procedure for comparing slopes.)

the indicators of social support and voluntary associations were multiplied by the indicators of religiosity. Each product term was tested individually, but in no case did religiosity and social support interact. The health of black and white Americans benefits equally from social support and engagement in voluntary associations.

## DISCUSSION

This analysis advances the debate over the salutary effects of religion on health in three ways. First, it specifies some of the conditions under which religion and health may be linked. Second, it shows that some of these linkages are different among African Americans and whites. Third, it adds to the literature that examines the effect of social support on health.

The first hypothesis examined the effect of social support on health. Findings from the American's Changing Lives survey offer support to the salutary effect of social integration on health (Gilk 1990; Idler 1987; Idler and Kasl 1992; Jarvis and Northcott 1987; McGuire 1988). Yet it was argued that the effect of social support on health would be stronger for black than for white respondents, and such an interaction effect was not found. Black subjects were found to be more religious on all three indicators of religiosity, and this might suggest that social support from religious circles pays special dividends to health. The analysis shows, however, that African American and white respondents benefit equally from social support, even after considering the higher levels of religiosity among black adults. One limitation of this test of the hypothesis is that we cannot differentiate religious social support from other types of social support. Even so, following research by Taylor and Chatters (1986, 1988) and Chaves and Higgins (1992), we suggest that black churches may promote special benefits on selected tangible properties of quality of life. Future research differentiating the sources of social support and integration would be more beneficial to testing the hypothesis that black churches play meaningful roles in promoting health and quality of life more generally. We also need to know the extent to which blacks receive either direct services or more substantial social support from their religious affiliations than do whites.

The second major set of findings hinges on a test of the religious consolation hypothesis. These data show that black adults are more likely to turn to their religion when experiencing health problems. Other research clearly shows that black adults are more likely to *experience* health problems than whites across the life course (Bullard 1990; Gibson 1991; Rushing et al. 1992). And this paper reveals that religion functions as a coping mechanism as black adults face health problems. Physical suffering and bodily dysfunction exact a toll, and black adults appear much more likely to use religion to help make sense of the health adversity.

The findings on the religious consolation hypothesis lead one to again note that African Americans continue to be institutionally disenfranchised. Recent Census data show that black Americans, aged 25 and over are only one half as likely as whites to complete college. In addition, median family income of black persons is only 57% of that of whites, and three times as many blacks live below the poverty level (U.S. Bureau of the Census 1990). The persistence of these astounding inequities points to the need for a comprehensive analysis of racism within American social institutions.

Thus, we wonder: Do African Americans rely on the church for social support because their churches are one of the remaining social institutions from which they equitably receive it? The current state of research does not permit a definitive answer, but we do know that social support produces positive health outcomes. We also know that religion is a source of social support. This paper suggests that black adults turn to religion more than whites do when in a health crisis. Perhaps religion in the black community takes the form

of a mediating institution, without which the health inequities between Anglo and African Americans might be even worse than they are.

Finally, these findings also show that religious practice is associated with better health among black adults, but that no such connection is present among white adults. The practice effect is usually interpreted as aiding health-protective behaviors or social support, but the simultaneous controls for social integration lend support to a health behavior interpretation. Moderation, Sabbath rests, and anxiety displacement may all function to the benefit of one's health. The ACL data demonstrate such an effect among African Americans. At the same time, the magnitude of this positive effect on health is not as strong as reported in previous studies (e.g., Ferraro and Albrecht-Jensen 1991; Idler and Kasl 1992). Religion and health are linked but the magnitude of the link and the mechanisms of effects merit further study. As noted above, longitudinal studies of religion and health are needed to better understand the links, especially those pertaining to religious consolation and health behavior.

In sum, the effects of social support on health appear quite similar for black and white people, despite the generally higher levels of religious identification and participation among black persons. The link between religion and health is stronger for African Americans than whites on two counts. First, those who practice their religion appear to reap positive benefits to health. Second, black adults in poor health — regardless of their levels of practice — are more likely than whites to turn to religion as a coping resource in the face of physical suffering.

