Exploring the Stress-Buffering Effects of Church-Based and Secular Social Support on Self-Rated Health in Late Life

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Objectives. The purpose of this study is to see if emotional support received from fellow church members and emotional support from secular social networks reduce the effects of financial strain on self-rated health. A second goal is to determine if church-based social support is a more important coping resource for older Blacks than for older Whites.

Methods. The data come from the second wave of interviews with a nationwide sample of older people. Two groups of older adults are included in the analyses: Older Christians who go to church more than twice a year (N = 548) and older people who do not go to church as frequently (N = 238).

Results. The data suggest that support from fellow church members tends to reduce the impact of financial strain on self-rated health, but support from secular network members fails to exert a similar effect. The findings also reveal that the stress-buffering effects of church-based support emerge among older Blacks, but not older Whites.

Discussion. The findings from this study suggest that there may be something relatively unique about support that is provided by fellow church members.

During the past several decades, researchers have conducted a number of studies to see if greater involvement in religion is associated with better physical and mental health (Koenig, McCullough, & Larson, 2001). Taken as a whole, this literature reveals that religion may serve some health-protective or health-enhancing function, but it is not clear why this may be so (Krause, 2004). The identification of a clear causal mechanism is important because, as Bradley and Schaefer (1998) convincingly argue, “…a claim of causality is fundamentally interpretative. Its credibility depends on the presentation of a mechanism that substantial numbers of people find compelling” (pp. 166–167). Some investigators maintain that the health-related benefits of religion may be traced to the fact that it helps people cope more effectively with adversity (Pargament, 1997). But there is still a lot we do not know about this coping process.

Researchers have argued for some time that informal social relationships that arise within a church tend to be especially close and highly supportive (Ellison & Levin, 1998). This is important because a considerable number of studies that were conducted in secular settings indicate that older people with strong social support networks are able to cope more effectively with stress than are older adults who do not maintain meaningful social relationships with others (Krause, 2001). Given this extensive body of secular work, it is surprising to find that the potential stress-buffering role of church-based social support has been largely overlooked in the literature. Ellison and his colleagues conducted one of the few studies on this issue (Ellison, Boardman, Williams, & Jackson, 2001). They were unable to find evidence that church-based social support reduces the noxious effects of stress on either psychological distress or psychological well-being. But it is important to continue work in this area because Ellison and colleagues focused solely on mental health outcomes. As a result, we do not know if church-based social support reduces the effects of stress on other outcomes, such as self-rated health.

The purpose of the present study is to see if church-based social support reduces the effects of stress on the self-rated health of older adults. In the process, two issues are examined that have not been evaluated empirically by other investigators. First, the wide majority of older adults maintain close relationships with family members and friends who do not worship with them. This raises the possibility that support provided by either fellow church members or secular social network members (or both) may help older people cope with stress. Put another way, we need to know if there is something unique about the stress-buffering properties of church-based social support, or whether it has the same effect as support in the secular world. Second, a growing body of research indicates that older African Americans tend to receive more support from their fellow church members than do older Whites (Taylor, Chatters, & Levin, 2004). This research raises the possibility that church-based social support systems are an especially important coping resource for older Blacks. Unfortunately, this issue has been largely overlooked in the literature.

Church-Based Social Support, Stress, and Self-Rated Health

The theoretical underpinnings of this study are presented below in three sections. The potentially unique aspects of church-based social support are examined first. Following this, evidence is provided which suggests that older Blacks may derive greater benefits than may older Whites from church-based social support. Finally, an effort is made to show why it
is important to explore the effects of church-based social support with data provided by older people.

**Church-Based Versus Secular Social Support**

As Ellison and Levin (1998) point out, there are at least two reasons why church-based social support may be an especially effective coping resource. The first has to do with beliefs about the nature of stress and suffering, and the second involves the motives for helping people who are in need. Individuals who worship in the same congregation tend to have a shared set of values and beliefs that are based on a common faith and shared religious teachings. A good deal of these shared beliefs involve issues related specifically to stress. In particular, people who worship together tend to have common views about why there is pain and suffering in the world. Moreover, there is often a shared sense that God has a reason for the things that happen in life, and that adversity may eventually lead to personal growth and development (Linley & Joseph, 2003). But perhaps most importantly, these beliefs and values form the basis for developing and sharing religious coping responses that are designed to help the faithful overcome the inevitable problems that arise in life (Krause, Ellison, Shaw, Marcum, & Boardman, 2001).

