Exploring Race Variations in Aging and Personal Control

Benjamin A. Shaw¹ and Neal Krause¹,²

¹School of Public Health and ²Institute of Gerontology, University of Michigan, Ann Arbor.

Objectives. The purpose of this study is twofold: (a) to see whether the association between age and perceived control is the same for Blacks as well as Whites; and (b) to see if education, health, income, social support, cognitive function, and religion account for the relationship between age and control in the same way for Blacks and Whites.

Methods. Data for this study come from the first wave of the Americans’ Changing Lives panel study. Complete data are available for 357 Black and 2,792 White individuals. Respondents were asked questions about their feelings of control, health status, income, social support, cognitive function, religious participation, and demographic information.

Results. The findings suggest that age has an inverse and nonlinear association with feelings of control. Moreover, this relationship is similar for Blacks and Whites. The data further reveal that, across all age groups, Blacks report a lower sense of control than Whites. Less education, less income, greater cognitive impairments, and more religiosity are associated with a lower sense of control. These factors, along with health and social support, account for 69% of the association between age and control, with no differences according to race.

Discussion. These results show that lower levels of control are associated with older age in both Blacks and Whites, and that racial disparities in feelings of control persist across all age groups. This suggests that Blacks may be at a particular disadvantage in the face of the increasing challenges of aging.

A strong sense of personal control is essential for the maintenance of health and well-being in late life (Mendes de Leon, Seeman, Baker, Richardson, & Tinetti, 1996). Individuals with a strong sense of control believe the changes in their social world are responsive to their choices, efforts, and actions. In contrast, people with a weak sense of control believe that events in their lives are shaped by forces outside their influence, and that they have little ability to influence the things that happen to them. Unfortunately, recent research by Mirowsky (1995) shows that feelings of control may decline in an accelerating fashion across progressively older age groups. If we want to help older adults age successfully we must, therefore, learn more about the social and psychological factors driving this process.

Research to this point suggests that two factors are largely responsible for the observed decline in feelings of control—education and health (Mirowsky, 1995; Wolinsky & Stump, 1996). Education is thought to bolster feelings of control over the life course because people with more schooling tend to have better problem-solving abilities, as well as access to more resources. The decline in feelings of control across older age groups, therefore, may be a manifestation of the current cohort of older adults having less schooling, on average, than today’s younger adults (Mirowsky & Ross, 1998). Furthermore, diminishing health and increasing impairments associated with aging may contribute to the decline in feelings of personal control by progressively reducing the range of activities in which one can exercise control (Schulz, Heckhausen, & O’Brien, 1994).

Although this research has provided valuable insight into the relationship between age and personal control, a number of key issues remain unexamined. Chief among them is the influence of race. In existing studies, race has been treated as a control variable—something to be removed rather than examined in its own right (Mirowsky, 1995; Wolinsky & Stump, 1996). This is unfortunate because race differences in feelings of control appear to exist at all ages (Mirowsky, Ross, & Van Willigan, 1996). What is less evident, however, is whether the decline of control in minority group members across different age groups is similar to what Mirowsky (1995) and others found, or whether the relationship between age and control follows a different course among people of color. Race is a master status that affects virtually all areas of life, including education, health, and feelings of personal control (Livingston, 1994). Therefore, if race is related to feelings of personal control and the factors that erode control with advancing age, then the trajectory reported by Mirowsky (1995) may not be the same for White and minority group members.

In addition to determining whether a similar association between age and feelings of control exists for Blacks and Whites, it is also important to see if the same factors account for this relationship in both racial groups. We suspect that relationships among education, health, and control may differ for Whites and Blacks. For example, education is a form of human capital that provides people with problem-solving skills and the resources (e.g., income) necessary for influencing the environment. However, the benefits of education may not be enjoyed equally by Blacks and Whites. In particular, due to inequitable school funding practices and discrimination in the workplace, Blacks receive less return than Whites on their educational investments (Maxwell,
took place between May and October 1986. A total of 3,617 face-to-face interviews for the first wave of data collection and persons 60 years of age and older were oversampled and older living in the coterminous United States. Blacks were oversampled as a minority group.

