

# Religious Involvement, Stress, and Mental Health: Findings from the 1995 Detroit Area Study\*

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## Abstract

*Although interest in the links between religion and mental health has increased sharply in recent years, researchers remain far from a consensus regarding which aspects of religious involvement are germane to mental health, which mental health outcomes may be influenced by religious factors, and which mechanisms and/or models may account for these observed relationships. This article extends the literature in this area by elaborating a set of direct, mediating, and moderating links between multiple dimensions of religious involvement and psychological distress and well-being. Relevant hypotheses are then tested using data from the 1995 Detroit Area Study. Among our key findings: the frequency of church attendance bears a positive association with well-being and an inverse association with distress; the frequency of prayer has a slight inverse link with well-being and a weak positive association with distress; belief in eternal life is positively associated with well-being but unrelated to distress; in general, the net effects of these religious variables are not mediated by the risk of social stressors or by access to social or psychological resources; other religious variables, including measures of church-based social support, are unrelated to distress or well-being; and there is limited evidence of stress-buffering effects, but not stress-exacerbating effects, of religious involvement. The limitations of the study are discussed, and several implications and promising directions for further research on religion and health/well-being are identified.*

\* Earlier versions of this article were presented at the 1998 meeting of the Southern Sociological Society, Atlanta, and at a conference on Religion in the Lives of Black and White Americans, held at the Institute for Social Research, University of Michigan, May 1999. This research was partly supported by a grant from the National Institute on Aging (R01 AG18432) to the first author. The authors thank Linda Chatters, Marc Musick, Kenneth Pargament, and three anonymous reviewers for helpful suggestions. However, we are solely responsible for any errors of fact or interpretation that remain. Direct correspondence to Department of Sociology, 336 Burdine Hall, University of Texas, Austin, TX 78712-1088. E-mail: cellison@mail.la.utexas.edu.

After decades of neglect, a number of recent studies explore the complex relationships between religious involvement and health (for recent reviews, see Ellison & Levin 1998; Levin 1996; Levin & Chatters 1998). Mounting evidence links aspects of religiosity with a wide range of favorable mental health outcomes, including higher levels of psychological well-being (Ellison 1991; Levin, Chatters & Taylor 1995; Thomas & Holmes 1992), fewer symptoms of distress and depression (Brown, Ndubuisi & Gary 1990; Idler 1987; Levin, Markides & Ray 1996; Musick et al. 1998), and lower risk of recognized psychiatric disorders such as major depressive episode (Koenig et al. 1994), generalized anxiety disorder (Koenig et al. 1993), and alcoholism (Koenig et al. 1994).

Contrary to the assertions of critics, who base their claims primarily on anecdotal accounts of religion's pathological effects (e.g., Ellis 1980; Watters 1992), several reviews of the research literature over the years have reported that aspects of religious involvement are associated with desirable mental health outcomes (e.g., Ellison & Levin 1998; Larson et al. 1992). Perhaps the most comprehensive review of the field to date is the analysis of over 200 psychiatric and psychological studies, in which the authors reached a similar conclusion (Gartner, Larson & Allen 1991). Moreover, there is at least some evidence of mental health benefits of religion among men and women, persons of different ages and racial and ethnic groups, and individuals from various socioeconomic classes and geographical locations. Further, these salutary effects often persist even with an array of social, demographic, and health-related statistical controls.

Despite the recent attention to this topic, researchers remain far from a consensus with respect to three key issues. First, there is disagreement over which dimensions of religiosity are most salient for mental health (Idler et al. 1999; Krause 1993; Williams 1994). Despite several decades of research demonstrating the multidimensionality of religiosity (e.g., Levin, Taylor & Chatters 1995), some researchers continue to measure this construct via a single item, or with an omnibus religiosity scale, typically focusing on religious behaviors (e.g., attendance at services, prayer, or other devotional practices). Although in recent years several observers have recommended measuring health-relevant functional aspects of religiosity (e.g., congregational support) directly (Ellison & Levin 1998), only a few large-scale studies have systematically done so (Idler et al. 1999; Krause, Ellison & Wulff 1998). Moreover, although theorists have long speculated on the possible impact of specific theological beliefs (e.g., belief in divine grace and salvation, sin and judgment) on mental health (e.g., Ellis 1980; Ellison 1994), very few empirical studies have explored such issues.

A second area of dispute concerns the mental health outcomes most likely to be affected by these various dimensions of religious involvement. Perhaps the largest body of evidence regarding salutary religious effects involves psychological well-being (e.g., life satisfaction, happiness, and morale). Indeed, nearly all published studies show that multiple dimensions of religious involvement are positively related

to well-being (Ellison 1991; Witter et al. 1985). However, while a number of studies report salutary effects of religious involvement on distress and depression, the overall thrust of this body of research is somewhat less clear. At least a few studies report what appear to be null (or, in a few cases, even positive) religious effects on symptoms of distress and depression (e.g., Brown et al. 1992; Ellison 1995; Idler & Kasl 1992).

The third major area of dissensus concerns the specific mechanisms and models that might account for the observed religious effects on mental health. With only a handful of exceptions (e.g., Ellison 1994; Idler 1987), researchers have been slow to link this emerging research on religion with the life stress paradigm, which guides much of the current work on the social patterning of mental health (e.g., Lin & Ensel 1989; Mirowsky & Ross 1989; Wheaton 1985). In brief, research conducted within this tradition is typically concerned with the following issues: specifying the harmful effects of various stressful events and conditions on mental health outcomes, clarifying the roles of social and psychological resources in mediating and/or moderating these relationships, and showing how social structures and institutions may shape exposure and vulnerability to stressors, as well as access to the resources that can mitigate their negative consequences. The life stress tradition offers a potentially rich array of conceptual tools, and it suggests various direct, mediator, suppressor, and moderator models to depict the effects of religious involvement on mental health. To date, however, these links have not been investigated systematically.

Our study contributes to this literature in several ways. First, we outline a series of potential relationships among aspects of religious involvement, stressors, social and psychological resources, and positive and negative mental health outcomes. Hypotheses distilled from this discussion are then tested using data from the 1995 Detroit Area Study, a probability sample of 1,139 residents of Detroit and surrounding suburban counties. In the remainder of the article we present our findings and elaborate the implications of the findings for future research on religious differences in mental health outcomes.

### **Mechanisms, Models, and Hypotheses**

Theorists and researchers have discussed an array of possible reasons religious involvement may be inversely related to psychological distress and/or positively associated with well-being (for reviews, see Ellison 1994; Ellison & Levin 1998; Levin & Chatters 1998). A number of the most promising and coherent approaches dovetail with the life stress paradigm, in that they center on the complex linkages between religion, stressors, resources, and mental health. Below we outline several distinct models of the relationship between religious involvement and mental health outcomes.

STRESSOR PREVENTION OR REDUCTION

One perspective suggests that religious participation and belief may lead to better mental health by reducing exposure to (and levels of) chronic and acute stressors. In brief, religion may influence individual behaviors and lifestyle choices for a wide range of reasons: the internalization of religious norms and moral messages, the fear of divine punishment (the so-called hellfire effect), the threat of social sanctions from coreligionists, the desire for approval from reference groups within religious communities, and the lack of exposure to (or time for) deviant networks or certain immoral activities (Ellison 1994; Grasmick, Bursik & Cochran 1991).

Consistent with this line of argument, studies have linked religious participation and/or belief — and, in some cases, specific patterns of religious affiliation — with avoidance of negative health behaviors (e.g., alcohol, tobacco, drugs, risky sexual practices) that might influence the risk of certain health problems (Cochran, Beeghly & Bock 1988; Koenig et al. 1994, 1998). Religious involvement may also encourage moderation in all things and thus may reduce the likelihood of other forms of risk-taking behavior (e.g., gambling, carousing, irregular sleep patterns) (Hoffmann 2000; Mechanic 1990; Wallace & Foreman 1998). In addition, religious involvement is associated with lower rates of marital disharmony and divorce (Call & Heaton 1997; Ellison, Bartkowski & Anderson 1999; Glenn 1982), intergenerational conflict (Pearce & Axinn 1998), and other family and romantic problems. Although few studies have examined the issue directly, it is reasonable to suggest that religious norms regarding work and economic conduct, interpersonal relations, and other domains may reduce exposure to other stressors, such as legal troubles, bankruptcy, and workplace conflicts (Ellison 1994). Taken together, these arguments suggest the following hypotheses:

*Hypothesis 1a:* Multiple dimensions of religious involvement (e.g., church attendance, prayer, belief) will be inversely associated with distress and positively related to psychological well-being.

