Depressive Symptoms Among African American and White Older Adults

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Guided by a stress and coping model, we explored determinants of depressive symptoms among community samples of older African Americans (n = 255) and older Whites (n = 452). We gave focus to the effects of demographic variables, physical health constraints (chronic conditions and functional disability), and psychosocial attributes (sense of mastery, religiosity, social support, and satisfaction with support), along with their interactive roles. We identified lower education, greater functional disability, lower sense of mastery, and poorer satisfaction with support as common risk factors for depressive symptoms in both groups; in contrast, the effects of age, gender, and religiosity were race specific. In addition, we obtained significant interactions among predictor variables in each group, identifying risk-reducing and risk-enhancing factors within each group.

The present study is guided by a basic stress and coping model that we modified to incorporate factors sensitive to cultural differences. Following Lazarus and Folkman (1984, p. 19), we defined stress as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering well-being.” Fundamental to this definition is the inclusion of not only of stressors but also individuals’ subjective interpretation of and reaction to potential stressors. Also of relevance to this definition is the idea that the stressfulness of a stimulus is determined by individuals’ personal resources (Haley & Jang, 2002). In the process of stress and coping, racial groups may show differences in the exposure to stressors, the level of personal resources, and the manifestations of outcomes of stress.

In studies of older populations, it is generally recognized that certain demographic characteristics (e.g., being of advanced age, female gender, unmarried status, and low socioeconomic status) increase vulnerability to depressive symptoms across all racial or ethnic groups (Cummings et al., 2003; Turnbull & Mui, 1995). Declines in physical health are also recognized as one of the most common concerns and sources of stress among older populations (Blazer, Moody-Ayers, Craft-Morgan, & Burchett, 2002; Bruce, 1999). In the present study we conceptualized physical health constraints, indicated by chronic conditions and functional disability, as a major stressor in later years.

A growing body of literature demonstrates that individuals with positive coping resources are likely to fare well when faced with stressful life conditions (Haley & Jang, 2002). Among coping resources, the sense of mastery or a feeling of control over one’s life and environment has received particular attention (e.g., Pearlin & Schooler, 1978). An impressive body of literature has demonstrated the beneficial role of sense of mastery, and there is consensus that sense of mastery is an indicator of psychological resilience that can facilitate adaptation to changes, overcome negative consequences, and promote physical and emotional well-being (Jang, Haley, Small, & Mortimer, 2002; Roberts, Dunkle, & Haug, 1994; Zarit, Pearlin, & Schaie, 2003). Two other coping resources, which are of special relevance when studying African American
groups, are religiosity (Koenig, McCullough, & Larson, 2001; Levin, Chatters, & Taylor, 1995) and social support (Dilworth-Anderson, & Burton, 1999; George, 1996). Both types of resources are known to be associated with more positive emotional states and with more successful efforts to cope with stress (George; Koenig et al.). However, few researchers have considered whether the aforementioned psychosocial coping resources function in the same way and to the same extent in African Americans and Whites. Given that African American culture places a strong emphasis on religious engagement (Cummings et al., 2003; Jang, Graves, Haley, Small, & Mortimer, 2003; Musicik, Koenig, Hays, & Cohen, 1998), the benefits from religiosity among older African Americans may be particularly salient.

As a way of exploring within-group variability, we were also interested in assessing the interactions between the major stressor being considered (physical health constraints) and coping resources (psychosocial attributes) in determining depressive symptoms. A sizable body of literature has demonstrated that the effect of health problems on mental well-being varies by the level of psychosocial resources. Negative consequences of diseases and disability have shown to be buffered by a sense of mastery (Jang et al., 2002; Kempen et al., 1999; Roberts et al., 1994), religiosity (Koenig et al., 2001; Levin et al., 1995), and social support (Hays, Steffens, Flint, Bosworth, & George, 2001; Penninx et al., 1997). Because age and gender may condition the effects of health constraints and psychosocial attributes (e.g., Keyes, 2004), we also took into consideration by age and gender into consideration in our predictive models of depressive symptoms.