Coupled with these stress-specific beliefs is a strong motivation for helping others that, once again, arises from shared religious principles. The older people in this study are primarily members of the Christian faith. This faith encourages a number of beliefs and behaviors that promote and enhance the helping process. More specifically, sacred texts encourage people to love one another, help those who are in need, and forgive others for things they have done wrong. Moreover, help-providers are taught to give without expecting anything in return.

Research in secular settings helps to show why these religiously based helping motives are important. In reading secular research on stress and social support, one is often left with the impression that people always actively seek out, and gratefully receive, assistance from others during difficult times. But as research reviewed by Eckenrode and Wethington (1990) reveals, this may not always be true. More specifically, these investigators argue that people may be reluctant to turn to others for assistance when the event that confronts them is stigmatizing, embarrassing, or is perceived to be caused by their own limitations or inaction. The helping motives encouraged by religion may foster a welcoming and trusting interpersonal atmosphere that makes it easier for fellow church members to reach out to each other during difficult times.

Other aspects of congregational life may serve to enhance the quality of church-based social support. Research by Krause and Wulff (2005) suggests that some older people have attended worship services in the same congregation for decades. As a result, they have shared rituals with fellow church members that signal major passages in life, such as christenings, weddings, and funerals. These experiences generate shared memories that are charged with emotion and valued highly (Wuthnow, 1999). This shared history may provide fertile ground in which religiously based helping motives can be put into action.

Some of the attributes associated with church-based support may be found in the secular world as well. For example, members of the local Rotary Club may engage in charitable activities without expecting compensation for what they have done. But what sets church-based support apart from assistance in the secular world is that support in religious settings is imbued with the mantle of religious authority. Simply put, the basis for helping others, and the nature of the assistance that is provided, is thought to explicitly emanate from the word of God. And people who believe this may be more likely to engage in the sanctioned helping behaviors and take steps to ensure that these supportive acts are performed in a way that is consistent with the fundamental tenets of the faith.

**Exploring Variations by Race**

For more than 100 years, scholars and theologians have argued that social support networks are especially well developed in the Black church. Writing in 1887, Du Bois concluded that, “The Negro church . . . provides social intercourse, it provides amusements of various kinds, it serves as a newspaper and intelligence bureau, it supplants the theater, it directs the picnic and excursion, it furnishes the music, it introduces the stranger to the community, it serves as a lyceum, library, and lecture bureau—it is, in fine, the central organ of the organized life of the American Negro” (Du Bois, 2000, p. 21). Although Du Bois made these observations more than a century ago, more recent evidence indicates that the church continues to be a major source of social support for African Americans. For example, the noted Black theologian J. Deotis Roberts argues that, “The Black church, as a social and religious body, has served as a kind of ‘extended family’ for Blacks. In a real sense, then, thousands of Blacks who have never known real family life have discovered the meaning of real kinship in the Black church” (Goatley, 2003, p. 78). Support for these observations of Roberts is provided in a study by Krause (2002). His findings indicate that older Blacks get more emotional support from fellow church members than do older Whites.

There are both historical and cultural reasons why the church has assumed such a prominent position in the Black community. With respect to history, a number of researchers maintain that the church became the social center of the community because of centuries of prejudice and discrimination. More specifically, Black people turned to the church for social as well as spiritual sustenance because it was the only institution in the community that was built, funded, and wholly controlled by Black people (Nelsen & Nelsen, 1975). Cultural factors may come into play as well. Baldwin and Hopkins (1990) have gone to great lengths to identify the key elements of the African American worldview or culture. They argue that African American culture is characterized by its emphasis on harmony, cooperation, collective responsibility, “groupness,” and “sameness.” These cultural characteristics are likely to permeate the Black church, giving rise to strong church-based social support systems.

The issues that have been raised up to this point suggest that social support systems may be more well developed in the Black church than in White congregations. However, it is important to show why these support systems are more likely to help older African Americans cope with the effects of stress. The analyses provided below focus on one specific type of stressful experience—chronic financial strain. Initially, it might appear that when financial problems arise, older Whites and older Blacks would turn to an array of public assistance programs for help. But African Americans have had a long history of encountering difficulty with social welfare agencies (Trattner, 1999). When these experiences are contrasted with the warm and
welcoming social atmosphere of the church, it is not difficult to see why the church may become the resource of choice for older African Americans who are faced with economic difficulty.