*Hypothesis 1b:* The salutary effects of these religious variables on the mental health outcomes will be reduced or eliminated with statistical controls for exposure to chronic and acute stressors.

RELIGION AND SOCIAL RESOURCES

A second line of argument suggests that the salutary effects of religious involvement on mental health result partly from the social resources afforded within religious communities. Indeed, several studies have attributed the apparent health benefits of church attendance to the role of congregations as sources of social integration and social support (e.g., Pescosolido & Georgianna 1989; Williams et al. 1991). However, with only a handful of exceptions (e.g., Idler 1987), this hypothesis regarding the mediating effects of social resources has rarely been tested directly

(see George et al. 2001). Briefly, religious congregations provide settings in which like-minded individuals — who tend to share core beliefs, values, interests, and activities — meet on a regular basis. Further, congregation members may provide emotional support (e.g., companionship, prayer support) as well as tangible aid (e.g., goods, services) to one another informally (Hatch 1991; Taylor & Chatters 1988; Wuthnow 1994). Many religious groups also sponsor formal programs for their members in need (e.g., the poor, the elderly, shut-ins), and pastoral counseling remains an important resource for significant numbers of Americans (Chalfant et al. 1990; Chaves & Higgins 1992; Neighbors, Musick & Williams 1998). Perhaps for these reasons, studies show that compared with other persons, regular churchgoers tend to have larger social networks (i.e., more friends and associates), to interact with network members more often, and to receive more diverse types of support and to find their support networks more satisfying and more reliable (Bradley 1995; Ellison & George 1994). These various findings suggest the following hypotheses:

*Hypothesis 2a:* The salutary effects of religious involvement — especially the frequency of church attendance — on mental health will be reduced or eliminated with controls for frequency of social interaction and overall quality of social relationships.

*Hypothesis 2b:* The salutary effects of religious involvement — especially the frequency of church attendance — will be reduced or eliminated with controls for church-based support and social ties with coreligionists.

#### RELIGION AND PSYCHOLOGICAL RESOURCES

For many years skeptics have contended that orthodox religious beliefs (e.g., belief in an omnipotent God and original sin) can erode feelings of well-being and promote mental disturbance (e.g., Branden 1994; Ellis 1980; Musick 2000). Nevertheless, recent discussions link religious involvement with positive mental health outcomes in part because religious individuals may enjoy higher levels of self-esteem (the sense of intrinsic moral self-worth) and feelings of mastery (the perceived ability to control one's environment and affairs) than other persons. For instance, orthodox Christian theology teaches that a supreme deity created each person in His image, intervenes in human lives on a regular basis, desires a unique personal relationship with each individual, and promises eternal life for believers (Watson, Morris & Hood 1988). Some have speculated that these beliefs — perhaps intensified via an active prayer life in which individuals interact with a (perceived) divine other — may bolster the sense of intrinsic significance, self-worth, and purpose among committed Christians (Ellison 1991; Pollner 1989). Religious groups may also foster positive reflected appraisals through positive feedback and

fellowship, thereby enhancing the self-esteem of their members (Ellison 1993). Further, religious congregations may promote feelings of efficacy and (vicarious) mastery by teaching that God controls the universe and human affairs and by offering contexts for the development of self-confidence and leadership skills. Perhaps for these reasons, several studies have shown positive links between religious involvement and self-esteem and/or personal mastery (Ellison 1993; Krause 1995; Krause & Tran 1989).

*Hypothesis 3:* The salutary effects of multiple dimensions of religious involvement (e.g., church attendance, prayer, belief) on mental health outcomes will be reduced or eliminated by controls for psychological resources, such as self-esteem and personal mastery.

#### DIRECT RELIGIOUS EFFECTS

There are also grounds for anticipating that religious involvement may reduce distress and enhance feelings of well-being directly, above and beyond its impact on stress and social and psychological resources. There are several possible reasons for this. Through prayer and other nonorganizational religious pursuits, individuals construct and maintain personal relationships with a perceived “divine other” (Pollner 1989; Wikstrom 1987). Through these ongoing divine relations, augmented by scriptural study and other practices, persons may gain daily guidance and reassurance (Ellison 1991; Pollner 1989; Poloma & Gallup 1991). Building on the arguments of Berger (1967), Antonovsky (1987), and others, some observers suggest that private religious participation — as well as particular tenets such as the belief in eternal life — may confer a broad sense of the world’s coherence, predictability, and meaningfulness, which in turn may yield important mental health benefits. Such religious plausibility structures may be strengthened through the regular experience of rituals, worship activities, and other collective spiritual events to which participants accord sacred significance (Idler 1987; Idler & Kasl 1997; Williams et al. 1991). The theoretical literature in this area suggests that individuals who regularly attend religious services may benefit from strengthened religious beliefs and richer spiritual experiences, as well as from feelings of hopefulness, optimism, and peace and the release of negative emotions (Ellison & Levin 1998; Levin & Chatters 1998). Taken together, these various arguments suggest yet another hypothesis:

*Hypothesis 4:* The salutary net effects of multiple dimensions of religious involvement (e.g., church attendance, prayer, belief) on mental health will persist even with controls for stressors, social resources, and psychological resources.

## DENOMINATIONAL DIFFERENCES

Sociological interest in the links between religion and health began with the classic ecological work of Durkheim (1951 [1897]), who found that areal units in Europe that were populated largely by Catholics had lower suicide rates than predominantly Protestant areas. According to Durkheim, this pattern was due mainly to the greater normative consensus, coherence, and social integration thought to characterize Catholic communities. Although researchers have continued to explore the protective effects of Catholicism on social pathologies at the community level (e.g., Burr, McCall & Powell-Griner 1994; Pescosolido & Georgianna 1989), few studies have systematically examined denominational differences in individual psychosocial outcomes<sup>1</sup> and fewer still have explored the possible mental health benefits associated with Catholicism. Moreover, some of Durkheim's initial explanation for the apparent protective effects of Catholicism in Europe may also be germane to other religious communities in the U.S. (Pescosolido & Georgianna 1989). For instance, some have suggested that normative clarity, strong devotional orientations, and social solidarity may result in coherent plausibility structures and enhanced psychosocial resilience within conservative and sectarian communities (Ellison 1991; Iannaccone 1994; Kelley 1972; Pargament et al. 1987). Perhaps for these reasons, counties with high concentrations of fundamentalist and evangelical Protestants tend to have relatively low suicide rates (Pescosolido & Georgianna 1989), and members of such denominations tend to report higher life satisfaction than others in national surveys (Ellison 1991; Ellison, Gay & Glass 1989). Further, at least one study finds that the frequency of church attendance is a stronger inverse predictor of depressive symptoms among members of conservative and sectarian groups than among persons from most other religious backgrounds (Musick & Strulowitz 1998). These strands of theory and research suggest the following two hypotheses:

*Hypothesis 5a:* Members of certain denominations — especially Catholics and conservative (i.e., fundamentalist and evangelical) Protestants — will report lower levels of distress and higher levels of psychological well-being than unaffiliated persons, even with controls for stressors, resources, and other aspects of religious involvement.

*Hypothesis 5b:* Any mental health benefits associated with Catholic and conservative Protestant affiliation will be stronger among regular church attenders than among other persons.

## SUPPRESSOR EFFECTS

Earlier (hypothesis 1b), we suggested that religious involvement may lead to better mental health partly by reducing the risk of various social stressors, particularly those most closely tied to personal lifestyles. There is also the potential for other,

complex relationships between religion, stress, and mental health. For instance, many Americans turn to prayer or other religious responses when facing various types of stressful events or conditions (Pargament 1997). For some religious individuals, prayer and other personal religious activities may be common strategies for dealing with a wide range of troubled circumstances. However, the available evidence indicates that certain types of problems or crises are especially likely to elicit religious (as opposed to secular) coping responses. These problems include illnesses, accidents, and other health problems, including those of loved ones and bereavements (Ellison & Taylor 1996; Idler 1995; Jenkins & Pargament 1988; Pargament & Hahn 1986). This line of argument raises the possibility that the “true” effect of the frequency of prayer (and perhaps other dimensions and measures of religiosity) on mental health may be beneficial but may also be masked (suppressed) by the likely positive correlation between certain types of stressors and prayer. Therefore

*Hypothesis 6:* The association between religious involvement — especially private religious practices such as prayer — and mental health will be minimal, or even negative, in the absence of controls for stressors, particularly physical health problems. However, the inclusion of such controls will result in a moderate positive link between nonorganizational religiosity and mental health.