Taken together, our purpose in the present study was to explore determinants of depressive symptoms in African American and White older adults, conceptualizing physical health constraints (chronic conditions and functional disability) as a major stressor and psychosocial attributes (sense of mastery, religiosity, social support, and satisfaction with support) as coping resources. We examined racial differences and within-group variability by testing direct and moderating effects. An assessment of the unique characteristics of racial groups and individual variability within each group can help identify race-specific risk or protective factors for depressive symptoms and risk-reducing and risk-enhancing factors within each group.

METHODS

Participants

We selected the individuals for the present analysis from two methodologically standardized studies of African American and White older adults. The African American sample came from the Hillsborough Elder African American Life Study (HEALS) and the White sample from the Charlotte County Healthy Aging Study (CCHAS). For the HEALS and the CCHAS, individuals were recruited from randomly selected blocks of two U.S. census tracts each in Hillsborough and Charlotte County, Florida. The samples included community-dwelling individuals between the ages of 60 and 84 years. More detailed information on the studies and sampling procedures can be found in elsewhere (Jang et al., 2003; Small et al., 2000; Webb, 2001).

Among the 424 HEALS and 808 CCHAS individuals with whom contact could be established, 255 (60.1%) HEALS subjects and 466 (57.7%) CCHAS subjects agreed to participate in the interviews. We excluded individuals whose race was identified as non-White in the CCHAS and those who had missing information in more than 10% of the variables, leaving 255 for analysis in the African American sample and 452 in the White sample.

Measures

Outcome variable (depressive symptoms).—The Geriatric Depression Scale—Short Form (GDS-SF; Sheikh & Yesavage, 1986) was used to assess depressive symptoms. Using a yes–no format, respondents rated 15 items (e.g., “Do you feel your life is empty?” and “Are you in good spirits mostly?”). Scores on the GDS-SF ranged from 0 (no depressive symptoms) to 15 (severe depressive symptoms). A score of 5 and above is suggested as indicative of a probable depression (Sheikh & Yesavage). Cronbach’s alpha for the scale was acceptable to satisfactory ($\alpha = 0.60$ for the African American sample; $\alpha = 0.77$ for the White sample).

Major stressor (physical health constraints).—Chronic conditions were measured with a checklist that asked respondents whether a doctor had ever told them that they had specific diseases or conditions such as heart disease, high blood pressure, diabetes, stroke, cancer, and arthritis. We used a total count of diseases and conditions in the analyses.

Functional disability was measured with 17 items drawn from the Activities of Daily Living list (Katz, 1983), the Instrumental Activities of Daily Living list (Lawton & Brody, 1969), the Physical Performance Scale (Nagi, 1976), and the Functional Health Scale (Rosow & Breslau, 1966). Respondents were asked whether they had difficulty in performing each of the activities on the list. The potential range of total scores was 0 (no difficulty on any item) to 17 (difficulty on all items). Cronbach’s alpha for the scale was high ($\alpha = 0.85$ for the African American sample; $\alpha = 0.84$ for the White sample).

Coping resources (psychosocial attributes).—Sense of mastery was measured with the Pearlin and Schooler Mastery Scale (1978). The seven items included statements such as “I cannot solve my problems” and “My future mostly depends on me,” and we scored each on a 4-point scale. Scores on the mastery scale range from 7 (low mastery) to 28 (high mastery). Cronbach’s alpha for this scale was acceptable to satisfactory ($\alpha = 0.67$ for the African American sample; $\alpha = 0.78$ for the White sample).

Religiosity was measured with four items that covered service attendance, religious comfort, importance of religious faith, and frequency of prayer or meditation. Cronbach’s alpha for the scale based on these four items was shown to be satisfactory in both groups ($\alpha = 0.75$ for the African American sample; $\alpha = 0.83$ for the White sample). The properties and utility of the scale were reported in a previous study (Jang et al., 2003).
Social support and satisfaction with support were measured with a composite measure from the work of Krause and Borawski-Clark (1995). Individuals were asked to report how often they received various types of support, including instrumental support (such as help with chores), informational support (such as sharing suggestions and information), and emotional support (such as having others listen and show interest). In addition, respondents were asked to report how satisfied they were with the instrumental, informational, and emotional support they received. Cronbach’s alphas for social support and satisfaction with support were acceptable to high ($\alpha = 0.86$ and $\alpha = 0.61$ for the African American sample; $\alpha = 0.87$ and $\alpha = 0.68$ for the White sample, respectively).

