

Stress, Religiosity, and Psychological Well-Being Among Older Blacks

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The prominent position of the church in the Black community coupled with high levels of religious involvement among elderly Blacks suggests that religiosity may be an important coping resource for members of this minority group. However, there has been little research on this topic. Findings from a recent nationwide survey of older Blacks indicate that religiosity tends to counterbalance or offset the deleterious effects of physical health problems and deaths among family members by bolstering feelings of self-worth among elderly Blacks. These findings were observed after the effects of informal emotional support had been controlled statistically.

There is considerable evidence indicating that the church is one of the most important institutions in the Black community (e.g., Taylor & Chatters, 1988). In addition to being a source of spiritual assistance, the church also functions as a center for political activity as well as a conduit for the delivery of numerous social services (Taylor & Chatters, 1988). Although there are a number of explanations for why the church has achieved this stature, a good deal of the reason has to do with the

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fact that historically the church has been the only organization that was wholly owned and controlled by Blacks.

Given the prominent standing of the church, it is not surprising to find that religious commitment is particularly strong among older Blacks. More specifically, the literature consistently shows that elderly Blacks are more likely than older Whites to attend religious services, read the Bible, and pray on a regular basis (e.g., Gallup, 1984). Moreover, research by Chatters and Taylor (1989) suggests that even within the Black community, older Blacks tend to go to church services more frequently and have higher levels of subjective religious involvement than do Blacks in younger age groups.

The fact that religion plays a major role in the lives of many older Blacks suggests that it may perform an important function for members of this racial group. Some insight into the nature of this function is provided by the literature on stress and coping. This research, which has been conducted with samples of older adults from all racial groups, suggests that elderly people may turn to religion in an effort to cope with the stressful experiences that confront them. For example, a study by Koenig, George, and Siegler (1988) indicates that 45% of older adults in their sample engaged in some form of religious activity, to deal with a recent stressful event. Perhaps more important, there is some evidence that older adults who turn to religion during stressful times are less likely to experience psychological distress than elderly people who are not involved in religious activities (e.g., Idler, 1987; Koenig, Smiley, & Gonzales, 1988).

If religion can mediate the deleterious effects of stress and if levels of religious involvement are especially strong among older Blacks, then the study of religiosity may provide valuable insights into how elderly Blacks cope with stressful experiences. In spite of the intuitive appeal of this logic, there appears to be only one study in the literature that examines religiosity as a coping resource among elderly members of this racial group. Based on a nationwide survey, Krause and Tran (1989) found that religiosity tends to counterbalance or offset the undesirable effects of life events by bolstering feelings of self-worth and personal control among older Blacks.

Although the work of Krause and Tran (1989) may provide some useful insights into the way that older Blacks cope with the effects of

stress, there are at least two limitations in their study. First, these investigators focus solely on the impact of religiosity on self-esteem and personal control without assessing whether these self-evaluations are in turn related to psychological well-being. A second limitation in the study by Krause and Tran (1989) arises from the fact that these researchers fail to examine religiosity in conjunction with other coping resources. There is now considerable evidence that social support can reduce the impact of stress on psychological well-being (see George, 1989, for a review of this research). It may be especially important to include a measure of social support when studying the effects of religiosity among older Blacks because there is some evidence that the church is a major source of informal support for members of this minority group (Taylor & Chatters, 1986). By examining both religiosity and informal social support within the same conceptual model it may be possible to assess whether the potential benefits of church involvement are due to some unique aspect of religious life or whether these benefits can be attributed to the functioning of other well-known resources (e.g., social support) that simply flourish within the church environment (Koenig, Smiley, & Gonzales, 1988).

The purpose of this study is to develop and test a conceptual model that examines the relative impact of stress, religiosity, and informal social support on psychological distress among older Blacks. In the process of addressing these issues, the present study also seeks to replicate the findings reported by Krause and Tran (1989) with data provided by another nationwide survey of elderly Blacks.

The discussion that follows is divided into three sections. First, the conceptual model is introduced and the theoretical rationale for the linkages among the constructs in this conceptual scheme are explicated fully. Next, the sample and study measures are reviewed. Finally, the model is estimated with data provided by elderly Black respondents in a recent nationwide survey.

A Model of Stress, Religiosity, and Psychological Distress

Figure 1 contains a conceptual model that was designed to assess the relationships among selected stressful events, religiosity, social support, and psychological distress. Before the theoretical rationale

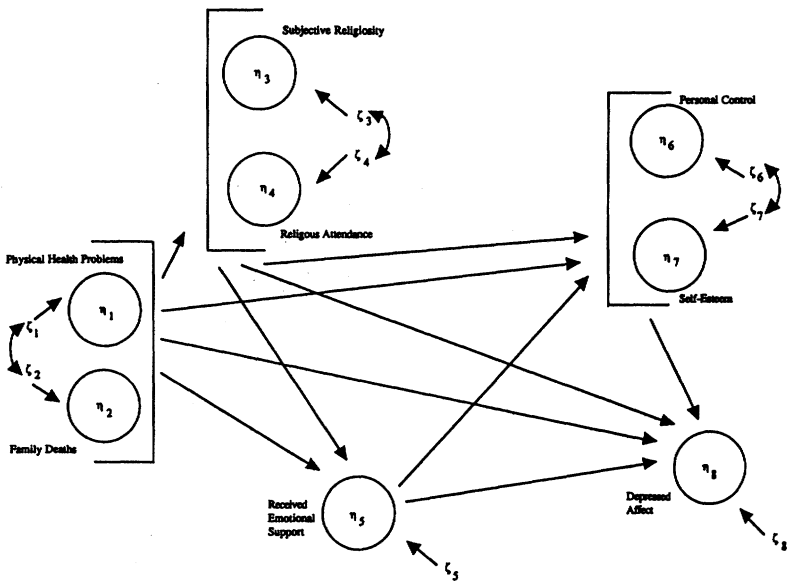


Figure 1. A model of stress, religiosity, and psychological well-being.

for the links between the constructs is presented, a few technical features of the model will be reviewed briefly.