#### STRESS-BUFFERING EFFECTS

Moreover, some theoretical and empirical work suggests that aspects of religious involvement may mitigate the negative consequences of stressors on mental health (e.g., Ellison 1991; Williams et al. 1991). Individuals may derive particular solace or comfort from prayer or religious beliefs during times of trouble. Religious cognitions may help individuals in at least two ways: by impacting the primary appraisals of potentially stressful events or conditions (e.g., leading some persons to reframe these situations as less serious than they might appear, as positive opportunities for personal or spiritual growth, or as part of a broader divine plan), and by also affecting some secondary appraisals of stressors, thus giving individuals greater confidence that they can cope successfully with problematic conditions over the long term (Ellison 1994; Idler 1995; Pargament 1997; Pargament et al. 1990).

The stress-buffering perspective implies that aspects of religious involvement may have stronger positive effects on mental health among persons who face high levels of stress but weak or negligible effects among others. There is disagreement in the literature over whether these religious stress-buffering benefits are most likely to surface among persons confronting a large number of negative events or conditions or those facing only specific types of problems. For instance, some studies report that religious practice can reduce anxiety and depression for



persons facing health problems and bereavements, but not in the context of stressors in other domains of life experience (e.g., Mattlin, Wethington & Kessler 1990; Musick et al. 1998; Strawbridge et al. 1998). However, we might anticipate that religious cognitions and worldviews also buffer the negative effects of other stressors that can permanently alter one's life circumstances, including physical disability, significant financial problems, and other major changes in current experiences and future prospects.

*Hypothesis 7a:* Religious involvement (especially private practices and religious beliefs) will have greater salutary effects among persons confronting high levels of stress than among other persons.

*Hypothesis 7b:* Religious involvement (especially private practices and religious beliefs) will have greater salutary effects among persons facing health and serious financial problems than among other persons.

#### STRESS-EXACERBATING EFFECTS

A small but growing body of theory and research raises the possibility that religiosity may exacerbate the deleterious effects of at least some types of stressors (Brown et al. 1992; Sorenson, Grindstaff & Turner 1995; Strawbridge et al. 1998). According to this line of argument, negative events and conditions that are attributed (correctly or incorrectly) to behaviors that run counter to religious norms may result in feelings of guilt and shame, stigmatization, withdrawal of support by coreligionists, and, in extreme cases, explicit condemnation by religious leaders. Indeed, many of the same belief systems and social mechanisms within religious communities that may foster behavioral conformity — thereby reducing the risk of certain stressors (hypothesis 1b) — may also leave their members poorly equipped to deal with those events and conditions if they occur (Ellison 1994). Although these processes may be at work in a wide range of circumstances (e.g., HIV/AIDS, legal problems), several recent studies direct attention to the role of religious practices and values in exacerbating the negative consequences of family problems. For example, in a large cross-sectional sample of elders, Strawbridge and colleagues (1998) found that high levels of organizational and nonorganizational religious involvement seem to amplify the already harmful effects of family-related stressors (e.g., marital problems, problems with children, caregiver stress, and domestic abuse) on depression. As they point out:

Faced with unruly children, difficult marriages, or problems caring for an older parent, religious persons may feel more at fault themselves, both because problems in these areas are not perceived as likely to happen to them and because the advice they receive from clergy and fellow congregation members may involve acquiescence over more active conflict resolution. . . . In some religious groups, family problems may be seen as an indication that the member is somehow failing in his or her relationship with God. (124)

This line of argument suggests a final hypothesis, which stands in sharp contrast to the stress-buffering hypotheses (hypotheses 7a and 7b) presented above.

*Hypothesis 8:* The effects of certain stressors (e.g., family problems) on mental health will be more negative among individuals with high levels of religious involvement (especially prayer and religious belief) than among other persons.

### Data

The data for our analyses come from the 1995 Detroit Area Study (DAS). The DAS is a multistage area probability sample of adult respondents 18 years of age and older residing in Wayne, Oakland, and Macomb counties in Michigan, including the city of Detroit. African Americans were oversampled, and the final sample size for the DAS-95 was 1,139. Face-to-face interviews were completed between April and October 1995 by University of Michigan graduate students in a research training practicum in survey research as well as by professional interviewers from the Survey Research Center. The final response rate was 70% (see Williams et al. 1997 for further details on the DAS-95).

The three-county Detroit metro area offers an interesting context in which to explore the links between religious involvement and mental health outcomes. Indeed, the Detroit area has been the site of a number of important studies of religious diversity and its implications for individuals and families, including the seminal work of Lenski (1961), among others. For much of the twentieth century, Detroit has been a manufacturing center, particularly for automobiles and related industries. Immigrants, including many first- and second-generation Eastern Europeans, along with Germans, Italians, and others, were attracted to Detroit by the prospect of stable, blue-collar jobs. Since the 1960s, many white ethnics have left urban Detroit for the surrounding suburban communities, in a stark example of the "white flight" that has deepened the residential segregation of many Rust Belt urban centers (Sugrue 1996). A substantial segment of this white ethnic population in the Detroit metro area is Catholic, and white flight led to the controversial closures of many urban Catholic churches during the 1980s and 1990s (Bridger & Maines 1998). There are also significant numbers of Lutherans (partly a reflection of the German ethnic background of many area residents) and other mainline Protestants, as well as white evangelicals and fundamentalists. In addition, there are Jews and persons from other religious backgrounds, though in much smaller numbers. Moreover, the Detroit area — particularly Wayne County, where the city of Detroit is located — has a substantial African American population, many members of which are affiliated with Baptist or other urban conservative Protestant churches (e.g., Pentecostal, Church of God in Christ, Holiness, Apostolic). Given its history and diversity, the Detroit metro area offers

a rich and dynamic environment in which to investigate the relationships between religion and mental health.

## Measures

### DEPENDENT VARIABLES: PSYCHOLOGICAL DISTRESS AND PSYCHOLOGICAL WELL-BEING

Psychological distress was measured via an unweighted six-item index. DAS respondents were asked to indicate how often, in the past 30 days, they felt "so sad that nothing could cheer you up," "nervous," "restless or fidgety," "hopeless," "that everything was an effort," and "worthless." Responses for each item ranged from "never" (coded 1) to "very often" (coded 5). Items were all coded to ensure that higher scores reflect greater levels of distress ( $\alpha = .85$ ). Scores were summed for each respondent and then averaged across the six items. Psychological well-being was measured via a composite of standard scores from two questions. First, respondents were asked, "How satisfied are you with your life as a whole?" Responses ranged from "not at all satisfied" (coded 1) to "completely satisfied" (coded 4). Second, respondents were asked, "How strongly do you agree or disagree with the following statement: My life is full of joy and satisfaction." Responses ranged from "strongly disagree" (coded 1) to "strongly agree" (coded 4). All items were coded to ensure that higher scores reflect greater levels of well-being ( $\alpha = .62$ ;  $r = .45$ ).

### KEY INDEPENDENT VARIABLES: RELIGIOUS INVOLVEMENT

Our analyses focus primarily on three major aspects of religious involvement: church attendance (an indicator of organizational religiosity), prayer (an indicator of nonorganizational religiosity), and belief in eternal life (an indicator of religious belief). In the DAS-95, the frequency of attendance at religious services was measured via answers to the following survey item: "How often do you usually attend religious services?" Response options ranged from less than once a year, or never (coded 1), to more than once a week (coded 5). Responses to a similar item on the frequency of personal prayer ranged from never (coded 1) to several times a day (coded 6). In addition to these self-reported measures of religious behaviors, DAS-95 respondents were asked to indicate their (dis)agreement with the following statement: "I believe in eternal life." Responses for this item ranged from strongly disagree (coded 1) to strongly agree (coded 4).