**Church-Based Social Support and Stress in Late Life**

There are two reasons why church-based social support systems are likely to become an especially important coping resource for older people. First, extensive research by Carstensen reveals that as people enter late life, they become increasingly aware that they have relatively few years left to live. This growing awareness of time is important because it leads older people to seek out relationships that are emotionally close, and shed social ties that are more peripheral in this respect (e.g., Fung & Carstensen, 2004). Similar views are expressed by Tornstam (1997). He argues that as people age, they become more selective in the social relationships they maintain. More specifically, his research indicates that as people grow older, they prefer deeper relationships with a few people instead of more superficial relationships with many individuals. Given these developmental influences, it seems that the tightly knit social support systems that arise in the church may be especially attractive to older adults. Perhaps this is one reason why rates of church attendance are higher among older than among younger people (Barna, 2002).

Second, a number of studies suggest that older people tend to face different kinds of stressors than do younger adults. More specifically, this research indicates that even though older people encounter fewer stressful life events than do younger people, they are more likely to be faced with stressors that are continuous and ongoing (i.e., chronic strains) (Krause, 1999). And when chronic strains arise, older people may have fewer options than younger people have for dealing with them. This is especially true with respect to chronic financial strain. A number of individuals retire from the labor force by the time they reach age 65 (Schulz, 2001). However, some re-enter the labor force after retirement (Henretta, 2001). Although there are several reasons for this, one may be to alleviate current financial difficulties. But the opportunity to take this kind of direct action diminishes with advancing age—by about the time people reach age 75, physical as well as cognitive limitations may discourage the use of this coping strategy. If direct action cannot be taken to resolve financial problems, then they may continue unabated. As a result, religion may become an especially viable resource for coping with this type of difficulty (Gottlieb, 1997).

The theoretical rationale for this study leads to the following study hypotheses:

1. Church-based social support reduces the deleterious effect of chronic financial strain on self-rated health;
2. Church-based social support is a more effective stress-buffering resource than is social support that arises in secular settings; and
3. The stress-buffering function of church-based support is more evident among older African Americans than among older Whites.

**METHODS**

**Sample**

The data for this study come from a nationwide longitudinal survey of older Whites and older African Americans. The study population was defined as all household residents who were either White or Black, noninstitutionalized, English speaking, and at least 66 years of age. Geographically, the study population was restricted to eligible persons residing within the coterminous United States (i.e., residents of Alaska and Hawaii were excluded). Finally, the study population was restricted to people who were currently practicing Christians, individuals who were Christian in the past but no longer practice any religion, and people who were not affiliated with any faith at any point in their lifetime. Individuals who practice a religion other than Christianity (e.g., Jews or Muslims) were excluded because it would be difficult to devise a set of religion measures that would be suitable for persons of all faiths.

The sampling frame consisted of all eligible persons contained in the Medicare beneficiary eligibility list maintained by the Centers for Medicare and Medicaid Services (CMS). This list contains virtually every older adult in the United States. However, some older people are not in the data base because they do not have a Social Security number. This may be due to factors such as undocumented immigration. A five-step process was used to draw the sample from the CMS file. A detailed discussion of these steps is provided by Krause (2002).

Interviewing for the baseline survey took place in 2001. The data collection was performed by Harris Interactive (New York, NY). A total of 1,500 interviews were completed. All interviews were conducted face-to-face in the homes of the respondents. The study participants were not screened for cognitive disability prior to the interview. Elderly Blacks were oversampled so that sufficient statistical power would be available to fully explore race differences in religion. More specifically, the sample consisted of 748 Whites and 752 older African Americans. The overall response rate for the study was 62%.

The Wave 2 survey was conducted in 2004. A total of 1,024 study participants were reinterviewed successfully, 75 refused to participate, 112 could not be located, 70 were too ill to participate, 11 had moved to a nursing home, and 208 were deceased. Not counting those who had died or were placed in a nursing home, the response rate for the Wave 2 survey was 80%.

Data on social support received in secular settings were not obtained until the Wave 2 survey. Therefore, the analyses presented below are based on the Wave 2 data only. When the Wave 2 interviews were conducted, 342 study participants indicated that they attend church no more than twice a year. However, it did not make sense to ask people about church-based social support if they attend worship services no more than twice a year. As a result, the questions on church-based social support were administered to a total of 682 Wave 2 study participants. After using listwise deletion of cases to deal with item nonresponse, the main analyses presented below are based on between 538 and 548 cases. Analysis of the group consisting of 548 older study participants revealed that 44% were older Whites and 56% were older Blacks. The average age of these individuals was 76.8 years ($SD = 5.8$ years), 39% were older men, and 49% were married when the Wave 2 interviews took place. Finally, the older adults in this group indicated they had successfully completed an average of 11.9 years of schooling ($SD = 3.4$ years). These descriptive data, as well as the results presented below, are based on data that have been weighted. More specifically, separate weights were devised for each racial group so that they would correspond to the most

**Data Collection**

Data on social support were collected from 349 individuals who attended church on a regular basis and 333 who did not. The latter group included people who had never attended church, 0–3 times, and 4 or more times. The study participants who did not attend church were asked about the social support they received in secular settings; and

**Analysis**

The analysis of the main hypotheses was performed using logistic regression. This type of analysis allowed for the examination of the effect of church-based social support on self-rated health, controlling for a variety of other factors known to influence health. The main analysis was performed using the Statistical Package for the Social Sciences (SPSS) software package.

