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<ATL>Serious Psychological Distress Among African Americans: Findings From the National Survey of American Life</ATL><zaq;1>

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<RRH>African American Psychological Distress</RRH>

{FN0}<FNTX><P>We have complied with APA ethical principles in the treatment of individuals participating in this study. The data used are publicly available and do not require institutional review board approval.</P>

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<ABS>Despite their low social standing, there remains a paucity of research on psychological distress among African Americans. We use data from the 2001–2003 National Survey of American Life to explore a wide array of social and economic predictors of psychological distress among African American adults aged 18 years and older, including previous incarceration, history of welfare receipt, and having a family member who is either currently incarcerated or homeless. Younger age, lower income, lower educational attainment, and lower self-rated health and childhood health are associated with higher levels of psychological distress among African Americans. We also find a strong association between higher levels of material hardship, previous incarceration history, and the presence of a family member who is either incarcerated or homeless and higher levels of psychological distress. The findings highlight the importance of considering unique types of social disadvantage experienced by African Americans living in a highly stratified society.</ABS>

## <H1>INTRODUCTION</H1>

<P>African Americans face numerous and substantial risks to their mental health. Relative to non-Hispanic Whites, African Americans are almost three times as likely to live in poverty (U.S. Census Bureau, 2013a), experience unemployment levels that are almost twice as high (Austin, 2013), earn 42% less in median household income (U.S. Census Bureau, 2013b), have 20 times less wealth (Pew Research Center, 2011), and have substantially higher rates of incarceration (Guerino, Harrison, & Sabol, 2011; Jackson, Neighbors, Nesse, Trierweiler, & Torres, 2004; National Research Council, 2014). Despite these numerous risks to mental health, there still remains a paucity of research on African American mental health in comparison with their White counterparts. This is particularly true with regards to research on serious psychological distress.</P>

<P>The goal of this article is to investigate the demographic, social, and economic predictors of psychological distress within a nationally representative sample of African American adults. We used standard (e.g., age, gender) and novel (e.g., incarceration history, military service, welfare history, self-rated oral health, cohabitation, remarriage) demographic and social variables. To our knowledge, this is the most comprehensive study investigating both standard and novel correlates of the serious psychological distress using the Kessler-6 (K6) scale among a national sample of adult African Americans.</P>

<P>Psychological distress has been defined as “a number of uncomfortable subjective states” and can take on three forms: malaise (somatic symptoms), anxiety, and depression (Mirowsky & Ross, 1986). Psychological distress is associated with higher risk of mortality (Pratt, 2009), cardiovascular disease (Ferketich & Binkley, 2005), poor self-rated

health (Farmer & Ferraro, 1997), chronic health conditions, and smoking (McGuire et al., 2008) and a lower likelihood of a routine checkup within the past 5 years (Pearson et al., 2009). Despite the importance of this issue, most past research has been dominated by race-comparative analyses between Blacks and Whites, generally finding higher levels of psychological distress among Blacks. There is a relative dearth of research investigating psychological distress among Black Americans.

Dimensional scales of nonspecific psychological distress were initially designed to identify World War II soldiers at risk of severe trauma (Horwitz, 2007). Two of the most commonly used scales of psychological distress in contemporary mental health research are the K6 and the K10, often used for inclusion in national data collection efforts such as the National Health Interview Survey. Although the K6 and K10 were originally designed as a screening tool for potential cases of mental disorder in the community, they have subsequently been used as an outcome in their own right. Although the term “psychological distress” has sometimes been used in studies of the Center for Epidemiological Studies-Depression (CES-D), the K6 and the K10 are considered measures of serious psychological distress (SPD) only. Descriptive data from the 2001–2004 National Health Interview Survey indicate the highest prevalence of SPD among individuals who are women, less educated, living in poverty, middle-aged (45–64), unmarried, and those who have higher rates of comorbidity and functional limitations (Pratt, Dey, & Cohen, 2007).