**Demographic variables.**—Demographic information included age (in years), gender (-1 = male, 1 = female), race (-1 = African American, 1 = White), marital status (-1 = not married, 1 = married), and education (in years).

**RESULTS**

**Characteristics of the Participants**

Results of descriptive analyses comparing the two samples are shown in Table 1. The 255 African American older adults and 452 White older adults had comparable gender distributions, but they differed in other demographic characteristics. The African American individuals were significantly younger, less likely to be currently married, and had lower educational attainment than the White individuals.

There were no differences in the number of chronic health conditions reported, but the White participants reported greater levels of functional disability. African American older adults scored lower in their sense of mastery, but their scores on religiosity, social support, and satisfaction with support were consistently higher than those of Whites. Results based on the GDS-SF indicated that African Americans reported more symptoms than Whites, and the difference remained significant after we controlled for age, gender, and marital status [$F(4, 695) = 10.6, p < .001$]. In contrast, when using the recommended cutoff point of 5 (Sheikh & Yesavage, 1986), we found that the two groups were relatively equal; approximately 10% of the African American sample and 9% of the White sample fell into the category of probable depression.

<table>
<thead>
<tr>
<th>Variable</th>
<th>African Americans</th>
<th>Whites</th>
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<tbody>
<tr>
<td></td>
<td>($N = 255$)</td>
<td>($N = 452$)</td>
</tr>
<tr>
<td>Age</td>
<td>71.6 (6.94)</td>
<td>73.0 (6.22)</td>
</tr>
<tr>
<td>Gender (female)</td>
<td>56.1</td>
<td>49.8</td>
</tr>
<tr>
<td>Marital status (married)</td>
<td>52.5</td>
<td>77.9</td>
</tr>
<tr>
<td>Education</td>
<td>9.73 (2.96)</td>
<td>13.9 (2.99)</td>
</tr>
<tr>
<td>Chronic conditions</td>
<td>1.73 (1.33)</td>
<td>1.68 (1.17)</td>
</tr>
<tr>
<td>Functional disability</td>
<td>0.87 (1.98)</td>
<td>1.48 (2.41)</td>
</tr>
<tr>
<td>Sense of mastery</td>
<td>19.6 (2.24)</td>
<td>21.7 (3.34)</td>
</tr>
<tr>
<td>Religiosity</td>
<td>16.7 (1.93)</td>
<td>13.2 (4.37)</td>
</tr>
<tr>
<td>Social support</td>
<td>26.0 (4.82)</td>
<td>24.8 (7.90)</td>
</tr>
<tr>
<td>Depressive symptoms</td>
<td>2.24 (1.94)</td>
<td>1.85 (2.27)</td>
</tr>
<tr>
<td>*p &lt; .05; **p &lt; .01; **<em>p &lt; .001</em></td>
<td>2.28*</td>
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**Assessment of the Cross-Racial Comparability of the GDS-SF**

One question of concern in research across racial or ethnic groups has to do with whether various groups respond to a standard instrument in the same way. To assess the comparability of the GDS-SF between African American and White participants, we ran separate principal component factor analyses of the GDS-SF with varimax rotation. Each of the two analyses yielded a four-factor solution, explaining 53.3% and 52.6% of the variance respectively. We quantified the comparability of the two factor matrices by calculating congruence coefficients between the rotated factors of each group in the same order (Gorsuch, 1974). Congruence coefficients for the four factors were 0.90, 0.78, 0.99, and 0.96 respectively, with an overall congruence coefficient of 0.91. Given that the values greater than 0.90 conventionally indicate factor invariance (Gorsuch), these results suggest that the GDS-SF is, on the whole, a comparable measure across the African American and White samples.