**Results**

The results of the logistic regression analysis revealed that church-based social support was a significant predictor of self-rated health, even after controlling for a variety of other factors known to influence health. In particular, the results indicated that the effect of church-based social support was stronger among older African Americans than among older Whites. This finding is consistent with the theoretical rationale for this study, which suggests that church-based social support is a more effective coping resource for older African Americans than for older Whites.

**Discussion**

The findings of this study have important implications for the design of social support programs for older African Americans. In particular, the results suggest that church-based social support programs may be especially effective in reducing the deleterious effect of chronic financial strain on self-rated health. These findings also have implications for policy makers, who may wish to consider the role of church-based social support programs in addressing the needs of older African Americans who are facing financial difficulties.
recent race-specific Census data on age, sex, education, and region of the country.

**Measures**

Table 1 contains the measures that were used in this survey. The procedures used to code these items are provided in the footnotes of this table.

*Self-rated health.*—Global self-rated health status was assessed with three indicators. A high score on these items denotes more favorable health ratings. The internal consistency reliability estimate for the brief composite created from these questions is .721.

*Financial strain.*—Ongoing economic problems were measured with three items. A high score represents greater financial difficulty. The reliability estimate for this scale is .791.

*Church-based emotional support.*—As shown in Table 1, three items that were devised by Krause (2002) were used to assess emotional support provided by fellow church members. These indicators were only presented to study participants who attended church more than twice a year. The questions are coded so that a high score means more emotional support was received at church. The internal consistency reliability estimate for this brief composite is .826.

*Emotional support from outside the church.*—Three groups of older people are described in the analyses provided below: (1) those who go to church more than twice a year; (2) those who go to church no more than twice a year but have contact with people in a local church; and (3) those who go to church no more than twice a year and do not have contact with a local church. A series of secular support measures had to be devised for each group.

The majority of the study participants go to church more than twice a year ($N = 548$). Because the goal of this study was to compare and contrast the effects of church-based and secular support, it was important to devise measures that are not confounded. This problem could have arisen, for example, if older respondents worshipped with family members. An example using the first listed church-based support item in Table 1 shows how this problem was handled. The questions on secular emotional support for people in this group were introduced with the following statement: “Now I have some questions about people who do not attend your church.” Then the question stems for the first secular emotional support item was worded to read: “Not counting your (minister, pastor, or priest) or fellow church members, how often do family and