The model depicted in Figure 1 was estimated with the LISREL 7 statistical software program (Jöreskog & Sörbom, 1988). Consequently, the notation used in Figure 1 is consistent with the notation devised by Jöreskog and Sörbom (1988).

Two steps were taken to simplify the presentation of this conceptual scheme. First, the influence of three demographic control variables (age, sex, and education) is not shown in Figure 1 even though the impact of these indicators was assessed when the model was estimated. In addition, the conceptual scheme was simplified further by not showing the observed indicators or the elements in the measurement model (i.e., the factor loadings and measurement error terms).

The basic theoretical thrust of the model depicted in Figure 1 is that selected life stressors foster increased religiosity, that increased religious involvement in turn leads to greater informal social support, and

that religiosity in conjunction with these supportive social ties tends to reduce psychological distress by bolstering feelings of self-worth and personal control. The relationships among these constructs are represented by a series of structural equations in which religiosity, social support, self-esteem, personal control, and psychological distress serve as endogenous or dependent variables. The hypotheses linking the independent variables with each of these outcome measures are discussed below.

RELIGIOSITY

Research reviewed by Schiller and Levin (1987) suggests that religiosity is a multifaceted phenomenon that contains a number of empirically distinct dimensions. Two dimensions of religious involvement are contained in the model depicted in Figure 1: subjective religiosity (η_3) and religious attendance (η_4) (see Mindel & Vaughn, 1978, for a similar measurement model of religiosity). Religious attendance represents participation in the activities of formal religious organizations. In contrast, subjective religiosity encompasses prayer and other private religious practices that need not take place within a formal organizational setting.

The conceptual model was designed to assess the impact of two specific kinds of life stressors on religious involvement: physical health problems (η_1) and deaths among family members (η_2). Research indicates that these are among the stressors that people are most likely to encounter in later life (Murrell, Norris, & Grote, 1988).

Taken as a whole, the literature indicates that older adults with poor health may be especially likely to turn to religion in order to cope with their physical limitations (see Koenig, Smiley, & Gonzales, 1988, for a review of his research). However, a careful reading of this research suggests that the hypothesized impact of illness may vary depending on the dimension of religiosity that is under consideration. Based on research reviewed by Levin and Vanderpool (1987), it is predicted that illness (η_1) will exert a negative effect on religious attendance (η_4) because older adults with physical health problems may not be able to leave their homes to attend religious services. In contrast, it is hypothesized that health problems (η_1) may lead to increased subjective

religious involvement (η_3) as older adults attempt to cope with the limitations imposed by their physical difficulties.

There are at least two reasons why it is important to examine the relationship between family deaths and religious involvement. First, research reviewed by Koenig, Smiley, and Gonzales (1988) consistently shows that religion has a beneficial effect on older adults who are bereaved. The second reason for focusing on deaths among family members can be found in the work of Neighbors, Jackson, Bowman, and Gurin (1983). These investigators examined the impact of five types of stressors on the frequency of private prayer (i.e., one form of subjective religiosity). Based on data provided by a nationwide survey of Blacks from all age groups, these researchers found that study participants were most likely to turn to prayer when they were confronted with the death of a loved one.

According to the model depicted in Figure 1, older Blacks who experience the death of a family member (η_2) will report higher levels of subjective religious involvement (η_3) than will elderly Blacks who have not lost a family member. Similarly, it is predicted that rates of religious attendance (η_4) will be higher among study participants who have lost a family member (η_2) than among respondents who have not experienced a death in the family.

SOCIAL SUPPORT

Taylor and Chatters (1986) review a number of studies that show that the church is a major source of formal support (e.g., pastoral counseling) as well as informal assistance (i.e., support from fellow church members) for elderly Blacks. In fact, these investigators argue that the church serves as a "family surrogate" for older Blacks who are not married or who do not have children. Based on these findings, it is hypothesized that as religious attendance (η_4) increases, older Blacks will report receiving more emotional support from others (η_5). Similarly, it is predicted that older Blacks with higher levels of subjective religiosity (η_3) will report receiving more emotional assistance from others (η_5) than will elderly Blacks with less subjective religious involvement.

Research by Conway (1985) suggests that compared to older Whites, elderly Blacks are especially likely to receive support from others when they are confronted with physical health problems. Consequently, it is hypothesized in Figure 1 that greater physical health problems (η_1) will be associated with increased emotional support (η_5).