In addition, we consider possible denominational variations in distress and well-being. To this end, we coded denominations into the following categories: Catholic (22.4% of respondents), conservative Protestant (e.g., Baptist, Pentecostal, Holiness, Nazarene) (36.2%), mainline Protestant (e.g., Lutheran, Presbyterian,

Episcopal, Methodist) (15.9%), Protestant with no denominational ties (including members of nondenominational Protestant churches) (4.7%), and other (including Jews and other non-Christians, as well as other difficult-to-classify faiths, such as Unity and Christian Science) (4.8%). Each of these categories is identified via a dummy variable in the analyses that follow; religiously unaffiliated respondents (15.9%) constitute the comparison group.<sup>2</sup>

#### STRESSORS

Our analyses utilize five different measures of stress: health problems, health impairment, work problems, financial problems, and family problems. Our measure of health problems is simply a count of the following fifteen diseases or conditions: high blood pressure, stroke, heart attack or other heart problem, diabetes or high blood sugar, cancer, arthritis or rheumatism, stomach ulcers, asthma, a liver problem or liver trouble, a kidney problem or kidney trouble, chronic bronchitis or emphysema, a nervous condition, a blood-circulation problem or hardening of the arteries, sickle-cell anemia, and high cholesterol. We also include a measure of health impairment because a simple count of health problems does not tap the degree to which respondents' day-to-day lives are affected by their health status. Health impairment is a single-item variable measuring the response to the question "How much do these health problems usually interfere with your life or activities?" Responses ranged from "not at all" (coded 1) to "a lot" (coded 4). Our measure of work problems was tapped by response to the following question: "Have you had any hassles at work in the last month or so?" (1 = yes, 0 = no). Our fourth measure of stress, financial problems, was measured via an unweighted index derived from responses to the following two questions: "How difficult is it for you to meet the monthly payments on your bills?" and "Have you had any serious financial problems or difficulties?" Responses to the first question ranged from "not at all difficult" (coded 1) to "extremely difficult" (coded 5), and responses to the second question were coded 1 for "yes" and 0 for "no." Scores were standardized and then summed across the two items. Finally, we include a fifth stressor in the analyses that measures respondents' family problems. This variable is the sum of affirmative responses to the following statement: "Please tell me whether or not these things have happened to you in the past month or so: (a) problems with aging parents, (b) problems with children, (c) problems with spouse/partner, and (d) difficulty balancing work and family."<sup>3</sup>

#### PSYCHOLOGICAL RESOURCES

Two types of psychological resources are considered in the analyses: self-esteem and personal mastery. The measures for both of these variables have been widely used in previous social-psychological research (Pearlin et. al 1981; Robinson & Shaver 1969; Rosenberg 1979). Self-esteem was measured with an unweighted

four-item index. DAS respondents were asked to indicate how strongly they agree or disagree with the following statements: "I feel that I am a person of worth, at least on equal basis with others"; "All in all, I am inclined to feel that I am a failure"; "I am able to do things as well as most other people"; and "I feel I do not have much to be proud of." Responses for each of the items ranged from "strongly agree" (coded 1) to "strongly disagree" (coded 4). Items were recoded where appropriate to ensure that higher scores reflect greater self-esteem ( $\alpha = .66$ ). Scores were summed for each respondent and then averaged across the four items. Personal mastery was measured in similar fashion. This four-item index reflects responses to the following: "I can do just about anything I really set my mind to do"; "There is really no way I can solve some of the problems I have"; "I often feel helpless in dealing with the problems of life"; and "What happens to me in the future mostly depends on me." Again, items were recoded where appropriate so that higher values reflect higher levels of personal mastery ( $\alpha = .53$ ). Scores were summed for each respondent and then averaged across the four items.

#### SOCIAL RESOURCES

Three measures of social resources are used in the analyses: family contact, positive social support, and negative social interaction. Family contact was measured by response to the following question: "How often are you in contact with any members of your family — that is, any of your brothers, sisters, parents, or children who do not live with you — including visits, phone calls, letters, or electronic mail messages?" Responses ranged from "never" (coded 0) to "everyday" (coded 10). Because the relationship between social resources and mental health depends on the nature of the social relations themselves (e.g., some relationships offer positive support in times of distress, while others may exacerbate the effect of stressors), we include measures for both positive and negative aspects of social support. Positive social support was measured via an unweighted two-item index tapping support from both family and friends. Respondents were asked, "How much do your family members make you feel loved and cared for?" They were then asked the same question about their friends. Responses ranged from "not at all" (coded 1) to "a great deal" (coded 5). The scores were summed for each respondent and then averaged across the two items ( $\alpha = .51$ ). Negative social interaction was measured via an unweighted two-item index tapping negative support from both family and friends. Respondents were asked, "How much do you feel your family members make too many demands on you?" Responses ranged from "not at all" (coded 1) to "a great deal" (coded 5). The scores were summed for each respondent and then averaged across the two items ( $\alpha = .65$ ).<sup>4</sup>

In addition to these general social resource variables, the DAS-95 permits us to investigate the possible role of support and social ties derived specifically from the

religious community. Accordingly, we measured congregational support via the following item: "How often do people in your church or place of worship help you out? Would you say very often, fairly often, not too often, hardly ever, or never?" Because the wording of this item presumes some tie to a religious congregation, it was asked only of persons who reported attending services at least once a month. In our models, we assume that most individuals who rarely or never attend religious services also receive little or no support from congregation members, and so we assigned them the minimum score on the congregational support variable. These persons are identified with a dummy variable in our analyses.<sup>5</sup> Our measure of coreligionist ties is based on responses to the following item: "Think for a moment about the people who are your five closest friends. How many of these friends are the same religion as you?"

#### SOCIODEMOGRAPHIC CONTROLS

We can be confident of our findings only when we control for other established predictors of distress and well-being (Mirowsky & Ross 1989; Thomas & Hughes 1998; Umberson 1993). Accordingly, our analyses include controls for the following: age (in years), sex (1 = female), race (1 = African American),<sup>6</sup> education (continuous variable measuring highest grade of school completed [0-17]), family income (continuous imputed family income in \$10,000s), marital status (1 = married), and employment status (1 = unemployed).

#### Analytic Strategy

Our analysis proceeds in three stages. We begin by estimating a series of OLS regression models gauging the net effects of religious involvement (i.e., church attendance, prayer, and belief in eternal life) on psychological distress (Table 1) and psychological well-being (Table 2). In each table, the models are organized in hierarchical fashion. Model 1 includes only the religious variables. Model 2 adds sociodemographic controls, and model 3 adds stressors. Models 4 and 5 include social resources and psychological resources, respectively, and model 6 (the full model) includes all of the predictors simultaneously. This framework enables us to examine a number of the direct and indirect religious effects on distress and well-being that were hypothesized earlier.<sup>7</sup> To conserve space, only the findings that bear directly on these hypotheses are discussed in the text.

Next we test our hypotheses regarding denominational variations in mental health, with selected coefficients presented in Table 3. For each outcome, we estimate a main effects model, adding a series of dummy variables tapping affiliation with various types of denominations to the full model (model 6) presented in Tables 1 and 2. Then we add a series of cross-product interaction

terms (i.e., attendance  $\times$  denominational affiliation) to test the hypothesis that any net effects of affiliation will surface mainly among those persons who attend services regularly.

Finally, we test hypotheses regarding the possible stress-buffering properties and stress-exacerbating effects of religious involvement by adding cross-product interaction terms (e.g., stressor[s]  $\times$  prayer, stressor[s]  $\times$  eternal belief) to the full model (model 6) in Tables 1 and 2. Although a number of different effects were estimated, only the statistically significant findings are presented in Table 4.

## Results

### RELIGION AND PSYCHOLOGICAL DISTRESS: MAIN EFFECTS

Consistent with hypothesis 1a, models 1 and 2 of Table 1 show that the frequency of attendance at religious services is inversely related to distress, even with controls for the potentially confounding effects of various sociodemographic predictors of distress. Indeed, in model 2 the estimated net effect of church attendance ( $b = -.080$ ,  $\beta = -.130$ ,  $p < .001$ ) is stronger than that of sociodemographic variables such as age, education, or family income. In contrast to frequency of attendance, the frequency of prayer is positively associated with distress ( $b = .057$ ,  $\beta = .111$ ,  $p < .01$ ), while belief in eternal life is unrelated to this outcome. Taken together, these religious predictors account for only a very modest proportion (at most 2-3%) of the variance in distress, according to model 1.