Still, other factors may account for race differences in the relationship between age and control. For instance, income, social support, and cognitive function may also contribute to one’s sense of control (Caplan, 1981; Lachman & Weaver, 1998). However, for many people, these resources (perhaps with the exception of social support) decline in later life (George, Landerman, Blazer, & Anthony, 1991; Holden, Burghauser, & Myers, 1986; Krause, 1991). Declines in income and cognitive function may be especially devastating to feelings of control among the Black group, which, because of its low socioeconomic position, may already be lacking alternative sources of control. In contrast, the relatively strong social support systems of Blacks may make them less vulnerable to declines in control with advancing age (Mutran, 1985).

Finally, religion may play a somewhat different role in accounting for the association between age and control. Because religion bolsters feelings of control (Krause & Tran, 1989), it is expected that religiosity may suppress the negative association between age and control. Given that Blacks are more involved in religion than Whites (Taylor, 1986), the “protective” effects of religion may be greater for members of this minority group.

Taken as a whole, the discussion above leads to the following hypotheses:

1. The inverse relationship between age and control is stronger for Blacks than Whites;
2. Education and social support account for more of the association between age and control among Whites;
3. Health, income, and cognitive function explain more of the association between age and control among Blacks; and
4. Religion reduces the association between age and control to a greater extent for Blacks than Whites.

**Methods**

**Sample**

The data for this study come from the first wave of a longitudinal panel study, Americans’ Changing Lives (House, 1997). This study used a stratified, multistage, area probability sample of noninstitutionalized persons 25 years of age and older living in the coterminous United States. Blacks and persons 60 years of age and older were oversampled. Face-to-face interviews for the first wave of data collection took place between May and October 1986. A total of 3,617 interviews were completed successfully, representing a 68% response rate.

The current study uses only those respondents who self-identified as Black or White. After using listwise deletion of missing values to deal with item nonresponse, complete data were available for 3,149 study participants. Approximately 11.4% (n = 357) of the sample identified themselves as Black. The average age of the sample as a whole was 46.7 years (SD = 16.40), with a range of 25 to 96 years. Fifty-two percent were classified as female, and 68.8% were married. Study participants reported having completed an average of 12.47 years of schooling (SD = 3.0 years). These descriptive statistics, as well as the findings presented in the Results section, are based on weighted data.

**Measures**

The measure of control appears in Table 1. A high score represents a strong sense of personal control. The internal consistency reliability estimate for this short scale is .718. Race is represented as a binary variable (1 = Black; 0 = non-Hispanic White). People who self-identified as American Indian, Hispanic, Asian, or “other” were excluded. Age was based upon self-reports from respondents and is scored in a continuous format. Education is scored in a continuous format reflecting the total number of years of completed schooling. Physical health was measured as a simple count of the number of major chronic conditions experienced in the last year out of a list of 10. This list included arthritis/rheumatism, lung disease, hypertension, heart attack and heart trouble, diabetes, cancer/malignant tumor, foot problems, stroke, fractures or broken bones, and loss of urine beyond one’s control. Income was measured as total pre-tax family income from all sources in the 12 months prior to the survey. Respondents chose from among 10 ordinal categories of income ranging from “less than $5,000” to “$80,000+.” The social support measure also appears in Table 1. A high score indicates more support. Cognitive impairment was measured as the number of incorrect responses to eight questions from the Short Portable Mental Status Questionnaire (Pfeiffer, 1975) covering the date, mother’s maiden name, day of the week, current president, former president, serial three test, and self-reported age and birth date. Table 1 also includes the measure of religiosity. This measure is coded so that higher scores indicate greater religious involvement. The internal consistency reliability estimate for this scale is .753. And finally, the models in this study were estimated after the effects of sex and marital status were controlled statistically. Both are represented by binary variables (1 = female, 0 = male; 1 = married, 0 = otherwise).