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**Table 1. Core Study Measures**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Items</th>
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<tbody>
<tr>
<td><strong>1. Physical health status</strong></td>
<td></td>
</tr>
<tr>
<td>A. How would you rate your overall health at the present time?</td>
<td>This variable is scored in the following manner (coding in parentheses): poor (1); fair (2); good (3); excellent (4).</td>
</tr>
<tr>
<td>B. Would you say your health is better, about the same, or worse than most people your age?</td>
<td>These variables are scored in the following manner: worse (1); about the same (2); better (3).</td>
</tr>
<tr>
<td>C. Do you think your health is better, about the same, or worse than it was a year ago?</td>
<td>This variable is scored in the following manner: none (1); only a little (2); some (3); a great deal (4).</td>
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<tr>
<td><strong>2. Financial strain</strong></td>
<td></td>
</tr>
<tr>
<td>A. How much difficulty do you have meeting the monthly payments on your bills?</td>
<td>This variable is scored in the following manner: money left over (1); just enough (2); not enough to make ends meet (3).</td>
</tr>
<tr>
<td>B. In general, how do your finances work out at the end of the month?</td>
<td>This variable is scored in the following manner: better (1); about the same (2); worse (3).</td>
</tr>
<tr>
<td>C. How does your household financial situation compare to that of most people your age?</td>
<td>These variables are scored in the following manner: never (1); once in a while (2); fairly often (3); very often (4).</td>
</tr>
<tr>
<td><strong>3. Church-based emotional support</strong></td>
<td></td>
</tr>
<tr>
<td>A. Other than your minister, pastor or priest, how often does someone in your congregation let you know they love and care for you?</td>
<td>These variables are scored in the following manner: never (1); less than once a year (2); about once or twice a year (3); several times a year (4); about once a month (5); 2 to 3 times a month (6); nearly every week (7); every week (8); several times a week (9).</td>
</tr>
<tr>
<td>B. How often does someone in your congregation talk with you about your private problems and concerns?</td>
<td>These variables are scored in the following manner: never (1); less than once a month (2); once a month (3); a few times a month (4); once a week (5); a few times a week (6); once a day (7); several times a day (8).</td>
</tr>
<tr>
<td>C. How often does someone in your congregation express interest and concern in your well-being?</td>
<td>These variables are scored in the following manner: never (1); less than once a month (2); once a month (3); a few times a month (4); once a week (5); a few times a week (6); once a day (7); several times a day (8).</td>
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<table>
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<tr>
<th>Measure</th>
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<tbody>
<tr>
<td><strong>4. Secular emotional support</strong></td>
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<tr>
<td><strong>5. Organizational religiousness</strong></td>
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<tr>
<td>A. How often do you attend religious services?</td>
<td>These variables are scored in the following manner: never (1); less than once a year (2); about once or twice a year (3); several times a year (4); about once a month (5); nearly every week (6); every week (7); several times a week (8).</td>
</tr>
<tr>
<td>B. How often do you attend adult Sunday School or Bible study groups?</td>
<td>These variables are scored in the following manner: never (1); less than once a month (2); once a month (3); a few times a month (4); once a week (5); a few times a week (6); once a day (7); several times a day (8).</td>
</tr>
<tr>
<td>C. How often do you participate in prayer groups that are not part of regular worship services or Bible study groups?</td>
<td>These variables are scored in the following manner: never (1); less than once a month (2); once a month (3); a few times a month (4); once a week (5); a few times a week (6); once a day (7); several times a day (8).</td>
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<table>
<thead>
<tr>
<th>Measure</th>
<th>Items</th>
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<tbody>
<tr>
<td><strong>6. Private religiousness</strong></td>
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<tr>
<td>A. How often do you pray by yourself?</td>
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<tr>
<td>B. When you are at home, how often do you read the Bible?</td>
<td>These variables are scored in the following manner: never (1); less than once a month (2); once a month (3); a few times a month (4); once a week (5); a few times a week (6); once a day (7); several times a day (8).</td>
</tr>
<tr>
<td>C. How often do you watch formal religious services on TV or listen to them on the radio?</td>
<td>These variables are scored in the following manner: never (1); less than once a month (2); once a month (3); a few times a month (4); once a week (5); a few times a week (6); once a day (7); several times a day (8).</td>
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friends let you know they love and care for you?” The same strategy was used to modify the other two support items, resulting in a three-item secular support measure for members of this group.

If people indicated that they attended church no more than twice a year, a question was asked to see if they, nevertheless, kept in touch with people from a local congregation. A small number of Wave 2 participants indicated that they did so (N = 54). Church-based support items were not administered to the older adults in this group, but secular support items were devised for them. These secular support indicators were introduced with the following statement: “Now I’d like you to think about family members and friends who are not in the church you have contact with.” Then, as the following example reveals, the question stems for the emotional support items were worded to read: “Not counting your minister or fellow church members, how often do your family and friends let you know they love and care for you?” This same strategy was used to modify the other emotional support items shown in Table 1, resulting in a three-item secular support measure for the members of this group.

The third group of study participants consisted of older people who do not go to church more than twice a year and who do not have contact with anyone in a local church (N = 174). Therefore, these study participants were not asked questions about church-based support. Instead, they were only asked questions about secular support. As the following example reveals, the secular emotional support items were worded to read: “How often do your family members and friends let you know they love and care for you?” As with the other groups, a three-item secular support measure was developed using this strategy.

A single set of secular support items was computed by merging responses to the items across the three groups. A high score stands for more secular emotional support. Prior to merging the items, the reliability estimate in the first group is .787, while the corresponding estimate in the second (.843) and third groups (.802) are roughly the same.

Religious control measures.—As a number of investigators have observed, religion is a complex, multidimensional phenomenon (Ellison & Levin, 1998). Moreover, the correlations among some of these dimensions are fairly large. Therefore, steps must be taken to ensure that the potential stress-buffering properties of church-based emotional support are due specifically to this construct and not to some other element of religion that is correlated with it. It is for this reason that measures of two other facets of religion are included in the analyses presented below. The first is used widely in the literature and is sometimes referred to as “organizational religiousness” (Krause & Tran, 1989). This construct assesses the extent to which older study respondents participate in formal worship services, Bible study groups, and prayer groups. A high score on this measure represents greater involvement in formal activities at church. The internal consistency reliability estimate for this brief composite is .791.