A number of investigators have examined the relationship between the death of a loved one and subsequent social support (e.g., Ferraro, Mutran, & Barresi, 1984). Based on a longitudinal survey of low-income respondents, Ferraro et al. (1984) found that elderly people tend to report an increase in friendship involvement following the death of a spouse. Consistent with these research findings, it is hypothesized in Figure 1 that older Blacks who have suffered the loss of a family member (η_2) will report receiving more emotional support (η_5) than will elderly Blacks who have not experienced a death in their family.

PERSONAL CONTROL AND SELF-ESTEEM

According to the model depicted in Figure 1, feelings of personal control (η_6) and self-esteem (η_7) are thought to be influenced by the interplay between selected stressful experiences and available coping resources. More specifically, these important self-evaluations (η_6 and η_7) are affected by physical health problems (η_1), family deaths (η_2), religiosity (η_3 and η_4), and received informal emotional support (η_5).

There is now extensive evidence that suggests that physical health problems are associated with diminished feelings of personal control in later life (Schulz, Heckhausen, & Locher, 1991). Similarly, research indicates that people with physical health problems are less likely to have positive self-evaluations (i.e., self-esteem) than are individuals who enjoy better health (Gove, Ortega, & Style, 1989). Consequently, it is hypothesized in Figure 1 that increased physical health problems (η_1) will be associated with lower feelings of personal control (η_6) and diminished feelings of self-worth (η_7).

The loss of a loved one (especially one's spouse) frequently promotes a host of related changes including economic decline, loss of

independence, and loss of social status (Hansson & Carpenter, 1990). It is important to emphasize that similar sequelae may follow the loss of an adult child because research indicates that adult children are a particularly important source of tangible and economic assistance for elderly Blacks (e.g., Mutran, 1985). The debilitating changes following the loss of a family member may help to explain why several studies link the death of a loved one with diminished personal control and self-worth (e.g., Johnson, Lund, & Dimond, 1986). Based on these research findings, the model depicted in Figure 1 predicts that compared to older Blacks who are not bereaved, elderly Blacks who have experienced the death of a family member (η_2) will report experiencing diminished feelings of personal control (η_6) and self-worth (η_7).

Most of the research on the relationship between religiosity and well-being is concerned with the direct effects of religious involvement on psychological distress (see Koenig, Kvale, & Ferrel, 1988, for a review of this research). Although these studies make a valuable contribution toward the development of the knowledge base, it is important to identify the intervening mechanisms that may link these constructs so that researchers can arrive at a better understanding of *why* religion may be related to psychological well-being in later life. Measures of personal control (η_6) and self-esteem (η_7) were included in the conceptual model specifically for this purpose.

The literature suggests that there are several ways in which both church attendance and subjective religiosity may serve to bolster feelings of self-worth and personal control among older Blacks. As discussed earlier, the church occupies a central and highly regarded position in the Black community. A number of social psychologists have pointed out that individuals are likely to view themselves as being important and worthwhile if they occupy roles that are perceived to be important by their significant others. Consequently, it is hypothesized in Figure 1 that Blacks who are active in the formal church organization (η_2) will have greater feelings of self-worth (η_7) than will elderly Blacks who are less involved in the church (see Krause & Tran, 1989, for empirical support for this hypothesis).

There is some evidence that church attendance may also be related to feelings of personal control. Earlier, research by Taylor and Chatters

(1988) was reviewed that suggested that the Black church is a center of political influence as well as a hub of social welfare activity. As a result, older Blacks who participate in the church (η_2) and have access to these resources may come to feel that they have increased control (η_6) over their lives.

Aside from the effects of formal religious involvement, there is some evidence that subjective religiosity may also influence feelings of self-worth. Christian religious doctrine places a heavy emphasis on individual worth and the belief that God loves all mankind. Consequently, it is hypothesized in Figure 1 that as subjective religiosity (η_1) intensifies, elderly Blacks will report having greater feelings of self-worth (η_7).

A theoretical rationale as well as empirical support for the link between subjective religiosity and personal control may be found in the work of Krause and Tran (1989). These researchers argue that religious beliefs provide reassurance that the problematic aspects of life can be overcome and that God intervenes to insure that problems will be resolved. Individuals with strong religious convictions may be more likely to believe that, with the help of God, difficult life stressors and their sequelae can be controlled and overcome. Consequently, it is predicted in Figure 1 that as feelings of subjective religiosity (η_3) become stronger, elderly Blacks will report that they have greater feelings of personal control (η_6).

Evidence from a considerable number of studies suggests that social support tends to reduce psychological distress among older adults (George, 1989). However, it is less clear exactly how this effect takes place. One potentially important mechanism is specified in the model depicted in Figure 1. According to this conceptual scheme, support (η_5) affects well-being by bolstering feelings of self-worth (η_7) and personal control (η_6) (see Krause, 1990, for a detailed discussion of the theoretical rationale for these linkages). One of the contributions of the present study arises from the fact that the same intervening variables are used to explain the impact of both religiosity and social support on psychological well-being. Therefore, the use of this model makes it possible to merge two previously unrelated bodies of research within the same conceptual framework.

PSYCHOLOGICAL DISTRESS

As shown in Figure 1, psychological distress is assessed with a latent construct that represents depressed affect symptoms (η_8). According to the conceptual model, depressive symptoms (η_8) are thought to be influenced by physical health problems (η_1), family deaths (η_2), religiosity (η_3 and η_4), received emotional support (η_5), personal control (η_6), and self-esteem (η_7).