**Statistical Issues**

The analyses for this study are designed to test for race differences in the effect of age on feelings of control and the degree to which several intervening variables account for this relationship. Because previous work has shown a nonlinear association between age and feelings of control (Mirosky, 1995), the key independent variable—age—is represented as a squared term throughout. Whether the lower
order term of age should also be included in the equations is a source of some debate. The prevailing rule of thumb is that higher order terms should be tested only when the lower order terms are also included in the equation. However, Allison (1977) proposes that if the predictor in question is measured at the ratio level, inclusion of the higher order term only is appropriate. In the case of this study, the variable of interest—age—is a ratio-level measure and, therefore, only the squared term is included in all models.

The following equations were estimated:

\[
\text{Control} = a + b_1 \text{Race} + b_2 \text{Age}^2 + \text{d} \\
\text{Control} = a + b_1 \text{Race} + b_2 \text{Age}^2 + b_3 (\text{Age}^2 \times \text{Race}) + d \\
\text{Control} = a + b_1 \text{Race} + b_2 \text{Age}^2 + b_3 \text{Predictors} + b_4 (\text{Predictors} \times \text{Race}) + d
\]

where \(a\) is the intercept, \(b\) are regression coefficients, and \(d\) represents the effects of the demographic control measures, sex and marital status. Finally, \(\text{Predictors}\) denotes education, health, income, social support, cognitive impairment, and religiosity.

**RESULTS**

The findings from this study are presented in two sections. First, the relationship between age and perceived control is evaluated for the entire sample and by race. Then, analyses evaluating race differences in the effects of the predictors on the relationship between age and control are presented.

**Age and Control**

As shown in Model A of Table 2, the findings from estimating Equation 1 replicate the main results of Mirowsky (1995). More specifically, feelings of control decrease in an accelerated fashion across progressively older age groups \((b = -1.38 \times 10^{-3}; p < .001)\). Also in Model A, it is important to note that Black race is negatively associated with feelings of control \((b = -1.07; p < .001)\). This suggests that, regardless of age, Black respondents reported a lower sense of control than Whites.

Next, racial differences in the association between age and control were evaluated by entering an interaction between age-squared and race into the model. The results in Model B of Table 2 suggest that the nonlinear association between age and control does not differ significantly by race \((b = .17 \times 10^{-3}; \text{not significant})\).

**Effects of Intervening Variables**

Results from the analyses testing the effects of various intervening variables on the relationship between age-squared and control are also presented in Table 2. The findings from the additive model appear in Model C. These results show that a greater sense of control is associated with more education \((b = .17; p < .001)\), more income \((b = .16; p < .001)\), and fewer cognitive impairments \((b = -.16; p < .001)\). However, in contrast to what was anticipated, a higher degree of religiosity is associated with a *lower* sense of control \((b = -.14; p < .001)\). In addition, after accounting for the effects of all of the other predictors, health and social support are not associated with feelings of control. Taken together, the data in Table 2 reveal that the intervening variables account for 69% of the relationship between the age-squared term and control.