Indicators that assess private religious practices are also included in this study. These items ask about the frequency of private prayer, how often older people read the Bible at home, and how often older study participants watch religious services on TV or listen to them on the radio. A high score on these indicators represents more frequent private involvement. The reliability estimate for the brief composite formed from these indicators is .748.

Demographic control measures.—The relationships among religion, financial strain, and self-rated health were assessed after the effects of age, sex, marital status, education, and race were controlled for statistically. Age is scored in a continuous format. Similarly, education is coded in a continuous format denoting the total number of years of completed schooling. Finally, sex (1 = men; 0 = women), marital status (1 = presently married; 0 = not married), and race (1 = White; 0 = African Americans) are represented by binary indicators.

RESULTS

The findings from this study are presented in four sections. First, basic descriptive data are provided for the core study measures. The next section contains findings from the analyses that compare and contrast the relative stress-buffering effects of church-based and secular support. Following this, results involving race differences in the stress-buffering effects of church-based support are provided. The last section contains findings from a series of supplementary analyses that have not been discussed up to this point. These additional analyses were designed to clarify and extend the results that emerge from tests of the main study hypotheses. All analyses were performed with the SPSS statistical software program (version 12).

Descriptive Data for Older Whites and Older Blacks

Table 2 contains the means and standard deviations for the core study measures that have been broken out by race. Consistent with previous research, the data suggest that older Whites rate their health more favorably than do older Blacks, and older African Americans encounter more financial strain than do their White counterparts. As research reviewed by Taylor, Chatters, and Levin (2004) reveals, the means for the three core religion measures indicate that older Blacks are more involved in religious activities than are older Whites. In

<table>
<thead>
<tr>
<th>Variable</th>
<th>Older Whites (n = 237)</th>
<th>Older Blacks (n = 301)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-rated health</td>
<td>7.364</td>
<td>7.000***</td>
</tr>
<tr>
<td>Financial strain</td>
<td>4.265</td>
<td>5.190***</td>
</tr>
<tr>
<td>Organizational religiousness</td>
<td>15.095</td>
<td>16.105*</td>
</tr>
<tr>
<td>Private religiousness</td>
<td>14.516</td>
<td>18.500***</td>
</tr>
<tr>
<td>Church-based support</td>
<td>8.177</td>
<td>9.219***</td>
</tr>
<tr>
<td>Secular support</td>
<td>9.595</td>
<td>9.799</td>
</tr>
</tbody>
</table>

Notes: All significance tests are t tests.

*mean difference p < .05; **mean difference p < .01; ***mean difference p < .001.

Table 2. Race Differences in Core Study Measures

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contrast, significant race differences failed to emerge with respect to secular emotional support.

### Church-Based Support and Secular Support

Table 3 contains the findings from the analyses that were designed to compare the relative stress-buffering effects of church-based support and support provided by people outside a respondent’s congregation. These analyses are restricted solely to older people who attended church more than twice a year. The analyses were performed with a two-step hierarchical multiple regression model. In the first step, self-reported health was regressed on financial strain, church-based support, secular support, the religious control variables, and the demographic control measures. The second step involved tests for the proposed interactions between church-based support, secular support, and financial strain on self-rated health. This step was executed by adding two multiplicative terms to the model. These cross-product terms were formed by multiplying church-based support by financial strain and secular support by financial strain.

If the regression coefficient associated with one of the multiplicative terms is statistically significant, then hand calculations described by Aiken and West (1991) are performed to help interpret the interaction effect. If the theoretical rationale developed for this study is valid, then the relationship between financial strain and self-rated health should become progressively weaker at higher levels of church-based support. The hand calculations yield two estimates: (1) unstandardized regression coefficients representing the relationships between financial strain and self-rated health at select levels of church-based support; and (2) t-tests to see if these coefficients differ significantly from zero. Following this, standardized regression estimates for the relationship between financial strain and self-rated health are computed in the usual manner.

The findings in the left-hand column of Table 2 (see Model 1) were derived from the first step in the hierarchical regression analysis. The data suggest that more financial strain is associated with less favorable health ratings ($\beta = -.216; p < .001$). In contrast, neither church-based emotional support ($\beta = -.091; p > .05$) nor secular emotional support ($\beta = .059; p > .05$) is significantly related to self-rated health. This would appear to suggest that social support has little effect on the self-rated health of older people.