Models 2 and 3 shed light on the relationships between religious involvement, social stressors, and psychological distress. Consistent with hypothesis 1b, the estimated net effect of religious attendance  $-.080 = .04375$ , and so controls for stressors result in a reduction of "more than 40%" in the estimated net effect of attendance. is reduced by more than 40% when controls for stressors are included in model 3, indicating that regular attenders at religious services experience fewer health problems and may report fewer stressors of other types (e.g., family, work, and financial problems) than persons who attend less often. In ancillary analyses (not shown), we estimated an additional model controlling only for health-related stressors (i.e., number of chronic problems and overall self-reported impairment). With these controls, the estimated net effect of attendance dropped by roughly 30%, thus potentially accounting for much, but not all, of the pattern observed in model 3.

Note also that the relationship between frequency of prayer and distress, which is positive and statistically significant in model 2, is sharply reduced in model 3 ( $b = .024$ ,  $\beta = .045$ , ns), when the estimated net effects of social stressors are taken into account. This pattern suggests that part of the apparently destructive effect of prayer observed in models 1 and 2 actually reflects the more frequent prayer among individuals who are facing multiple personal problems. Once variations in the

TABLE 1: The Estimated Effects of Religious Involvement on Psychological Distress: OLS Regression Coefficients, 1995 Detroit Area Study

	Model 1	Model 2	Model 3
Intercept	2.088	2.799	2.210
Religious involvement			
Church attendance	-.105 / -.171***	-.080 / -.130***	-.045 / -.072*
Prayer	.070 / .135***	.057 / .111**	.024 / .045
Eternal belief	-.042 / -.051	-.045 / -.055	-.031 / -.038
Control variables			
Age		-.003 / -.067*	-.002 / -.054
Female		.062 / .038	.083 / .051
African American		-.024 / -.012	-.021 / -.011
Education		-.038 / -.117***	-.038 / -.116***
Family income		-.027 / -.116**	-.013 / -.059
Married		.054 / .032	.000 / .000
Unemployment		.094 / .021	.010 / .002
Stressors			
Health problems			.110 / .235***
Health impairment			.065 / .135***
Work problems			.196 / .110***
Financial problems			.092 / .182***
Family problems			.157 / .188***
Social resources			
Family contact			
Positive support			
Negative interaction			
Psychological resources			
Self-esteem			
Personal mastery			
R <sup>2</sup>	.026	.064	.223
Adjusted R <sup>2</sup>	.023	.054	.212

numbers of stressors (health impairment and health, work, financial, and family problems) are held constant, the net association between the frequency of prayer and psychological distress is largely eliminated, providing a degree of support for hypothesis 6. Ancillary analyses (not shown) indicate that much of the change in the estimated net effect of prayer occurs with the controls for health and family problems, rather than stressors involving other domains (e.g., work, finances). It may be that those other stressors are less likely to elicit prayerful coping responses.

The results in Table 1 also cast doubt on several popular hypotheses in the religion-health literature. The estimated net effects of religious variables on distress, especially frequency of church attendance, are unaffected by controls for social resources (amount of family contact, access to positive support, and exposure



**TABLE 1: The Estimated Effects of Religious Involvement on Psychological Distress: OLS Regression Coefficients, 1995 Detroit Area Study (Continued)**

	Model 4	Model 5	Model 6
Intercept	3.413	5.994	5.314
Religious involvement			
Church attendance	-.082 / -.133***	-.079 / -.128***	-.057 / -.092**
Prayer	.071 / .137***	.060 / .116**	.040 / .078*
Eternal belief	-.028 / -.034	-.038 / -.045	-.020 / -.024
Control variables			
Age	-.002 / -.049	-.007 / -.161***	-.006 / -.132***
Female	.097 / .059	.057 / .035	.101 / .062*
African American	-.089 / -.046	.089 / .046	.041 / .021
Education	-.034 / -.103**	-.023 / -.070*	-.023 / -.071*
Family income	-.027 / -.118***	-.007 / -.029	-.003 / -.014
Married	.028 / .017	.040 / .024	-.004 / -.003
Unemployment	.009 / .002	.001 / .000	-.088 / -.019
Stressors			
Health problems			.078 / .166***
Health impairment			.037 / .076*
Work problems			.120 / .067*
Financial problems			.070 / .138***
Family problems			.110 / .131***
Social resources			
Family contact	-.028 / -.062*		-.035 / -.078**
Positive support	-.201 / -.179***		-.070 / -.062*
Negative interaction	.133 / .155***		.062 / .073**
Psychological resources			
Self-esteem		-.506 / -.227***	-.424 / -.191***
Personal mastery		-.435 / -.283***	-.311 / -.203***
R <sup>2</sup>	.130	.228	.333
Adjusted R <sup>2</sup>	.119	.218	.319

Note: Cell entries represent unstandardized / standardized OLS slope coefficients. All data have been weighted.

\* p < .05    \*\* p < .01    \*\*\* p < .001 (two-tailed)

to negative interactions) in model 4, or by controls for psychological resources (self-esteem and personal mastery) in model 5. As expected, these sets of resources are clearly inversely linked with distress. However, contrary to previous discussions in the literature, and to hypotheses 2a and 3, they apparently do not help account for the salutary effects of church attendance observed in models 1 and 2. We also tested hypothesis 2b by including measures of coreligionist ties and congregational support in model 4 of Table 1, and found no empirical support for the hypothesis.

TABLE 2: The Estimated Effects of Religious Involvement on Psychological Well-Being: OLS Regression Coefficients, 1995 Detroit Area Study

	Model 1	Model 2	Model 3
Intercept	-1.050	-2.478	-1.411
Religious involvement			
Church attendance	.255 / .201***	.224 / .177***	.163 / .129***
Prayer	-.094 / -.089*	-.070 / -.066	-.009 / -.008
Eternal belief	.280 / .164***	.236 / .138***	.207 / .121***
Control variables			
Age		.001 / .016	.000 / .001
Female		.321 / .096**	.290 / .087**
African American		-.209 / -.052	-.199 / -.050
Education		.055 / .083**	.052 / .077**
Family income		.079 / .168***	.053 / .113***
Married		.395 / .116***	.515 / .152***
Unemployment		.083 / .009	.300 / .032
Stressors			
Health problems			-.188 / -.195***
Health impairment			-.118 / -.120***
Work problems			-.153 / -.042
Financial problems			-.188 / -.181***
Family problems			-.332 / -.194***
Social resources			
Family contact			
Positive support			
Negative interactions			
Psychological resources			
Self-esteem			
Personal mastery			
R <sup>2</sup>	.067	.149	.277
Adjusted R <sup>2</sup>	.064	.140	.266

Because these indicators of religious support were essentially unrelated to distress and did not substantially alter the estimated net effect of church attendance, the additional results are not displayed.

In the full model (model 6), even with controls for the major components of the life stress paradigm, the frequency of church attendance is inversely related to psychological distress ( $b = -.057$ ,  $\beta = -.092$ ,  $p < .01$ ). The frequency of prayer bears a somewhat weaker positive association with distress ( $b = .040$ ,  $\beta = .078$ ,  $p < .05$ ), while the estimated net effect of belief in eternal life remains negligible. Consistent with hypothesis 4, these empirical patterns suggest that religious effects on psychological distress are largely direct and do not primarily reflect the influence

**TABLE 2: The Estimated Effects of Religious Involvement on Psychological Well-Being: OLS Regression Coefficients, 1995 Detroit Area Study (Continued)**

	Model 4	Model 5	Model 6
Intercept	-4.110	-8.959	-7.830
Religious involvement			
Church attendance	.218 / .172***	.221 / .175***	.180 / .142***
Prayer	-.122 / -.115**	-.076 / -.072*	-.073 / -.069*
Eternal belief	.209 / .123**	.222 / .130***	.194 / .114***
Control variables			
Age	-.001 / -.006	.010 / .103***	.006 / .065*
Female	.271 / .081**	.330 / .099***	.267 / .080**
African American	.002 / .000	-.428 / -.108***	-.215 / -.054*
Education	.044 / .066*	.024 / .037	.020 / .030
Family income	.072 / .154***	.040 / .085**	.028 / .060*
Married	.447 / .132***	.414 / .122***	.506 / .149***
Unemployment	.304 / .032	.270 / .029	.543 / .058*
Stressors			
Health problems			-.121 / -.126***
Health impairment			-.065 / -.066*
Work problems			.011 / .003
Financial problems			-.137 / -.132***
Family problems			-.204 / -.119***
Social resources			
Family contact	-.032 / -.035		-.032 / -.035
Positive support	.726 / .314***		.500 / .216***
Negative interactions	-.226 / -.128***		-.110 / -.062*
Psychological resources			
Self-esteem		1.157 / .254***	.899 / .197***
Personal mastery		.738 / .234***	.482 / .153***
R <sup>2</sup>	.269	.298	.416
Adjusted R <sup>2</sup>	.260	.290	.405

Note: Cell entries represent unstandardized / standardized OLS slope coefficients. All data have been weighted.