There is considerable controversy over the relationship between physical health problems and psychological distress (see Lurie, 1987, for a review of this research). Although researchers consistently find a relationship between these two constructs, the direction of causality between physical and mental health is by no means clear. No attempt will be made to resolve this issue here. Instead, based on research reviewed by Felton (1990) and others, it is hypothesized in Figure 1 that older Blacks with physical health problems (η_1) are more likely to experience psychological distress (η_8) than are elderly Blacks who have fewer physical health limitations.

Research reviewed by Stroebe and Stroebe (1983) indicates that levels of psychological distress tend to be elevated among individuals who have lost a loved one. Consistent with this literature, it is hypothesized in Figure 1 that elderly Blacks who have lost a family member (η_2) will report experiencing more symptoms of depression (η_8) than will older Blacks who have not experienced the death of a family member.

According to the conceptual model used in this study, religiosity is thought to affect psychological distress primarily by increasing social support and by bolstering feelings of self-worth and personal control. It is likely, however, that religion may affect well-being in ways that are not specified explicitly in this conceptual framework (e.g., through formal pastoral counseling). The effects of these unmeasured variables should be manifest in the direct effects of religiosity on well-being. As a result, it is predicted in Figure 1 that as the level of religious commitment (η_3 and η_4) increases, depressive symptoms scores (η_8) will tend to decline among older Blacks.

Researchers have identified a number of ways that social support may affect psychological well-being that are not included specifically

in Figure 1 (e.g., strong social support systems may foster a sense of meaning, purpose, and identity in life; Thoits, 1985). Consistent with the reasoning presented above, the influence of these unmeasured constructs should be reflected in the direct effects of support on well-being. Consequently, it is hypothesized that as the amount of received emotional support (η_5) increases, older Blacks will report experiencing less psychological distress (η_8).

Finally, there is a growing body of evidence that suggests that older adults with diminished feelings of self-worth and personal control tend to report more symptoms of psychological distress than do elderly people who have more positive self-evaluations (e.g., Krause, 1987). Based on these findings, it is anticipated that as feelings of personal control (η_6) and self-esteem (η_7) decline, depressive symptoms scores (η_8) among older Blacks will increase.

Methods

SAMPLE

The data for this study come from the Americans' Changing Lives Survey that was conducted by the University of Michigan's Survey Research Center. This multistage, stratified area, probability sample was conducted during 1986. A total of 3,617 respondents residing in the continental United States were interviewed successfully, including an oversample of Blacks ($N = 1,174$) and persons 60 years of age and older ($N = 1,669$). The overall response rate for this survey was 67%. The interviews lasted an average of 86 minutes.

The analyses that are presented below are based on the responses of all the Black study participants who were 60 years of age and older at the time of the interview. Due to item nonresponse, complete data are available from 448 of the original 499 individuals in this group (89.8%). The average age of the respondents in this group is 70.1 years ($SD = 7.4$ years). Approximately 37% of these individuals are men. The average level of education among these elderly Black participants is 8.6 years ($SD = 3.9$ years).

Measures

Table 1 contains a listing of the survey items that were used to assess the constructs depicted in Figure 1. The standardized factor loadings as well as the measurement error estimates that were derived with the LISREL 7 statistical software program are presented next to each item. These estimates provide some preliminary information on the psychometric properties of these indicators.

Although there are no established guidelines in the literature, researchers tend to agree that items with factor loadings that exceed .400 tend to have acceptable psychometric properties (see for example, Liang, 1986). The data in Table 1 reveal that the factor loadings range from .354 to .843. Only the third-listed depressed affect item fails to exceed the recommended value. Although the reasons for this finding are not clear, when the factor loadings in Table 1 are taken as a whole, the data suggest that the measures used in this study tend to have acceptable psychometric properties.

Family deaths. The death of a family member is assessed with a single binary item that contrasts respondents who have experienced the death of a spouse or child with study participants who did not lose an immediate family member. All deaths that occurred within 3 years prior to the interview were taken into consideration when this measure was developed. Preliminary data analysis revealed that 8.6% of the study participants reported that they had lost a family member during this time.

The decision to focus solely on deaths among immediate family members is based on research by Murrell and Himmelfarb (1989). These investigators propose an attachment bonding hypothesis that states that the loss of immediate family members may be especially detrimental because relationships with immediate family members tend to be more intense than relationships with more distant social network members (see also Antonucci & Akiyama, 1987). Findings from their longitudinal study of older adults suggest that loss of a spouse, parent, or child had a greater impact on depressive symptoms than the death of siblings, grandchildren, or good friends.