**Regression Models of Depressive Symptoms in African Americans and Whites**

Table 2 summarizes the results of the hierarchical regression models for depressive symptoms. In a preliminary analysis, we assessed bivariate correlations and variance inflation factor (VIF) statistics to understand the underlying associations among study variables and to detect multicollinearity. For each racial group, we then estimated a separate regression model with the same sets of predictors entered in the following order: (a) demographic variables, (b) major stressors (chronic conditions and functional disability), and (c) coping resources (sense of mastery, religiosity, social support, and satisfaction with support). In addition to the direct effect model, interactions between physical health constraints and psychosocial attributes (eight terms) and modifications by age (six terms) and gender (six terms) were tested as a final step. To maintain a sufficient ratio between the number of subjects and predictor variables entered in the regression model, we entered each interaction term independently. The interaction terms that reached statistical significance are presented in Table 2. In computing interaction terms, we used centered scores to avoid multicollinearity between direct effects and interaction terms.

Both samples of individuals showed a significant increment in the amount of variance explained in each step of the hierarchical regression models. The total amount of variance accounted for by the estimated direct effect model was 43% in the African American sample [$F(10, 233) = 17.1, p < .001$] and 34% in the White sample [$F(10, 364) = 18.5, p < .001$]. The common significant predictors of depressive symptoms across the two groups included lower education, greater functional disability, lower sense of mastery, and poorer satisfaction with support. We found gender and religiosity to be significant predictors only in the African American sample. We obtained a significant association between age and depressive symptoms only in the White sample. The findings imply a particular...
vulnerability to depressive symptoms among female African Americans and Whites of advanced age, and a particular benefit of religiosity among African Americans.

**Modifications Within Each Racial Group**

The test of a moderating effect is designed to evaluate whether the impact of an independent variable on depressive symptoms is altered (e.g., strengthened or weakened) by a third (moderating) condition. In subsequent analyses with 20 possible interaction terms, we obtained statistical significance in the African American sample for Gender, Sense of mastery, Gender × Religiousity, Chronic conditions × Sense of mastery, and Functional disability × Sense of mastery. In the White sample, we found significant interactions for Age × Functional disability and Functional disability × Sense of mastery. For further investigation of the significant interactions, we stratified each sample into subgroups based on the moderating factors, and we compared the correlations between predictive variables and depressive symptoms in the subgroups by using Fisher’s r-to-z transformation, a statistical method to determine the difference between independent correlation coefficients (Steiger, 1980).

Table 3 summarizes analyses with the African American sample. The correlation between sense of mastery and depressive symptoms was stronger in women than in men, and the difference in coefficients was statistically significant. We found a similar pattern for religiosity; the association between religiosity and depressive symptoms in women was greater than it was in men, although these differences were not statistically significant. When we divided the African American sample into low and high groups based on the median score of sense of mastery (20), the low-mastery group presented a strong correlation coefficient of depressive symptoms with chronic conditions and with functional disability. However, the high-mastery group did not show any significant association of depressive symptoms with chronic conditions and functional disability. The differences between the coefficients in the low- and high-mastery groups were statistically significant.

As shown in Table 4, for the White sample, the older group (aged 75 and older) showed a stronger association between functional disability and depressive symptoms than did the younger group, and the difference was statistically significant. The low-mastery group (scores below 22) also showed a stronger coefficient between functional disability and depressive symptoms than did the high-mastery group, and the...
difference in the coefficients between the two groups was statistically significant.

**DISCUSSION**

In the present study we assessed the determinants of mental well-being, using community samples of African American and White older adults. Drawing on a stress and coping model (Lazarus & Folkman, 1984), we conceptualized physical health constraints as a major stressor, a variety of psychosocial attributes as coping resources, and depressive symptoms as an outcome. Our purposes in the present analyses were (a) to identify similarities and differences in the determinants of depressive symptoms across the racial groups and (b) to explore within-group variability by testing direct and moderating effects of demographic variables, physical health constraints, and psychosocial attributes.