\* p < .05    \*\* p < .01    \*\*\* p < .001 (two-tailed)

of religious variations in exposure to stressors or access to key social or psychological resources.

**RELIGION AND PSYCHOLOGICAL WELL-BEING: MAIN EFFECTS**

Next we turn to the models estimating the net effects of religious variables and covariates on well-being.<sup>8</sup> These results are displayed in Table 2. In model 2, church attendance ( $b = .224, \beta = .177, p < .001$ ) and belief in eternal life

( $b = .236$ ,  $\beta = .138$ ,  $p < .001$ ) are positively linked with well-being, even with an array of controls for sociodemographic factors. The modest inverse association between the frequency of prayer and well-being in model 1 ( $b = -.094$ ,  $\beta = -.089$ ,  $p < .05$ ) is basically eliminated in model 2 ( $b = -.070$ ,  $\beta = -.066$ , ns). Taken together, these results offer support for hypothesis 1a. Further, the religious variables account for a nontrivial proportion of the overall variance in well-being — as much as 6-7%, according to model 1.

Models 3 through 5 help assess several of the hypotheses outlined earlier. The estimated net effect of church attendance on well-being is reduced by roughly 27% when controls for stressors are introduced in model 3, providing partial support for hypothesis 1b. As in Table 1, this results from the fact that regular attenders report fewer health problems and less physical impairment, as well as fewer family and economic problems, than persons who attend services less often. Also, consistent with the findings presented in Table 1, the addition of statistical controls for social resources (model 4) and psychological resources (model 5) does not reduce the estimated net effects of the religious variables on well-being. These findings run directly counter to hypotheses 2a and 3. In additional analyses (not shown), we added measures of coreligionist ties and church-based support to model 4 of Table 2, and here again, we found no support for hypothesis 2b. Even in model 6, the full model, the salutary estimated net effects of attendance ( $b = .180$ ,  $\beta = .142$ ,  $p < .001$ ) and belief in eternal life ( $b = .194$ ,  $\beta = .114$ ,  $p < .001$ ) persist, a pattern that is consistent with hypothesis 4. The frequency of prayer appears to have a slight and negative net effect on well-being ( $b = -.073$ ,  $\beta = -.069$ ,  $p < .05$ ).<sup>9</sup>

#### DENOMINATIONAL DIFFERENCES

To this point, we have focused on three aspects of religious involvement: church attendance, private prayer, and belief in eternal life. The models in Table 3 augment this analysis, estimating net denominational differences in distress and well-being. As the main effects models clearly indicate, there are no meaningful religious group variations in either mental health outcome. In particular, contrary to hypothesis 5a, neither Catholics nor conservative Protestants enjoy lower levels of distress or higher levels of well-being once other aspects of religious involvement and covariates are controlled. On the other hand, hypothesis 5b does find partial support: the link between the frequency of attendance and distress differs across denominations, with active Catholics enjoying particularly low levels of psychological distress ( $b = -.149$ ,  $p < .05$ ). At the same time, this pattern surfaces only for distress, and not for well-being. Moreover, an *F*-test (not shown) indicates that these interaction terms do not add significantly to the predictive power of these models.

**TABLE 3: Denominational Effects of Church Attendance on Psychological Distress and Psychological Well-Being: Interactive Models**

	Psychological Distress		Psychological Well-Being	
	Model 1	Model 2	Model 1	Model 2
Intercept	5.316***	5.199***	-7.853***	-7.948***
Church attendance	-.058**	.019	.171***	.235*
Denomination				
Catholic	.054	.369**	.073	.154
Other	.166	.170	.159	.297
Protestant				
Conservative	.082	.096	.013	.045
Mainline	.024	.017	.073	.219
Nondenominational	.030	.255	.115	.667
Attendance × denomination				
Attendance × Catholic		-.149*		-.057
Attendance × other		-.026		-.082
Protestant				
Attendance × conservative		-.044		-.042
Attendance × mainline		-.030		-.083
Attendance × nondenominational		-.115		-.215
R <sup>2</sup>	.344	.350	.421	.422
Adjusted R <sup>2</sup>	.327	.331	.407	.405

*Note:* Cell entries represent unstandardize OLS slope coefficients. All data have been weighted. Model estimates include statistical controls for prayer, eternal belief, all sociodemographic covariates, stressors, social resources, and psychological resources.

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$  (two-tailed)    † No significance

#### STRESS-BUFFERING AND STRESS-EXACERBATING EFFECTS: INTERACTIVE EFFECTS

In addition to examining the direct and indirect effects of religious involvement on distress and well-being, we must also consider the possibility that the links between religious factors and mental health outcomes are contingent on levels of stress. As we noted earlier, one line of argument suggests that the greatest benefits associated with religious belief and/or participation may be found among individuals confronting stressful events or conditions and that religious factors buffer (or reduce) the otherwise pernicious effects of high stress levels (hypothesis 7a), perhaps especially those related to health and serious financial problems (hypothesis 7b), on distress and well-being. However, a contrasting line of argument holds that, instead of ameliorating the deleterious effects of stressors, religiosity may actually worsen those effects, at least for certain types of negative events and conditions, such as family problems (hypothesis 8).

The results of these analyses are summarized in Table 4; to conserve space, only the significant interactions are tabled. First, no stress-buffering effects involving frequency of prayer or frequency of church attendance surface here; all of these relationships are nonsignificant. Second, however, we do find some evidence of stress-buffering effects associated with the belief in eternal life. In brief, a strong belief in eternal life seems to mitigate the deleterious effects of chronic health problems ( $b = .063$ ,  $p < .01$ ) and financial problems ( $b = .054$ ,  $p < .05$ ) on psychological well-being, but not on distress. Thus, our results indicate partial support for hypothesis 7b. A strong belief in eternal life also appears to reduce the harmful impact of work-related problems on psychological distress ( $b = -.134$ ,  $p < .01$ ), but not on well-being. Third, in addition to classifying stressors by domain (e.g., health, financial), we created indices of the number of major life events and chronic stressors. Both of these variables are significant predictors of mental health outcomes. However, contrary to hypothesis 7a, there is no evidence that religious involvement buffers the effects of multiple stressors on distress or well-being. Fourth, contrary to hypothesis 8, we find no evidence of any stress-exacerbating effects of religiosity.

## Discussion

A growing body of research has linked religious involvement with positive mental and physical health outcomes. We have contributed to this literature by outlining several mechanisms by which aspects of religiosity may enhance mental health, distilling several distinct hypotheses based on this discussion, exploring multiple dimensions of religious involvement, examining both positive and negative mental health outcomes, and testing our hypotheses using data from a well-respected community sample, the 1995 Detroit Area Study. At the most general level, our findings are broadly congruent with those of several previous studies in this area. We find nontrivial and generally salutary effects of religious involvement, especially the frequency of attendance at religious services, on both distress and well-being. Overall, however, the religious effects appear stronger for well-being than for distress, with the belief dimension (specifically, belief in eternal life) emerging as a significant predictor of well-being only.

We have outlined and examined several distinct mechanisms and models of the links between religion and mental health outcomes. Perhaps our strongest finding is that multiple dimensions of religious involvement have direct effects on both distress and well-being. The estimated net effects of church attendance are consistently salutary, even with controls for a wide range of psychosocial and sociodemographic covariates. Regular collective worship experiences bring together like-minded individuals and families in ritual acts to which they ascribe sacred meaning. These routine affirmations of faith may be crucial for strengthening

**TABLE 4: Interaction Effects of Religious Involvement and Stressors on Mental Health: Stress-Buffering Model**

Stressor/Dependent Variable	Main Effects: Eternal Belief	Main Effects: Stressor	Interaction Term: Eternal × Stressor
Health problems/well-being	.112*	-.329***	.063**
Financial problems/well-being	.204***	-.310***	.054*
Work problems/distress	.023	.560**	-.134**

*Note:* Interactive models control for all covariates included in the full model (Tables 1 and 2, model 6).