Table 1
Study Measures

Variables	Item descriptions	Factor loadings ^a	Measurement errors ^b	
η_1	Physical health problems ^c			
	1. In general, how satisfied are you with your health?	.774 ^d	.401	
	2. How would you rate your health at the present time?	.843	.289	
η_2	Family deaths ^c	3. How much are your daily activities limited in any way by your health?	.648	.580
		1. Spouse or child died 3 years prior to the interview.	1.000	.000 ^f
η_3	Subjective religiosity ^e	1. In general, how important are religious or spiritual beliefs in your day-to-day life?	.707	.501
		2. How often do you watch or listen to religious programs on TV or radio or listen to religious tapes?	.551	.696
		3. When you have problems or difficulties in your work, family, or personal life, how often do you seek spiritual comfort and support?	.614	.623
η_4	Church attendance ^h	1. How often do you usually attend religious services?	1.000	.000 ^f
η_5	Received emotional support ⁱ	1. On the whole, how much do your friends and other relatives make you feel loved and cared for?	.704	.504
		2. How much are these friends and relatives willing to listen when you need to talk about your worries and problems?	.808	.347
η_6	Personal control	1. Have you usually felt that your life would work out the way you wanted it to, or have there been times when you haven't been sure about it?	.476	.774
		2. When you do make plans ahead, do you usually get to carry out things the way you expected, or do things usually come up to change your plans?	.765	.414
η_7	Self-esteem	1. At times I feel that I'm no good at all.	.681	.536
		2. All in all I am inclined to think that I am a failure.	.699	.511
η_8	Depressed affect	1. I felt depressed.	.692	.522
		2. I felt sad.	.716	.488
		3. Depressed for period of 1 week or more in past 12 months.	.354	.875

Table 1 Continued

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- a. Standardized factor loading.
 - b. Measurement error terms are taken from the standardized solution.
 - c. A high score denotes greater perceived health problem.
 - d. The first factor loading in each construct was constrained to 1.0 in the metric solution.
 - e. This item was scored in the following manner (coding in parentheses): a spouse or child died within the past 3 years (1); a spouse or child did not die during this time (0).
 - f. Measurement error terms fixed at 0.0.
 - g. A high score denotes greater religious involvement.
 - h. A high score indicates more frequent church attendance.
 - i. A high score stands for more emotional support.
 - j. A high score indicates greater perceived control.
 - k. A high score denotes more positive feelings of self-worth.
 - l. A high score represents greater psychological distress.

Physical health problems. Physical health problems were measured with three items that ask respondents whether they are satisfied with their health, how they would rate their health, and whether their daily activities are limited by their health problems (see Table 1). These indicators are coded so that a high score denotes more physical health problems.

Religiosity. As discussed above, religiosity is assessed with two latent constructs that represent religious attendance and subjective religious commitment. Religious attendance is measured with a single indicator that reflects how often study participants go to religious services. Subjective religiosity is assessed with three items that determine the importance of religion in daily life as well as the frequency of certain private religious practices, such as listening to religious tapes (see Table 1). A high score on either latent construct denotes greater religious involvement.

Received emotional support. When the data for this study were gathered, items were included in the questionnaire to assess support that was provided by four sources: support from one's spouse, parents, children, and others (i.e., other relatives and friends). The analyses presented below focus only on support provided by the last source (i.e., support provided by "others"). A high score on this latent construct indicates more emotional support.

There were two reasons for restricting the analyses to support provided by others only. First, because one stress measure involves

the death of a spouse or child, it does not make sense conceptually to then include measures of support provided by these sources in the model. In addition, a large number of study participants were not married and an even greater number did not have parents who were still alive. To include measures of support from all of the sources listed above, the analyses would have to be restricted to only those respondents who gave legitimate answers (i.e., who did not have missing values) to the items assessing support from a spouse, parent, or children. The resulting sample size would be so small that it would be impossible to estimate the model developed for this study.

Personal control. Feelings of personal control were assessed with two observable indicators that were taken from a previous nationwide survey (Jackson & Gurin, 1987). A high score on these items indicates greater control.

Self-esteem. As shown in Table 1, feelings of self-worth were also assessed with two survey items. These indicators were taken from the Self-Esteem Scale developed by Rosenberg (1965). A high score on these items denotes a greater sense of self-worth.

Depressed affect. Symptoms associated with a depressed affect were measured with three items. Two of these indicators came from the Center for Epidemiologic Studies Depression (CES-D) scale (Radloff, 1977). The third item was developed especially for this survey and attempts to gauge the duration of depressive affect symptoms (see Weissman, Myers, & Ross, 1986, for a discussion of this issue). A high score on this latent construct indicates greater psychological distress.

Demographic control measures. As discussed above, the model depicted in Figure 1 was estimated after the effects of age, sex, and education had been controlled statistically. Age is coded as a continuous measure, sex is represented by a binary item (2 = females; 1 = males), and education is scored in a continuous format reflecting the total number of years of formal schooling.

Results

GOODNESS-OF-FIT INFORMATION

Before examining the substantive findings from this study it is important to first get a sense of how well the conceptual model fits the data. Estimates derived from selected goodness-of-fit indices (GFI) are presented in the first footnote in Table 2.

Taken as a whole, the information provided in Table 2 suggests that the model provides an adequate fit to the data. For example, the adjusted goodness-of-fit index (AGFI) estimate is .908 (see Jöreskog & Sörbom, 1988, for a detailed discussion of this index). Although a minimum cutpoint score has not been established for this measure, experience suggests that values in excess of .900 are generally acceptable. Similarly, the estimate provided by Bollen's (1989) nonnormed fit index (.929) appears to be reasonably close to the ideal value of 1.0. Although Bentler and Bonnet's (1980) normed fit index estimate of .869 fails to attain the recommended minimum value of .900, this difference does not appear to be substantial, especially when this coefficient is viewed in conjunction with the remaining goodness-of-fit measures.

SUBSTANTIVE FINDINGS

The model presented in Figure 1 is quite complex. As a result, the substantive findings are presented in three sections. First, the relationships among stress, religiosity, and emotional support are reviewed. Next, the impact of these factors on personal control and self-esteem are examined. Finally, the influence of all of the constructs shown in Figure 1 on depressive symptoms are presented.