Although most scholarship on psychological distress examines comparisons between Blacks and Whites, the evidence for racial differences in psychological distress is equivocal. An early comprehensive review of 23 articles published between 1973 and 1991 (Vega & Rumbaut, 1991) found that Blacks had higher symptoms of psychological distress than Whites, although these differences were often attenuated or eliminated after controlling

for social class. However, only five studies in the review used data from multiple sites across the United States. The majority of studies were based on geographically restricted samples, thus limiting the generalizability of findings (Vega & Rumbaut, 1991). Another notable study found no significant racial differences for the K6 scale of psychological distress; however, Blacks were significantly less distressed than Whites after accounting for two measures of discrimination (Williams, Yu, & Jackson, 1997). Using more recent data from the 1997–2001 National Health Interview Survey, Bratter and Eschbach (2005) found no Black–White differences in nonspecific psychological distress among those of higher socioeconomic status (SES), although Blacks at lower SES levels reported less distress than Whites at lower SES.

An abundance of race-comparative research on mental disorders almost universally finds lower rates of psychiatric disorders among Blacks than Whites (Breslau, Kendler, Su, Aquilar-Gaxiola, & Kessler, 2005; Breslau et al., 2006; Williams et al., 2007), despite their lower SES (U.S. Census Bureau 2013a; U.S. Census Bureau 2013b). Similar findings are noted for a series of studies exploring potential mechanisms examining this paradox (Barnes, Keyes, & Bates, 2013; Mouzon, 2013, 2014; Shim, Ye, Baltrus, Fry-Johnson, Daniels, & Rust, 2012).

These studies are instructive in illuminating this unexpected pattern of relationships. However, race-comparative research cannot specifically examine the unique experiences of African Americans living in a highly stratified society; these experiences often represent risks factors for mental disorders. For example, Black Americans in the United States often live under chronic conditions of police surveillance and mass incarceration (Guerino et al., 2011; Jackson, Neighbors, et al., 2004; National Research Council and Institute of Medicine, 2014), which affect mental health through increased levels of vigilance

and through the ensuing economic sequela that accompany involvement with the criminal justice system (e.g., unemployment, underemployment, and low wages; National Research Council and Institute of Medicine, 2014; Wakefield & Uggen, 2010). These unique experiences and their important psychological consequences have not been adequately addressed.

A few recent studies, however, examine the social correlates of psychological distress among specific subgroups of the Black population (i.e., African American men and older African Americans and Black Caribbeans). For example, a study of African American men found higher psychological distress among those who were out of the labor force; lower distress was associated with older age (55 years and older), having at least a college degree, and living significantly above the poverty line (Lincoln, Taylot, Watkins, & Chatters, 2011). Lower age, income, and educational attainment were also significant predictors of psychological distress among a sample of specifically older (55 years and older) African Americans (Lincoln, Taylot, Chae, & Chatters, 2010).

In the current study, we seek to add to this important body of research in two important ways. First, we examine the socioeconomic and demographic correlates of psychological distress using a nationally representative sample of both African American men and women, aged 18 years and older, a necessary complement to the aforementioned studies of demographic subsets of African Americans (e.g., men and the elderly). Second, we investigate largely underexplored social factors as independent variables, including a full range of marital status categories (i.e., remarriage and cohabitation) and novel assessments of life circumstances such as incarceration history, welfare history, and having family members who are either currently incarcerated or homeless. This study offers an opportunity

to investigate a unique set of social factors and life circumstances as correlates of psychological distress among African American adults.</P>

## <H1>METHODS</H1>

### <H2>Sample</H2>

<P>Data from the National Survey of American Life: Coping with Stress in the 21st Century (NSAL) were collected by the Program for Research on Black Americans at the University of Michigan's Institute for Social Research (Jackson, Torres, et al., 2004<sup>2</sup>). The fieldwork for the study was completed by the Institute of Social Research's Survey Research Center, in cooperation with the Program for Research on Black Americans. The NSAL sample has a national multistage probability design. Face-to-face interviews were conducted within respondents' homes and respondents were compensated for their time. The data collection was conducted from 2001 to 2003, yielding a total of 6,082 interviews conducted with persons aged 18 years or older. This article used the African American subsample of NSAL ( $n = 3,570$ ).</P>