## REFERENCES

- Ammerman, Nancy  
1987 *Bible believers*. New Brunswick, NJ: Rutgers University Press.
- Andersen, Ronald M., Ross M. Mullner, and Llewellyn J. Cornelius  
1987 Black-white differences in health status: Methods or substance? *The Milbank Quarterly* 65:72-99.
- Baer, Hans A. and Merrill Singer  
1992 *African-American religion in the twentieth century*. Knoxville: University of Tennessee Press.
- Berkman, Lisa F. and S. Leonard Syme  
1979 Social networks, host resistance, and mortality: A nine-year follow-up study of Alameda county residents. *American Journal of Epidemiology* 109: 186-204 (Set 2).
- Blazer, Dan and Erdman Palmore  
1976 Religion and aging in a longitudinal panel. *The Gerontologist* 16: 82-85.
- Bloom, Joan R., Pat Fobair, David Spiegel, Rick S. Cox, Anna Varghese, and Richard Hoppe  
1991 Social supports and the social well-being of cancer survivors. *Advances in Medical Sociology* 2: 95-114.
- Bullard, Robert D.  
1990 Ecological inequities and the new south: Black communities under siege. *Journal of Ethnic Studies* 17: 101-115.
- Chatters, Linda M. and Robert J. Taylor  
1989 Age differences in religious participation among black adults. *Journal of Gerontology: Social Sciences* 44: S183-S189.
- Chaves, Mark and Lynn M. Higgins  
1992 Comparing the community involvement of black and white congregations. *Journal for the Scientific Study of Religion* 31: 425-440.
- Comstock, George W. and Kay B. Partridge  
1972 Church attendance and health. *Journal of Chronic Diseases* 25: 665-672.
- Durkheim, Emile  
1951 *Suicide: A study in sociology*. New York: Free Press.
- Ellison, Christopher G. and David A. Gay  
1990 Region, religious commitment, and life satisfaction among black Americans. *Sociological Quarterly* 31: 123-147.
- Ferraro, Kenneth F. and Cynthia M. Albrecht-Jensen  
1991 Does religion influence adult health? *Journal for the Scientific Study of Religion* 30: 193-202.
- Frazier, E. Franklin  
1963 *The Negro Church in America*. New York: Schocken.
- Gardner, John W. and Joseph L. Lyon  
1982 Cancer in Utah Mormon women by church activity level. *American Journal of Epidemiology* 116: 258-265 (Set 2).
- Gibson, Rose C.  
1991 Age-by-race differences in the health and functioning of elderly persons. *Journal of Aging and Health* 3: 335-351.