Fortunately, the data in the right-hand column of Table 3 (see Model 2) provide a different view. More specifically, the findings reveal that the interaction between church-based emotional support and self-rated health is statistically significant ($\beta = .038; p < .01$; unstandardized coefficients are presented for multiplicative terms because standardized estimates are meaningless in this context). However, emotional support from people outside the church does not appear to offset the effects of financial strain on self-rated health ($\beta = -.193; p > 0.05$; ns). The nature of the statistically significant interaction effect is illustrated by performing the hand calculations recommended by Aiken and West (1991). This involves estimating the relationship between financial strain and self-rated health at select levels of church-based support. Although any value on the church-based support scale could be used for this purpose, the following scores were selected: $-1$ standard deviation below the mean support score, the mean church-based support value, and $+1$ standard deviation above the average support score.

The additional hand calculations (not shown in Table 3) suggest that financial strain is associated with worse self-rated health for older adults with low levels of church-based support ($-1$ standard deviation below the mean; $\beta = -.325; b = -.290; p < .001$). However, the relationship between financial strain and self-rated health is not as strong for older people with average levels of church-based emotional support ($\beta = -.216; b = -.193; p < .001$). The potentially important stress-buffering properties of church-based support are even more evident among older people who receive relatively high levels of assistance from their fellow church members ($\beta = -.108; b = -.096; p < .01$). Simply put, the data suggest that church-based emotional support significantly offsets the effects of financial strain on self-rated health in late life.

### Exploring Variations by Race

The next set of analyses is designed to see if the relationships among financial strain, church-based support, and health differ for older Whites and older Blacks. Once again, these analyses involve only older people who attended church more than twice a year. This set of analyses is complex because it calls for a three-way statistical interaction effect between race, financial strain, and church-based support on self-rated health. The results from these analyses are presented in Table 4. Four multiplicative terms were added to the model to properly test for the proposed three-way interaction effect: Financial strain $\times$ Church-based support; Race $\times$ Financial
strain, Race × Church-based support, and Race × Financial strain × Church-based support.

Tests for the three-way interaction reveal that the impact of financial strain and church-based support on self-rated health may vary significantly by race ($b = -.064; p < .05$). However, it is difficult to determine the precise nature of these effects. There are two ways to proceed. The first involves computing a series of estimates by hand using other formulas provided by Aiken and West (1991). The second has to do with performing a subgroup analysis in which the interaction between church-based support and financial strain on health is estimated in samples composed solely of older Whites and older Blacks, respectively. The subgroup approach is taken here (see Areshensel, 2002, for a detailed discussion of this issue). This approach is justified by the fact that the coefficient associated with the three-way interaction term is statistically significant. The same control measures are used throughout the subgroup analysis.

The subgroup analysis (not shown here) reveals that church-based emotional support tends to offset the effects of financial strain on self-rated health for older Blacks ($b = .057; p < .005$), but not for older Whites ($b = -.006; ns$). Consistent with the strategy implemented above, additional hand calculations were performed to illustrate the nature of the interaction effect in the subgroup comprising older African Americans. These computations indicate that financial strain is associated with worse self-rated health for older blacks who receive little emotional support from the people with whom they worship (i.e., those at $-1$ standard deviation below the mean support value; $\beta = -.337; b = -.298; p < .001$). The effect of financial strain on self-rated health is reduced for older African Americans with average levels of assistance from their fellow church members ($\beta = -.174; b = -.155; p < .01$). In contrast, the relationship between financial strain and self-rated health is no longer statistically significant for older Blacks who receive relatively more emotional support from the people in their congregation ($\beta = -.013; b = -.012; ns$).

Supplementary Analyses

The findings that have emerged up to this point suggest that church-based social support may buffer or offset the effects of financial strain on health, but support that arises in secular networks may be less useful in this respect. However, it is important to carefully reflect on what the study findings actually reveal. The data that have been presented so far are based solely on those older people who attend church more than twice a year. As a result, the findings say nothing about whether support arising in secular settings is helpful for people who are not regular churchgoers. It may be, for example, that secular support works best for individuals who do not go to church often, whereas church-based support is more efficacious for those who are more involved in the church. To better understand the relative efficacy of church-based and secular support, it is important to bring infrequent churchgoers into the analyses.

Another regression analysis was performed to see if support from secular sources buffers the effects of financial strain on health for older people who attend church no more than twice a year ($N = 228$). Private religious practices and the demographic variables are included as control measures in this analysis. The data (not shown here) suggest that the interaction between financial strain and secular support on self-rated health is not statistically significant for older people in this group ($b = -.023; ns$).