Stress, religiosity, and emotional support. The analyses presented in this section are concerned with the responses made by older Blacks to physical health problems and to the death of a family member. Two options are considered in Figure 1: Elderly Blacks can either turn to religion or attempt to mobilize their informal social support networks.

Table 2
Family Deaths, Religiosity, and Psychological Distress (N = 448)^a

Independent variables	Dependent variables							
	Health problems	Family deaths	Subjective religiosity	Church attendance	Emotional support	Personal control	Self-esteem	Depressed affect
Age	.008 ^b (.001) ^c	.094 (.004)	.095 (.004)	-.020 (-.004)	.008 (.001)	.198* (.006)	.039 (.004)	.023 (.001)
Education	-.191*** (-.040)	-.056 (-.040)	-.240*** (-.019)	-.023 (-.009)	.133* (.022)	.035 (.002)	.278*** (.048)	-.005 (-.001)
Sex	.141** (.241)	-.002 (-.001)	.339*** (.223)	.052 (.167)	.010 (.014)	.043 (.021)	-.245*** (-.342)	.055 (.048)
Health problems			-.094 (-.036)	-.167* (-.311)	-.110 (-.088)	-.272*** (-.078)	-.321*** (-.261)	.134 (.068)
Family deaths			-.022 (-.025)	.071 (.389)	.090 (.212)	-.005 (-.004)	-.025 (-.061)	.170* (.257)
Subjective religiosity					.312** (.648)	-.095 (-.071)	.260* (.552)	.001 (.001)
Religious attendance					-.063 (-.027)	.148 (.023)	-.138 (-.060)	.009 (.002)

Emotional support	.208** (.075)	.094 (.096)	.019 (.012)
Personal control			-.346*** (-.616)
Self-esteem			-.350*** (-.220)

a. The fit of the model to the data is as follows: $\chi^2 = 245.98$ with 120 degrees of freedom; GFI = .947; AGFI = .908; Bentler-Bonnet $\Delta = .869$; Bollen nonnormed = .929.

b. standardized regression coefficient.

c. metric (unstandardized) regression coefficient.
* $p < .05$; ** $p < .01$; *** $p < .001$.

The data in Table 2 indicate that family deaths are not related to religiosity. More specifically, the findings reveal that family deaths do not exert a statistically significant effect on either subjective religiosity (beta = $-.022$; not significant) or religious attendance (beta = $.071$; not significant).¹

Further analyses (not shown here) were performed to determine whether reconceptualization of the measure of family deaths might provide more insight into the relationship between bereavement and religiosity. More specifically, alternative time frames were taken into consideration (e.g., deaths that occurred only within the year prior to the interview). In addition, deaths among nonfamily members were included in the analyses. Regardless of how deaths were operationalized, significant findings failed to emerge from the data.

In contrast to the findings involving family deaths, the data provide partial support for the hypothesized relationship between physical health problems and religiosity. Consistent with the observations of Levin and Vanderpool (1987), the results reveal that older Blacks with physical health problems tend to have lower rates of religious attendance than do elderly Blacks who enjoy better health (beta = $-.167$; $p < .01$). However, the findings further indicate that physical health problems are not significantly related to subjective religiosity (beta = $-.094$; not significant).

Returning to Table 2, the findings further reveal that neither physical health problems nor family deaths are associated with increased emotional support. More specifically, the data suggest that older Blacks who have experienced the death of a family member in the past 3 years do not receive more emotional support than do elderly Blacks who did not lose a family member during this time (beta = $.090$; not significant). Similarly, the findings reveal that older Blacks who suffer from physical health problems are not more likely to receive emotional assistance from others than are elderly Blacks who are in good health (beta = $-.110$; not significant).

Although stress does not appear to be related to emotional support, the data provide partial support for the hypothesis that religiosity is related to informal assistance from others. Although religious attendance fails to exert a statistically significant effect on received emotional support (beta = $-.063$; not significant), the findings reveal that

as the level of subjective religious involvement increases, older Blacks tend to report that they receive more emotional support from their informal social network members ($\beta = .312$; $p < .01$).

The findings in this section suggest that the loss of a family member as well as physical health problems appear to have little effect on patterns of help-seeking among older Blacks. However, it may still be inaccurate to conclude that older Blacks do not rely on religion during stressful times. Instead, an equally plausible interpretation is that religious commitment is fairly stable in the lives of elderly Blacks and that it is a resource that is used during stressful times as well as during relatively tranquil times (see Krause & Tran, 1989, for a detailed discussion of this issue).

Personal control and self-esteem. According to the theoretical rationale provided earlier, feelings of personal control and self-esteem may be important intervening mechanisms that link religiosity and social support with psychological well-being. The first step in assessing this theoretical sequence is to determine whether self-esteem and personal control are influenced by informal support and religiosity. Taken as a whole, the findings contained in Table 2 provide at least a partial support for this theoretical rationale.

The data in Table 2 indicate that religiosity may be related to self-esteem, but not to personal control. In particular, the data suggest that as levels of subjective religious involvement become stronger, older Blacks tend to report greater feelings of self-worth ($\beta = .260$; $p < .05$). Although subjective religiosity may be related to self-esteem, it does not appear to exert a significant impact on personal control ($\beta = -.095$; not significant). Moreover, the data in Table 2 reveal that religious attendance is not associated with either personal control ($\beta = .148$; not significant) or feelings of self-worth ($\beta = -.138$; not significant).