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$  (two-tailed)

personal religious plausibility structures, through which significance and meaning may be ascribed to mundane daily affairs and major life traumas alike (Antonovsky 1987; Ellison 1991; Idler 1987). In addition, some observers suspect that specific mental health benefits may be associated with certain worship styles, such as those that involve singing, shouting, and physical activity and those that encourage emotional catharsis (Gilkes 1980; Griffith, Young & Smith 1984; Gritzmacher, Bolton & Dana 1988). A better understanding of the salutary effects of church attendance, and the impact of institutional contexts on these patterns, should be an urgent priority for researchers in the future.

Although religious beliefs, especially those regarding eternal life, have long been recognized by social scientists as key religious "compensators" (Stark & Bainbridge 1996), the role of the belief dimension in the religion-health literature is oddly understudied. In the DAS-95 data, we find that belief in eternal life has salutary effects on our measure of well-being, although it is unrelated to distress. Affirmative responses to the DAS item may signify not only a belief in a favorable afterlife but also a radically transformed experience of life in the present. Individuals who respond affirmatively may well feel greater peace and assurance that their life is part of a divine master plan, and they may perceive their daily lives as infused with spiritual power. These believers may be less vulnerable to stressors than others, perhaps because stressful events and conditions cannot threaten their core identity, which may depend more on their relationship with God than on outward markers of status or physical ability. The domain of religious belief, particularly the belief in eternal life, should receive more attention from religion-health researchers.

In contrast to the patterns involving church attendance and religious belief, the frequency of prayer bears a consistently weak but negative association with mental health outcomes in both full models. This pattern may be merely an artifact of cross-sectional data, perhaps an indicator of stressor severity. Because individuals may pray more often when other coping resources have been exhausted, or when a situation seems especially desperate, controls for the perceived severity of stress

(if available) might eliminate the net association between prayer and undesirable mental health outcomes (Neighbors et al. 1983). It is also conceivable that some persons who pray frequently may also gravitate toward maladaptive, excessively passive styles of religious coping (Pargament 1997; Pargament et al. 1988).

In addition to estimating the direct effects of religious involvement on distress and well-being, we have examined the possibility that the link between religion and mental health is mediated by social and/or psychological resources. Although the potential for such indirect effects has been discussed in several theoretical articles (e.g., Ellison & Levin 1998; Levin & Chatters 1998), a recent review of the state of the art in this burgeoning research area found very few direct empirical tests of these mediating hypotheses (George, Ellison & Larson 2001). In the DAS-95 data, they find surprisingly little support. To be sure, previous studies show that persons who attend religious services regularly tend to enjoy larger social networks, more frequent interaction with associates, and more supportive social relations than those who attend less often, or not at all (Bradley 1995; Ellison & George 1994). This differential access to social resources is sometimes thought to account for the observed effects of religious involvement, especially attendance, on health outcomes (Williams et al. 1991). However, our results suggest otherwise. As expected, several social resource variables — contacts with family members, emotional support from network members, and negative interaction with network members — are clearly important predictors of both distress and well-being. Nevertheless, controls for these measures of social resources do not alter the salutary effects of church attendance on either distress or well-being among DAS-95 respondents. Further, controls for variations in coreligionist friendships and congregational support do not account for the observed effects of church attendance. Although it is conceivable that alternative measures of religious support, such as perceived emotional support from church members (Krause, Ellison & Wulff 1998), might yield different results, we interpret these findings as evidence that the links between religious involvement and mental health result primarily from factors other than social ties or support.

Another popular mediating hypothesis accounts for religious variations in mental health in terms of psychological resources. For reasons discussed earlier, persons who attend services, engage in private devotional behaviors, and hold strong faith convictions are thought to enjoy greater feelings of intrinsic self-worth and perhaps greater feelings of personal (or vicarious) control than others (Ellison 1993; Krause 1995). In the DAS-95 data, however, controls for standard measures of self-esteem and mastery do not reduce the estimated net effects of church attendance, prayer, or belief in eternal life on mental health outcomes. Thus, it appears that the salutary effects of religious involvement cannot be explained away in terms of social or psychological resources, at least insofar as these constructs are conventionally conceptualized and measured.

While we found no meaningful denominational main effects on either distress or well-being in the DAS-95, it is possible that such variations exist elsewhere



(e.g., Ellison 1991). Previous studies using data from Detroit to explore other issues, such as the social distribution of “pro-family” attitudes, adolescent sexuality, and contraceptive use, have failed to detect denominational variations (e.g., Alwin 1986; Thornton & Camburn 1989), although group differences on these issues do sometimes surface in national samples. Nevertheless, our finding that active (but not inactive) Catholics in the DAS-95 enjoy relatively low levels of distress (but not greater well-being) raises a number of interesting questions. In light of recent national survey findings that Catholics perceive less emotional support from church members than do persons from other religious backgrounds (Ellison, Krause & Chaves 2000), what might account for the salutary pattern involving active Catholics? Regular participation in Catholic rituals and sacraments (e.g., Mass and Confession) may yield a richer texture of spiritual experience, strengthening faith convictions and reinforcing religious plausibility structures. This in turn may reduce short-term dysphoria, although it does not necessarily enhance feelings of overall satisfaction with life. Researchers have been understandably reluctant to explore denominational differences in this area, in part to avoid implying that one religion is “better” than another. But even if there are no major denominational differences in mental health outcomes, it is possible that pathways to health and well-being may vary across denominations. That is, religious groups and traditions may foster distinctive sets of spiritual or psychosocial resources (e.g., distinctive coping styles and practices, doctrines, support patterns) that bolster or undermine health and well-being. Further research into such group-level variations seems warranted and long overdue.

Given our earlier description of the Detroit metro area’s religious and ethnic landscape, there is another, more speculative possibility: It is conceivable that many of the area’s Catholics from European American ethnic backgrounds may benefit from participating in parishes populated mainly by coethnics. Ancillary analyses (not shown) revealed significant clusters of Catholics from Polish (19.5%), German (15.1%), and other ethnic backgrounds in the DAS-95 sample. Unfortunately, the data set does not include information on the ethnic composition of these respondents’ parishes, and so it is not possible to pursue this hypothesis here.

The theoretical literature in the area of religion and mental health also sets forth several complex relationships involving religious involvement, stress, and mental health outcomes. Several of our specific findings bear upon these hypothesized links. First, we find mixed support for the stressor prevention/reduction hypothesis. In brief, some observers have suggested that because religious communities deter deviance and encourage positive lifestyles (e.g., health behaviors, family lifestyles, ethical conduct), religious involvement may foster mental health partly by reducing the risk of exposure to many types of stressful events and conditions. Consistent with this line of argument, we find that regular church attenders report fewer stressors than other persons and that controlling for stressor

variables reduces — but does not eliminate — the estimated net effect of attendance on mental health outcomes.

Adjudicating this issue is more complicated than it first appears. Part of the reduction in the link between attendance and mental health outcomes is due to the inverse association between church attendance and health-related stressors (i.e., number of chronic health conditions and degree of impairment). As researchers have long recognized, in cross-sectional data this may reflect either the protective effect of religion on physical health or the role of physical limitations on the frequency of attendance at services, or both (e.g., Levin & Chatters 1998; Levin et al. 1995). But we find that, even with controls for health-related stress variables, the effect of attendance on mental health outcomes is reduced further by controls for other stressors, especially family and financial problems. This finding is consistent with the notion that public religious involvement may enhance mental health partly by reducing the risk of stressful events and conditions within these domains (but not necessarily others) (Ellison 1994). Although some selectivity may still be at work (e.g., individuals decrease their attendance in the wake of problems, out of shame or guilt), the stressor prevention/reduction hypothesis clearly merits closer attention in future work.

Second, we find only weak evidence of hypothesized suppressor effects, and this meager support involves only one measure of religious involvement, the frequency of prayer. In the DAS-95, as in previous studies, individuals confronting high levels of stress (e.g., multiple negative events and conditions) tend to pray more often. This is particularly true for persons facing health problems, and this cross-sectional association between stress and prayer muddies the link between prayer and mental health outcomes. However, the role of these suppressor patterns in shaping the overall relationship between religious involvement and mental health is very minor.