From a sociodemographic perspective, the two samples were significantly different in terms of the proportion of individuals who were married and the educational level that the individuals had attained. These differences mirror the underlying sociodemographic differences manifest at state and federal levels, where older African Americans exhibit lower educational attainment and are less likely than Whites to be married (e.g., Ferraro & Farmer, 1996; Williams & Collins, 1995; Williams et al., 1997).

The preliminary investigation addressed the issue of measurement comparability of the GDS-SF. When making comparisons between groups representing potentially different sociocultural backgrounds, we find that it is essential to ensure that a test measures the same underlying construct without cultural biases. This issue is particularly salient when an instrument initially developed among Whites is applied to African Americans or other racial or ethnic groups (Gallo, Cooper-Patrick, & Lesikar, 1998; Neighbors & Jackson, 1996).

A number of studies have applied the GDS to African American samples and verified its psychometric quality (e.g., Espiritu et al., 2001; Harralson et al., 2002). However, the comparability of the GDS response patterns between Whites and African Americans has rarely been considered (Mui, Burnette, & Chen, 2002). In the present study, we empirically addressed the issue by comparing GDS-SF factor structures between the racial groups. The high overall congruence coefficient obtained in the present investigation indicates that the instrument was comparable at least for the two samples being considered. This latter finding established the appropriateness of further comparative analyses.

In subsequent analyses, African American older adults were shown to endorse significantly more depressive symptoms than their White counterparts, and this finding is consistent with studies showing a greater vulnerability to mental health problems among minority elders (e.g., Cochran et al., 1999; Dunlop et al., 2003). In contrast, the two groups were strikingly similar in the majority of factors identified as predictors of depressive symptoms. In both groups, lower education was connected to the higher levels of depressive symptoms, and functional disability was shown to be a significant health-related stressor. Among the variety of coping resources examined, sense of mastery and satisfaction with support reached statistical significance in both groups. These results parallel previous research findings on risk factors (e.g., low socioeconomic status and poor physical health status) and protective factors (e.g., sense of mastery and social resources) for depressive symptoms across diverse populations (Blazer et al., 2002; Cummings et al., 2003; George, 1996; Jang et al., 2002; Roberts et al., 1994; Turnbull & Mui, 1995). Our findings also are consistent with the literature showing the greater significance of functional disability in comparison with chronic conditions (Zeiss, Lewinsohn, Rohde, & Seeley, 1996) and of the perceived quality of support versus the quantity or frequency of support (Dilworth-Anderson & Burton, 1999; George) in determining emotional well-being.

We also identified several group-specific predictors of depressive symptoms. Only among Whites was advanced age a risk factor for depressive symptoms, and among African Americans being female and being less religious represented risk factors. The latter relationship, which can also be described as an association of religiosity with well-being, has been demonstrated in other studies of African American elders (e.g., Cummings et al., 2003; Jang et al., 2003; Musick et al., 1998). The reason for this association has yet to be explicated, but possible mechanisms for the function of religiosity include buffering the adverse effects of life stresses, strengthening cognitive coping abilities, aiding people in finding meaning in the face of adversity, and increasing social connectivity (Koenig et al., 2001; Levin et al., 1995; Musick et al.).

Our findings emphasize the need to evaluate the particular role of religiosity among African Americans. A strong emphasis on religious engagement has often been reported in studies of African Americans and has been viewed as a representation of their cultural identity (Koenig et al., 2001; Levin et al., 1995). Results suggested that religious beliefs may provide African American elders with psychological resilience against adversities. This finding expands on previous research showing that African Americans not only have a greater level of religious engagement but also enjoy a comparatively significant benefit from it. However, the power of faith may have its downside. The present results suggest that African Americans who run counter to the norm by exhibiting low religiosity may be at particular risk, and mental health professionals may not recognize this risk if they lack familiarity with the role of religiosity in the African American community. Moreover, even very religious African Americans may feel stigmatized by mental health problems. Empirical studies have shown that African Americans are more likely to perceive depression as personal weakness (Mills, Alea, & Cheong, 2004) and may use negative religious coping such as redefining a situation as punishment from divine sources or as a weakness in faith (Pargament, Koenig, & Perez, 2000). As a common saying in the African American community goes, “The Lord won’t put more on me than I can bear.” Clearly, the association of the religious experience with mental health and illness among African American elders is complex, and the findings of the present study can do little other than invite further research. The results do suggest that strategies to utilize religious coping in a positive way to promote mental well-being should be sought.