<P>The African American sample is the core sample of the NSAL and comprises 64 primary sampling units. Of these primary areas, 56 overlap substantially with existing Survey Research Center's National Sample primary areas. The remaining eight primary areas were chosen from the South in order for the sample to represent African Americans in the proportion in which they are distributed nationally.</P>

<P>The overall response rate for the NSAL was 72.3%. The response rate for African Americans was 70.7%, an excellent rate considering that African Americans (especially lower income African Americans) are more likely to reside in major urban areas

for which data collection is much more difficult and expensive. Final response rates for the NSAL two-phase sample designs were computed using the American Association of Public Opinion Research (AAPOR) guidelines (for Response Rate 3) (AAPOR, 2006; see Jackson, Torres, et al., 2004, for a more detailed discussion of the NSAL sample).

## Measures

**Dependent variable.** SPD was measured by the K6, a six-item scale designed to assess nonspecific psychological distress, including symptoms of depression and anxiety, in the past 30 days (Kessler et al., 2002; Kessler et al., 2003). Specifically, the K6 includes items designed to identify individuals with a high likelihood of having a diagnosable serious mental illness and associated limitations. The K6 is intended to identify people with mental health problems that are severe enough to cause moderate to serious impairment in social and occupational functioning and require treatment.

The six items of the K6 measure the extent to which respondents felt so sad that nothing would cheer them up, nervous, restless or fidgety, hopeless, that everything was an effort, and felt worthless in the past 30 days. Each item was measured on a 5-point Likert scale ranging from 0 (*none of the time*) to 4 (*all of the time*). The scores across the six items were summed, resulting in a composite measure ranging from 0 to 24, with higher scores reflecting higher levels of psychological distress (mean [ $M$ ] = 3.79, standard error [ $SE$ ] = 0.12). Cronbach's alphas for SPD among this sample of African Americans indicated good reliability ( $\alpha = 0.80$ ). Additionally, there was no variation in reliability by region (Northeast,  $\alpha = 0.81$ ; North Central,  $\alpha = 0.80$ ; South,  $\alpha = 0.79$ ; West,  $\alpha = 0.80$ ).

**Independent variables.** The following demographic, social, and health factors were included in this analysis as independent variables: age, gender, marital status,



parental status, education, material hardship, family income, military service, previous incarceration, welfare history, self-rated health, self-rated oral health, self-rated childhood health, whether an immediate family member was currently incarcerated, and whether a family household member was currently homeless.</P>

<P>Age was measured in years and *gender* was measured using a dummy variable for female. Family income asked respondents to report on total income from all sources before taxes for the respondent and all family members living in the household. The natural logarithm of family income was used for the multivariate analysis. Missing data for family income were imputed for 773 cases (12.7% of the total NSAL sample). The question “How many years of school did you finish?” was used to assess educational attainment and was measured as number of years of schooling; missing data for education were imputed for 74 cases (1.2% of the total NSAL sample).</P>

<P>Marital status was measured by the item “Are you currently married, living with a partner, separated, divorced, widowed or have you never been married?” An additional question probed for whether married respondents have had previous marriages: “Is this your first marriage or have you been married before?” This information was used to construct a marital status variable with seven categories representing currently married, currently remarried, cohabiting, separated, divorced, widowed, or never married.</P>