Third, our data reveal limited support for the notion that religiosity buffers the deleterious effects of stressors on mental health. However, support for the stress-buffering hypothesis surfaces for only one of the religious variables considered here, belief in eternal life. Further, clear stress-buffering effects are detected primarily in conjunction with stressors that require long-term adjustment to changed circumstances (i.e., poverty, chronic health problems), and mainly for models of well-being rather than distress. This pattern is especially interesting in light of the well-established distinction between affective and cognitive indicators of mental health (Campbell, Converse & Rodgers 1976; George 1981). Briefly, while some measures of well-being and dysphoria, including distress, are thought to tap relatively transitory emotional states, other measures, including life satisfaction, a key component of our well-being measure, are thought to reflect more stable and reflective evaluations of life experience. Indeed, according to George (1981), life satisfaction taps “essentially a cognitive assessment of progress toward desired life goals — an evaluation of the congruence between ideal and real life circumstances” (357). Our findings suggest that while the belief in eternal life may not shield

individuals from experiencing short-term feelings of discomfort due to unpleasant events or conditions, this belief may enhance resilience in the face of major life changes and diminished future prospects.

Fourth, some have suggested that religious involvement may actually worsen the impact of some types of stressors — for example, by promoting feelings of guilt or shame or by encouraging coreligionists to withdraw their support. Although a few recent studies lend support to this argument (Brown et al. 1992; Sorenson, Grindstaff & Turner 1995; Strawbridge et al. 1998), we find no evidence of any stress-exacerbating effects of religious involvement in the DAS-95 data.

Future research can build on this study in several ways. First, it will be important for studies to focus on a broader array of religious domains, including measures of multiple dimensions of formal and informal religious support, religious coping styles, forgiveness, religious and spiritual beliefs and experiences, and other facets that may be more directly linked with health outcomes (Ellison & Levin 1998). In addition, future work should incorporate potentially negative aspects of religious involvement, such as negative interaction in congregations (Krause, Ellison & Wulff 1998), maladaptive religious coping styles (Pargament 1997), and religious doubts (Krause et al. 1999), in order to provide a fuller, more balanced picture of the religion-health connection. Although large-scale databases have rarely included measures of these more specific religious and spiritual domains, recent innovations in the area of measurement, such as the efforts of the working group convened by the NIA and the Fetzer Institute, hold considerable promise for enhancing our understanding of the complex relationships between religiosity, spirituality, and health (Idler et al. 1999). In addition, subsequent research should examine multiple health outcomes. As we have seen, our conclusions about the validity of various hypothesized pathways may differ depending upon the outcome under consideration.

Like many studies in this area, our work has been limited by reliance on cross-sectional data. It is important for researchers to distinguish between contemporaneous versus longitudinal effects of religious involvement, although both types of empirical patterns may be substantively important (e.g., Levin & Taylor 1998). Thus, greater access to longitudinal data will be a boon to the development of this field. We should also be cautious about generalizing these findings beyond the Detroit area to settings that may be characterized by different religious climates and configurations. Recent research suggests that religious effects may vary according to region and other locational and contextual variables (Ellison 1995; Musick 1996). For this reason, additional research should be conducted using data from diverse communities as well as from national surveys with attention to subgroup variations.

Scholarly and popular interest in the connections between religion and health, including mental health, has grown rapidly over the past two decades. Nevertheless, researchers remain far from a consensus about which aspects of

religious involvement are most germane to the study of mental health, which mental health outcomes are most closely related to religious involvement, and which mechanisms or processes may account for the observed relationships between religious involvement and mental health. This study has contributed to the expanding literature in this area by elaborating and testing a series of theoretically grounded hypotheses, giving particular weight to the complex links between social stressors, religious involvement, and mental health outcomes. Analyzing data from a representative sample of Detroit-area residents, we have found at least partial support for several of these hypotheses, while identifying a previously overlooked aspect of religiosity — belief in eternal life — that may have significant implications for psychological well-being. As these issues continue to pique the interest of investigators in multiple disciplines, additional research along the lines discussed above will enrich our understanding of the multifaceted relationships between religion and individual health and well-being.

#### Notes

1. There is scattered evidence of denominational differences in various mental health outcomes. For instance, several studies have shown elevated rates of depression among Jewish Americans (e.g., Kennedy et al. 1996) and elevated rates of anxiety disorders among Pentecostals (e.g., Koenig et al. 1993). By contrast, a small number of studies have reported that nonreligious persons may enjoy some mental health benefits, including relatively low levels of fatalism (Jacobson 2000) and psychological distress (Ross 1990), compared with their religiously affiliated counterparts.
2. In a number of ancillary analyses (not shown), we also experimented with other approaches to classifying religious groups, including the scheme recently proposed by Steensland and colleagues (2000). In particular, in these supplementary analyses we separated members of African American Protestant churches (a large share of our conservative Protestant category) from other evangelicals. In addition, given the literature on possibly cathartic effects of (regular) participation in ecstatic worship services (e.g., Gritzmacher, Bolton & Dana 1988), to the extent allowed by the DAS-95 data we also distinguished between charismatics (e.g., Pentecostals, Assemblies of God, Churches of God) and other evangelicals and fundamentalists. Unfortunately, the DAS-95 denominational categories are limited in some respects, and they do not permit us to make fine-grained distinctions within some Protestant categories (e.g., between Evangelical Lutheran Church in America members and Missouri Synod Lutherans), between various Baptist denominations, between members of the Presbyterian Church (USA) and other Presbyterians, and so on. Nevertheless, we emphasize that none of our analyses revealed any significant main or interactive effects of denominational affiliation except for the one discussed in the text (i.e., the Catholic  $\times$  attendance effect on distress).
3. Interestingly, bereavement (death of a loved one or close friend during the year preceding the DAS-95 survey) was unrelated to distress or well-being in multivariate models. Perhaps the meaning of bereavement depends on its place in a broader

sequence of chronic and acute stressors. For example, bereavement may not be traumatic if it marks the end of a prolonged period of suffering (and the end of the respondent's caregiving). In any event, since there was no main effect associated with bereavement, we did not include it in our multivariate models, nor did we pursue rigorous tests of the stress-buffering hypothesis with this variable.

4. In addition to the measures of social resources employed here, we examined several others contained in the DAS-95 data set (e.g., access to a confidant, frequency of contact with friends and associates) by adding them to the full models presented in Tables 1 and 2. These other social resource measures were unrelated to distress or well-being in the present context, and so they were dropped from subsequent analyses.

5. Although this strategy risks misclassifying some (probably very few) respondents who are shut-in or disabled church members and who may receive support through their congregations, it has the advantage of retaining all respondents in our models, thus ensuring comparability of the sample across models. We also estimated the effects of church support using only the subsample of churchgoers, and the results were very similar to those reported in the text.

6. The analyses reported here compare African Americans with persons from all other racial/ethnic backgrounds (i.e., whites, Hispanics, and others). However, in preliminary analyses (not shown), we compared only African Americans and whites, dropping all others, and the results did not change the substantive findings presented here.

7. Because our tests for stress-buffering and stress-exacerbating effects of religious involvement are conducted using cross-product interaction terms, we have opted to present OLS regression models of distress and well-being. In addition to these, however, we have used structural equation modeling (in LISREL 8) to test the hypotheses regarding various direct and indirect effects of religious involvement. Those analyses (available from the authors upon request) yielded results that are substantively similar to those presented in the text.

8. We also examined the estimated net effects of religious variables separately for each of the two items that make up the psychological well-being index. These religious effects, along with the effects of several other variables, are somewhat weaker in models using the life-satisfaction item only, as compared with those using the item tapping "joy and satisfaction," although the overall pattern of effects is similar.

9. Along with the analyses discussed in the text, we also tested for possible race/ethnic and gender variations in the estimated net effects of religious involvement on mental health outcomes. To do this, we added cross-product terms (e.g., African American  $\times$  church attendance) to the full models presented in Tables 1 and 2. No consistent pattern of interaction effects was detected in these analyses.

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244 / *Social Forces* 80:1, September 2001

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**246 / Social Forces 80:1, September 2001**

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## Religious Involvement, Stress, and Mental Health / 247

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**248 / Social Forces 80:1, September 2001**

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Religious Involvement, Stress, and Mental Health / 249

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