Consistent with the theoretical framework discussed by Krause (1990) and others, the findings in Table 2 reveal that informal emotional support can affect self-evaluations among older Blacks as well. More specifically, the findings indicate that as the amount of emotional support received by elderly Blacks increases, they tend to report having greater control over the events in their lives ($\beta = .208$; $p < .01$).

However, informal emotional support does not appear to be related to feelings of self-worth ($\beta = .094$; not significant).

Earlier, it was hypothesized that stress may tend to erode feelings of control and self-worth. The data in Table 2 reveal that this may be true for physical health problems, but not for family deaths. The findings suggest that as health problems become worse, older Blacks report having less favorable self-evaluations ($\beta = -.321$; $p < .001$) and that they feel as though they can exert less control over the course of events in their lives ($\beta = -.272$; $p < .001$). However, the results further indicate that family deaths fail to exert a significant effect on either personal control ($\beta = -.005$; not significant) or self-esteem ($\beta = -.025$; not significant).

Taken as a whole, the findings presented in this section suggest that although certain types of stressors (i.e., health problems) tend to erode feelings of control and self-worth, these deleterious effects may be offset by the positive effects of subjective religiosity and informal emotional support. These findings are consistent with the counterbalancing model proposed by Wheaton (1985), which predicts that the negative impact of stress is equalized or neutralized by the beneficial effect of key coping resources.

Depressive symptoms. One of the goals of this study is to assess whether depressive symptoms are affected by stress, religiosity, emotional support, feelings of personal control, and self-esteem. The data in Table 2 provide support for a number of these relationships. To begin with, the findings reveal that, as predicted, older Blacks who have lost a family member tend to report more depressive symptoms than do elderly Blacks who have not experienced the death of a family member in the past 3 years ($\beta = .170$; $p < .05$).

At first glance, the data in Table 2 would appear to suggest that physical health problems are not related to depressive symptoms ($\beta = .134$; not significant). However, one of the advantages of structural equation modeling is that it is possible to compute the indirect as well as direct effects among the constructs in a model.

Recent developments in the LISREL 7 statistical software program make it possible to estimate indirect and total effects explicitly and to compute standard errors for these estimates as well (see Jöreskog &

Sörbom, 1988, for a detailed discussion of these procedures). In the discussion that follows, it is assumed by convention that an unstandardized indirect or total effect is statistically significant if it is at least twice as large as its standard error.

Further analyses (not shown in Table 2) reveal that the indirect effects of physical health problems that operate through the other variables in the model (e.g., personal control) are quite substantial (beta = .222; $p < .05$). When these indirect effects are coupled with the direct effects show in Table 2 (beta = .134), the resulting total effect of physical problems on depressive symptoms is quite strong (beta = .356; $p < .05$).

Returning to Table 2, the hypotheses regarding the impact of personal control and self-esteem on depressive symptoms also appear to be supported by the data. More specifically, the findings indicate that as feelings of personal control increase, older Blacks tend to experience fewer depressive affect symptoms (beta = $-.350$; $p < .001$). Similarly, elderly Blacks with a greater sense of self-worth tend to have lower depressed affect scores (beta = $-.346$; $p < .001$).

The data in Table 2 would appear to suggest that neither emotional support nor subjective religiosity are related to depressive symptoms among older Blacks. In particular, the findings indicate that received emotional support fails to exert a statistically significant effect on depressed affect scores (beta = .019; not significant). Moreover, the data reveal that subjective religiosity is not significantly related to depressive symptoms among older Blacks (beta = .001; not significant).

Once again, an examination of the indirect effects provides greater insight into the relationships among these constructs. Further analyses (not shown in Table 2) reveal that the indirect effects of emotional support on depressive symptoms that operate through personal control and self-esteem are statistically significant (beta = $-.105$; $p < .05$).

The analyses further reveal that the overall indirect effects of subjective religiosity on depressed affect scores are not statistically significant. Although this may appear to suggest that subjective religiosity is not related to well-being among older Blacks, careful consideration must be given to how these estimates are computed. The indirect effects of subjective religiosity that are presented above are aggregate estimates that represent the effects of subjective religiosity

on depressive symptoms that operate through every possible path in the model. However, the findings reviewed above suggest that some of these paths are not statistically significant (i.e., subjective religiosity exerts a significant effect on self-esteem but not on personal control). Combining the indirect effects of subjective religiosity that operate through both of these constructs can only serve to weaken or dilute the overall indirect effect. Instead, a more meaningful series of analyses would involve focusing on only those pathways in the model that are composed of relationships that are statistically significant. Within the context of the present example, this would involve focusing solely on the indirect effect of subjective religiosity that operates through self-esteem alone. This more focused approach is known in the literature as the specific indirect effect (Bollen, 1989).