Although this additional set of analyses is helpful, it does not go far enough because it is hard to see why secular support appears to be of little use to those persons who do not go to church often. Several studies in secular settings suggest that older people who are faced with ongoing economic problems tend to receive less emotional support from family members and friends (e.g., Krause & Jay, 1991). This finding suggests that financial strain may erode the quality of informal social support in late life. Hobfoll’s (1998) notion of the “pressure cooker effect” helps show why this may be so. When an older adult experiences economic problems, there is a good chance that members of his or her support network are also grappling with the same problem. When this happens, Hobfoll argues that, “Since no one in the system is free of threat, individuals who themselves have great need to depend on others must serve as supporters and lose precious resources that they themselves require” (p. 208). Because of this, the amount and quality of support they provide will be diminished.

This issue was addressed in the present study with three additional analyses. First, support from secular network members was regressed on financial strain, private religiousness, and the demographic control variables for those older people who do not go to church often (i.e., no more than twice a year; $N = 238$). The data suggest that more financial strain is associated with less secular support for the older adults in this

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
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Notes: Table data are present as standardized regression coefficients; metric (unstandardized) regression coefficients are presented in parentheses.

$*p < .05; **p < .01; ***p < .001$. 

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group (β = −.186; p < .010). The analysis was repeated for older people who go to church on a more regular basis (i.e., three or more times a year; N = 567). The data suggest that financial strain is not related significantly to the amount of support that these individuals receive from secular sources (β = −.058; ns). Further calculations revealed that the difference between these two estimates is significant at the .05 level. In the third analysis, church-based support was regressed on financial strain, private religiousness, and the demographic control variables for those who go to church more often. The findings suggest that financial strain is not significantly related to church-based emotional support (β = −.020; ns). Taken as a whole, these preliminary analyses suggest that church-based support provided to more frequent churchgoers is more efficacious than is secular support provided to less frequent churchgoers because it appears to be relatively impervious to the otherwise corrosive influence of ongoing economic problems.

DISCUSSION

Three major findings emerge from this study. First, the data indicate that the relationship between financial strain and self-rated health is offset for older people who receive relatively more emotional support from the people at church. Second, support provided by relationships formed in the secular world does not appear to have the same effect. Third, the results suggest that church-based emotional support tends to offset the effects of financial strain on self-rated health for older African Americans, but not older Whites. This appears to be the first time that any of these relationships have been examined empirically. The findings involving the contrast between church-based and secular support are especially provocative.

Although the results from this study may contribute to the literature on church-based social relationships, there is still a lot we do not know. For example, the data suggest that church-based support may be an effective coping resource for older people who are faced with economic problems, but we need to see if this is true with respect to other stressors, such as the death of a loved one. In addition, research is needed to find out why church-based emotional support appears to be more efficacious for older Blacks than for older Whites. One possibility is that, instead of turning to fellow church members for assistance, older Whites tend to rely on either psychological coping resources (e.g., feelings of personal control), individual religious coping responses (see Pargament, 1997), or formal sources of assistance (e.g., social welfare agencies).

In the process of conducting further work in this field, researchers would be well advised to take the limitations in this study into account. Three are examined briefly. First, and perhaps most important, the data in the analyses presented above were gathered at a single point in time. As a result, the temporal ordering among the study constructs was based on theoretical considerations alone. However, one might easily reverse the proposed causal ordering and instead specify that older adults with initially poor self-rated health tend to subsequently experience more economic problems. Clearly this, as well as other issues involving causality, must be rigorously evaluated with data that have been gathered at more than one point in time.

Second, church-based social relationships represent a complex conceptual domain in its own right. Yet, only one type of church support was examined in this study—emotional support from church members. It is important to see if other kinds of church-based support also help older adults cope more effectively with the problems they face. So, for example, it is important to know if emotional support from a clergy member has the same stress-buffering function.

Finally, the analyses in this study were based on responses of older adults from a wide spectrum of Christian denominations. This assumes that church-based support systems are just as effective in some denominations (e.g., Baptists) as in others (e.g., Catholics). This may not be a valid assumption.

Josiah Royce was a well-known philosopher of his time and a close friend of William James. Royce wrote a book in 1912 that was designed to overcome what he felt were serious oversights in the work of James (1902/1997). Chief among these oversights was the emphasis James placed on the role of the unconscious processes in the generation of religious feelings and religious insights. Royce (1912/2001) maintained that, instead of arising from within the individual, the impetus for religious experiences and sentiments was decidedly social in nature. More specifically, he argued that, “... our social experience is our primary source of religious insight. And the salvation that this insight brings to our knowledge is salvation through the fostering of human brotherhood. Such salvation accrues to the individual in so far as he gives himself over to the service of man” (Royce, 1912/2001, p. 58). The findings presented above provide one way of showing that Royce may have been right.

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