In addition to the direct effect model, we tested interactions among predictive variables to explore within-group variability and identify risk-reducing and risk-enhancing factors in each group. We found the involvement of religiosity and sense of
mastery with depressive symptoms to be more complex among the African American participants. For the latter, the association between mastery and religiosity with mental health was stronger among women than men. These findings suggest that African American women may be particularly likely to respond to interventions designed to strengthen or sustain their sense of mastery and religiosity.

One of the key findings from this study is that, in both samples, a sense of mastery not only directly predicted depressive symptoms but also had significant interactions with functional disability. The finding is consistent with the literature showing the significant roles of sense of mastery in buffering negative consequences of physical health problems and protecting mental health outcomes (e.g., Jang et al., 2002; Kempen et al., 1999; Roberts et al., 1994). Given that most of the previous findings are based on information from White participants, it is notable that in the present study we found the same pattern of modification among African American older adults. We also found the buffering role of sense of mastery for chronic conditions in the African American sample but not in the White sample.

In the White sample, the negative effects of functional disability on mental well-being were shown to be greater among individuals of advanced age. This finding suggests that a combination of older age and having disabilities can markedly reduce mental well-being. It is notable that the interactive role of age and disability was only observed among White older adults. These results can be considered in light of cultural values and beliefs regarding aging. On one hand, among Whites, whose cultural values are oriented on independence and youth, the experiences of growing old and having functional difficulties may be more likely to be perceived as declines or losses and have more debilitating effects on emotional well-being. On the other hand, African Americans, who are reported to have more favorable perspectives on aging and the aged and to be more resilient against adversities in the later years of life (e.g., Gibson, 1993; Johnson, 1995; Williams et al., 1997), have attenuated negative effects with regard to advanced age and mental health. It is also notable that the African Americans included in the present study represent a cohort that survived the era of racial segregation and inequality. The sociohistorical experiences shared by this cohort may have collectively influenced their beliefs and attitudes, and in particular may have provided them an opportunity to develop psychological resilience and strength (Mills & Edwards, 2002).

Because we used geographically defined samples and a cross-sectional study design, we cannot generalize the findings to the national level or draw causal inferences. It should also be noted that the present analysis only included objective indicators of health-related stresses such as the existence of disease and disability, without considering perceived difficulties or stressfulness from those conditions. Given the importance of subjective appraisals in stress and coping models, future studies should address racial variations in appraisals of the stressful life conditions and their consequences in mental health. In addition, by including younger individuals, future studies can address cohort or generational differences in mental health across racial groups. Because the overall reliability coefficients of the multi-item scales were lower among African Americans compared with those among Whites, further research on the issues of psychometric qualities and cross-group equivalence would appear useful. The results may be idiosyncratic to the present study or may reflect a larger phenomenon.

Despite these limitations, the present study was able to address the relevance of stress and coping factors for late life depression from a cross-racial perspective. Our findings on racial differences and within-group variability provide insights to guide prevention or intervention strategies for the mental well-being of populations with diverse backgrounds. For White older adults, psychosocial and educational interventions to alter negative perceptions of aging may be useful to facilitate positive adaptation to the changes and challenges with aging. The particular benefit of religiosity among African American older adults deserves attention and has to be utilized when social services and programs are designed. Utilization of community resources through religious organizations is strongly encouraged in African American communities. The interventions to preserve and promote personal feelings of mastery will be beneficial to older individuals regardless of their racial orientations. The identification and utilization of psychosocial attributes amenable to specific racial groups may increase the cultural competence and effectiveness of social services and programs.

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