Bollen (1989) provides a complex set of procedures for computing tests of statistical significance for specific indirect effects. Unfortunately, it was not possible to satisfy a technical prerequisite for using these procedures. As a result, specific indirect effects can be computed, but tests of statistical significance for these parameter estimates cannot be derived. Nevertheless, it appears that there may be important specific indirect effects of subjective religiosity on psychological distress that operate through self-esteem. More specifically, the impact of subjective religiosity on self-esteem ($\beta = .260$) and the subsequent effects of self-worth on depressed affect scores ($\beta = -.350$) seem to be fairly substantial (the standardized specific indirect effect = $-.091$). Consequently, within the constraints imposed by the data, it is tentatively concluded that subjective religiosity affects psychological well-being among elderly Blacks primarily by bolstering feelings of self-worth.

Finally, the analyses fail to uncover a significant effect of religious attendance on depressive symptoms. More specifically, the data suggest that neither the direct ($\beta = .009$; not significant) nor the indirect effects ($\beta = -.007$; not significant) of religious attendance on depressed affect scores is significant at the .05 level.

Taken as a whole, the findings reviewed in this section suggest that both religiosity and emotional support tend to affect psychological well-being among older Blacks. However, the effects of these resources operate indirectly through feelings of personal control and

self-worth. These results tend to support the conceptual model that was developed by Krause and Tran (1989) in the study of religiosity among older Blacks.

Conclusions

The central role of the church in the Black community coupled with high levels of religious commitment among older Blacks suggests that religiosity may be an important coping resource for members of this minority group. The findings from this study tend to support this view. In particular, three specific findings emerged from this nationwide study of the Black elderly. First, religiosity appears to be an important coping resource in its own right because the findings suggest that religious commitment affects psychological well-being independently of the effects of social support. In addition, by documenting the indirect effects of religiosity on depressive symptoms that operate through self-esteem, it is possible to begin to gain some insight into how the potentially beneficial effects of religiosity arise. Finally, consistent with the work of Krause and Tran (1989), the findings suggest that older Blacks do not increase their level of religious involvement when stressors arise (i.e., religion is not stress responsive). Instead, the effects of what are presumably ongoing and stable religious commitment appear to offset or counterbalance the negative impact of bereavement on depressive symptoms. This means, for example, that although health problems may have a deleterious impact on self-esteem, these negative effects are offset by the positive effects of subjective religiosity on feelings of self-worth.

There are at least four limitations that should be kept in mind when the findings from this study are reviewed: (a) the data are cross-sectional; (b) only two types of stressful events were examined in the model; (c) there are some shortcomings in the measurement of social support; and (d) other dimensions of religious involvement were not included in the conceptual model. These limitations are discussed briefly below.

The temporal ordering among the constructs shown in Figure 1 was based solely on theoretical considerations. For example, the model

predicts that social support can influence depressive symptoms. However, one might just as easily argue that older Blacks who are initially suffering from depressive symptoms may subsequently receive less emotional support from their significant others because their psychological problems tend to interfere with their ability to maintain supportive social relationships. Clearly, longitudinal data are needed to evaluate this as well as other causal assumptions that are embedded in the model depicted in Figure 1.

The conceptual model that was developed for this study focuses solely on physical health problems and deaths of immediate family members. Consequently, the findings pertaining to the interface between these stressors and religiosity cannot be generalized to all types of stressful events. Although it may have been advantageous to include other types of stressors in the model, this strategy was not pursued in the present study because the model is already quite complex. Adding additional constructs would create a model that would be unwieldy and difficult to estimate or discuss. Nevertheless, it should be emphasized that further development of the model that was presented in this study requires that other types of stressful experiences be examined in conjunction with social support and religiosity.

The measure of received emotional support that was used in this study is restricted to assistance provided by more distant relatives and friends. The findings revealed that subjective religiosity was related to this measure of support. It was assumed that this relationship was due in part to the possibility that older Blacks may be receiving support from their fellow church members. However, a measure of support provided by church members was not available in this study. To provide a more direct test of this hypothesis, future studies should include measures that assess assistance that is provided specifically by fellow church members.

Finally, religion was defined solely in terms of religious attendance and subjective religious commitment. However, a number of other dimensions of religiosity were not assessed in this study. For example, the substantive content of specific religious beliefs (i.e., specific religious tenets or teachings) were not assessed even though there is some evidence that these doctrines may affect psychological well-being (see for example Koenig, Smiley, & Gonzales, 1988). The model

should be expanded to examine the role played by other dimensions of religion in the stress process.

Although, clearly, these are limitations in the analyses presented above, the present study attempts to add to the literature on stress and coping by continuing to call attention to the potentially important stress-mediating functions of religiosity. It has been suggested at several points in this study that religiosity may be an especially important coping resource for older Blacks. However, there do not appear to be any studies in the literature that explicitly examine the differential effectiveness of religiosity among older Whites and Blacks. Further research on race differences in the stress-mediating functions of religion appears to be a potentially fruitful topic. Should religiosity emerge as an especially effective coping resource among older Blacks, then researchers may be able to begin to understand the remarkable resilience of elderly Blacks in later life.

NOTE

1. One reason for the disappointing findings involving religious attendance may be attributed to the way that this construct is measured with only one observed indicator. It is generally preferable to use multiple observed variables to measure constructs in latent variable models. A second indicator reflecting involvement in volunteer work at church was available in the data. Unfortunately, problems were encountered with multicollinearity when these two indicators were used as measures of formal religious involvement. For example, the impact of this formal religiosity measure on personal control was large ($\beta = .360$), but not statistically significant. Similar problems arose elsewhere in the model. Large coefficients coupled with large standard errors are classic signs of multicollinearity.

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