Next, racial differences in the effects of these predictors on control were tested with interaction terms. As shown in Model D of Table 2, race differences appear to exist only with regard to the impact of education on feelings of control \((b = -.10; p < .05)\). Separate analyses within each racial subsample (not shown here) show that education is significantly associated with feelings of control for Whites \((b = .18; p < .001)\), but not Blacks \((b = .07; \text{not significant})\). The impact of the other predictors on feelings of control, how-
Table 2. Regression Models Predicting Effects of Age, Race, and Several Intervening Variables on Sense of Control (N = 3,149)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model A</th>
<th>Model B</th>
<th>Model C</th>
<th>Model D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>-1.069***</td>
<td>-1.110***</td>
<td>-.345*</td>
<td>-.384*</td>
</tr>
<tr>
<td>Age^2 (10^{-3})</td>
<td>-1.380***</td>
<td>-1.380***</td>
<td>-1.428***</td>
<td>-1.436***</td>
</tr>
<tr>
<td>Black \times Age^2 (10^{-3})</td>
<td>&lt;.000</td>
<td>&lt;.000</td>
<td>&lt;.000</td>
<td>&lt;.000</td>
</tr>
<tr>
<td>Education</td>
<td>.167***</td>
<td>.170***</td>
<td>.016</td>
<td>.017</td>
</tr>
<tr>
<td>Chronic Conditions</td>
<td>-.029</td>
<td>-.032</td>
<td>-.036</td>
<td>-.014</td>
</tr>
<tr>
<td>Income</td>
<td>.155***</td>
<td>.155***</td>
<td>.021</td>
<td>.021</td>
</tr>
<tr>
<td>Social Support</td>
<td>-.043</td>
<td>-.045</td>
<td>-.041</td>
<td>-.018</td>
</tr>
<tr>
<td>Cognitive Impairment</td>
<td>-.163***</td>
<td>-.168***</td>
<td>-.044</td>
<td>-.066</td>
</tr>
<tr>
<td>Religiosity</td>
<td>-.135***</td>
<td>-.135***</td>
<td>-.064</td>
<td>-.037</td>
</tr>
<tr>
<td>Black \times Education</td>
<td>-.104*</td>
<td>-.104*</td>
<td>.018</td>
<td>-.130</td>
</tr>
<tr>
<td>Black \times Chronic Conditions</td>
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<td>.011</td>
<td>.011</td>
<td>-.131</td>
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<td>Black \times Income</td>
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<td>.003</td>
<td>.002</td>
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<td>.118</td>
<td>-.004</td>
<td>.003</td>
</tr>
<tr>
<td>Black \times Cognitive Impairment</td>
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<td>.011</td>
<td>.011</td>
<td>-.037</td>
</tr>
<tr>
<td>Black \times Religiosity</td>
<td>-.037</td>
<td>-.011</td>
<td>.002</td>
<td>.002</td>
</tr>
<tr>
<td>F value</td>
<td>48.780***</td>
<td>39.038***</td>
<td>70.229***</td>
<td>44.340***</td>
</tr>
<tr>
<td>R^2</td>
<td>.058</td>
<td>.058</td>
<td>.183</td>
<td>.185</td>
</tr>
<tr>
<td>Change in R^2</td>
<td>.000</td>
<td>.124***</td>
<td>.000</td>
<td>.002</td>
</tr>
</tbody>
</table>

Notes: The relationships presented in this table are estimated after the effects of sex and marital status were controlled statistically. For each measure, the first value in each column is the unstandardized regression coefficient, the second value in each column is the standard error, and the third value in each column is the standardized regression coefficient.

*p < .05; **p < .01; ***p < .005.

Discussion

Although research indicates that feelings of control are inversely associated with age, little attention has been given to whether this is true for Blacks as well as Whites. Surprisingly, the data suggest that the relationship between age and control beliefs is largely the same for people in both racial groups. Still, even though the relationship between control and age is the same, different factors may influence this relationship in the two racial groups. We took a modest first step toward addressing this issue by testing whether six factors—education, health, income, social support, cognitive impairments, and religion—exert the same or different effects on the inverse relationship between age and control among Blacks and Whites. Our findings suggest that income, cognitive impairments, and religiousness are all significantly associated with feelings of control for the sample as a whole, but no race differences emerge in the relationship between these predictors and control. In contrast, the effects of education on feelings of control are stronger for Whites than Blacks. Finally, health and social support appear to have no effect on feelings of control for either Blacks or Whites.

Of particular interest are the effects of education and religiousness. The data indicate that, regardless of age, less education is associated with less perceived control among Whites only. This would lead us to believe that education should be more useful for explaining why Whites, but not Blacks, experience an inverse association between age and control. However, this was not the case. Instead, the findings indicate that there were no race differences in this relationship. The complex linkages among age, race, education, and control represent an important area for further inquiry.