- Gilk, Deborah Carrow  
1990 Participation in spiritual healing, religiosity, and mental health. *Sociological Inquiry* 60: 158-176.
- Graham, Thomas W., Berton H. Kaplan, Joan C. Cornoni-Huntley, Sherman A. James, Caroline Becker, Curtis G. Hames, and Siegfried Heyden  
1978 Frequency of church attendance and blood pressure elevation. *Journal of Behavioral Medicine* 1: 37-43.
- Hannay, D. R.  
1980 Religion and health. *Social Science and Medicine* 14A: 683-685.
- House, James S.  
1990 *Americans' changing lives: Wave I, 1986* [Computer file]. Ann Arbor, MI: Survey Research Center [producer], 1989. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor].
- House, James S., Debra Umberson, and Karl Richard Landis  
1988 Structures and processes of social support. *Annual Review of Sociology* 14: 293-318.
- Idler, Ellen L.  
1987 Religious involvement and the health of the elderly: Some hypotheses and an initial test. *Social Forces* 66: 226-238.
- Idler, Ellen L. and Stanislav V. Kasl  
1992 Religion, disability, depression, and the timing of death. *American Journal of Sociology* 97: 1052-1079.
- Jarvis, George K. and Herbert C. Northcott  
1987 Religion and differences in morbidity and mortality. *Social Science and Medicine* 25: 813-824.
- Johnson, Daniel M., J. Sherwood Williams, and David G. Bromley  
1986 Religion, health and healing: Findings from a southern city. *Sociological Analysis* 47: 66-73.
- Kessler, Ronald C. and Harold W. Neighbors  
1986 A new perspective on the relationships among race, social class, and psychological distress. *Journal of Health and Social Behavior* 27: 107-115.
- Levin, Jeffrey S. and Kyriakos S. Markides  
1986 Religious attendance and subjective health. *Journal for the Scientific Study of Religion* 25: 31-40.
- Levin, Jeffrey S. and Harold Y. Vanderpool  
1987 Is frequent religious attendance really conducive to better health? Toward an epidemiology of religion. *Social Science and Medicine* 24: 589-600.
- 1989 Is religion therapeutically significant for hypertension? *Social Science and Medicine* 29: 69-78.
- Lincoln, C. Eric and Lawrence H. Mamiya  
1990 *The black church in the African American experience*. Durham, NC: Duke University Press.
- Marascuilo, Leonard A. and Joel R. Levin  
1983 *Multivariate statistics in the social sciences: A researcher's guide*. Monterey, CA: Brooks/Cole.
- Marx, Gary T.  
1967 Religion: Opiate or inspiration of civil rights militancy among Negroes? *American Sociological Review* 32: 64-72.
- Marx, Karl  
1972 Contribution to the Critique of Hegel's *Philosophy of Right*: Introduction. In *The Marx-Engels Reader*, edited by Robert C. Tucker, 11-23. New York: W. W. Norton.
- McGuire, Meredith B.  
1988 *Ritual healing in suburban America*. New Brunswick, NJ: Rutgers University Press.
- Mor-Barak, Michal-E. and Leonard S. Miller  
1991 A longitudinal study of the causal relationship between social networks and health of the poor frail elderly. *Journal of Applied Gerontology* 10: 293-310.
- Mullen, Kenneth  
1990 Religion and health: A review of the literature. *International Journal of Sociology and Social Policy* 10: 85-96.
- Mutchler, Jan E. and Jeffrey A. Burr  
1991 Racial differences in health and health care service utilization in later life: The effect of socioeconomic status. *Journal of Health and Social Behavior* 32: 342-356.
- Nelsen, Hart M. and Anne Kusener Nelsen  
1975 *Black church in the sixties*. Lexington: University Press of Kentucky.
- Pettigrew, Thomas F.  
1981 Race and class in the 1980s: An interactive view. *Daedalus* 110: 233-55.
- Pollner, Melvin  
1989 Divine relations, social relations, and well-being. *Journal of Health and Social Behavior* 30: 92-104.
- Robinson, Isaac A.  
1990 The relative impact of migration type on the reversal of Black out-migration from the South. *Sociological Spectrum* 10: 373-386.
- Roof, Wade Clark and William McKinney  
1987 *American mainline religion: Its changing shape and future*. New Brunswick, NJ: Rutgers University Press.
- Rushing, Beth, Christian Ritter, and Russell P. Burton  
1992 Race differences in the effects of multiple roles on health: longitudinal evidence from a national sample of older men. *Journal of Health and Social Behavior* 33: 126-139.
- Stark, Rodney and Charles Y. Glock  
1968 *American Piety: The Nature of Religious Commitment*. Berkeley: University of California Press.
- Suchman, Edward A.  
1965 Social patterns of illness and medical care. *Journal of Health and Human Behavior* 6: 2-16.
- Taylor, Robert Joseph and Linda M. Chatters  
1986 Church-based informal support networks among elderly blacks. *The Gerontologist* 26: 637-642.
- 1988 Church members as a source of informal social support. *Review of Religious Research* 30: 193-203.

U.S. Bureau of the Census

1989, 1990 *Statistical Abstract of the United States*. Washington, DC: U.S. Government Printing Office.

Wilmore, Gayraud S.

1972 *Black religion and black radicalism*. Garden City, NY: Doubleday.

Zuckerman, Diane M., Stanislav V. Kasl, and Adrian M. Ostfeld

1984 Psychosocial predictors of mortality among the elderly poor: The role of religion, well-being, and social contact. *American Journal of Epidemiology* 119: 410-423 (Set 2).