Additionally, for both groups, greater involvement in religion is associated with a lower sense of control. Moreover, religion accounts for some of the observed association between age and control for both groups. The direction of these findings, however, was not anticipated. Based on previous research, we expected to see the opposite effect (i.e., more religion bolsters control; Krause & Tran, 1989). Perhaps the explanation for these unexpected findings may be found by turning to the literature on primary and secondary control (Rothbaum, Weisz, & Snyder, 1982). Primary control refers to efforts aimed at changing the external world. Following Skinner (1996), secondary control involves efforts to change the external world by shifting responsibility to a benevolent other. Simply put, the negative association between religion and control may reflect the relinquishing of control to a powerful but benevolent other (i.e., God).

In the process of exploring these as well as other theoretical explanations for the differences in control over the life course, researchers would be well advised to take into account the limitations in the work we have presented. Three are identified briefly below.

As discussed above, our finding of a negative association between religion and control may reflect a relinquishing of primary control in favor of secondary control. However, the items used to measure control in the current study all refer to primary control. Much more could be learned by developing measures of secondary control and testing them within this framework.
Another limitation involves drawing conclusions about the effects of age on control using cross-sectional data. Two issues raise concern in this respect. First, the direction of causality between the predictors and control is unknown. For example, with only one wave of data, the degree to which increasing religion affects feelings of control cannot be distinguished from the degree to which declines in control may cause changes in religiosity. In addition, with only one wave of data, we cannot be sure if the observed patterns in control are associated with age, period, or cohort effects.

Finally, there are limitations in some of the study measures. For instance, greater insight into the relationship between age and control may be achieved by using better measures of religion and health. In addition, the measure of social support used in this study requires some explanation. As described in Table 1, levels of social support from various sources (e.g., spouse, child, friends, and relatives) were assessed separately. Therefore, because not all respondents reported having relationships with people from each source, we constructed a measure that reflects support from the person most likely to be closest to the respondent (see Krause, Goldenhar, Liang, Jay, & Maeda, 1993, for a similar approach). Thus, for respondents who were married or living with a partner, the measure reflects support from this partner; for those without a significant other but who had children, the measure reflects support from their children; and for those who were without both a significant other and children, the measure reflects support from friends and relatives. This measure is based on an implicit hierarchy reflecting the differential importance of various sources of support. This means that if a significant other is present, then it is assumed that the assistance he or she provides matters most. If a respondent does not have a significant other, but has children, it is assumed that support from a child is more important than support from the remaining source assessed in this study (i.e., friends and relatives). This measurement strategy, which differentially weights support scores in favor of close family members, is based on socioemotional selectivity theory (Carstensen, 1992). According to this perspective, as people age, emotional support from family members becomes increasingly important.

The measure of control used in our study could also be improved. All three indicators available to us were keyed in the direction of externality (i.e., less control). In addition, the three items ask about feelings of personal control connected to only negative outcomes (e.g., bad things and death). However, more sophisticated instruments for measuring control include items keyed towards both external and internal locus of control, as well as both positive and negative outcomes (Mirowsky & Ross, 1991). Nevertheless, the fact that the pattern of decline in feelings of control found in our data set is similar to those found in previous research by other investigators suggests that our measure may capture at least part of the same conceptual domain assessed by more complete measures of control.

Although there are limitations in the work we have done, perhaps the greatest contribution of our research lies in our effort to cast the study of race and control in a life course perspective. We hope that this research sparks further interest in examining the significance of race, as well as other social structural factors such as gender and socioeconomic status, in the relationship between age and control.

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Address correspondence to Benjamin Shaw, Department of Health Behavior and Health Education, School of Public Health, University of Michigan, 1420 Washington Heights, Ann Arbor, MI 48109-2029. E-mail: bashaw@umich.edu

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