<P>Region was coded as Northeast, North Central, West, or South. We included a dummy variable for whether the respondent was a parent. Three subjective health items were used representing self-rated physical health, self-rated oral health, and self-rated health from childhood through age 16. The measure for self-rated physical health asked: How would you rate your overall physical health at the present time? Would you say it is excellent, very good, good, fair or poor? Self-rated oral health was assessed by the following

question: How would you rate the overall condition of your teeth, gums, and mouth at the present time? Finally, self-rated health from childhood to age 16 asked: Would you say that your health as a child, when you were growing up through age 16, was excellent, very good, good, fair or poor? All three self-rated health measures used response categories ranging from poor (1), fair, good, very good, to excellent (5).</P>

<P>Material hardship has been defined as “an inadequate consumption of goods or services that the public deems minimally necessary for decent human functioning” (Nelson, 2011). In the NSAL, material hardship was measured using the following item: “In the past 12 months, was there a time when you: (a) didn’t meet basic expenses, (b) didn’t pay full rent or mortgage, (c) didn’t pay full utilities, (d) had gas, electric, oil disconnected, (e) had telephone disconnected, (f) were evicted for nonpayment, or (g) couldn’t afford leisure activities.” Scores for individual responses (yes = 1, no = 0) were summed across the seven items into a single composite measure ranging from 0 to 7. Higher scores on this measure indicate higher levels of economic hardship ( $\alpha = .76$ ).</P>

<P>We included a single dummy indicator for whether or not the respondent had any military service using the survey question: “Have you ever been in the military service (yes/no)?” Respondents were asked whether they had any history of crime-related incarceration including prison, jail, juvenile detention, and reform school (survey item: “Have you ever spent time in a reform school, detention center, jail, or prison?”). We also included two dummy measures for whether the respondent currently has a currently incarcerated family member (survey item: “Do you have any family members - husband/wife, children, mother, father, brother, or sister—who are away at jail or prison?”) or a currently homeless family member (survey item: “Is any member of your household now homeless?”).</P>

Welfare history was measured by the question: "Have you ever received public assistance or welfare since turning age 18? By public assistance, we mean Aid to Families with Dependent Children or General Assistance or Temporary Assistance for Needy Families." Respondents indicating yes were asked: "Are you (your family) currently receiving public assistance?" Together, this information was used to identify respondents as being in one of three categories: currently on welfare, previously on welfare, or never on welfare.

## Analysis Strategy

An examination of the univariate distribution of our dependent variable indicated that it was not normally distributed. In particular, the variance exceeded the mean, which indicated overdispersion. Consequently, we used negative binomial regression in lieu of standard ordinary least squares regression, a more appropriate technique for this type of non-normal distribution. Incident rate ratios and 95% confidence intervals are presented along with the design-corrected  $F$  statistic for the negative binomial regression analysis. Two multivariate regression models are presented. The first model includes the standard set of demographic variables (age, gender, income, education, marital status, and region) and the second model includes the full set of independent variables. To obtain results that are generalizable to the African American population, all statistical analyses accounted for the complex multistage clustered design of the NSAL sample, unequal probabilities of selection, nonresponse, and employed poststratification to calculate weighted, nationally representative population estimates and standard errors.

## RESULTS

<P>The distribution of demographic characteristics of African American participants is presented in Table 1{TBL 1}. Roughly 56% of the sample were women and the mean age of participants was 42.3 ( $SD = 14.5$ ). The mean family income was almost \$37,000 ( $SD = \$33,068$ ) and the mean educational attainment was 12.43 years ( $SD = 2.23$ ). Almost one quarter (24%) of the sample was currently married, close to 9% (8.9%) were remarried, and one third (31.6%) had never been married. Approximately 8.7% of the sample was cohabiting with a partner, 7.9% were separated, 7.2% were divorced, and 11.8% were widowed. More than half of the sample (56.2%) lived in the South, followed by 18.8% who lived in the North Central region, 15.7% who lived in the Northeast, and 9.3% who lived in the West. Roughly 82% (81.6%) of respondents were parents.</P>

<P>Self-rated physical health had a mean of 3.42 ( $SD = 0.95$ ), reflecting an average response between “good” and “very good.” The mean of self-rated oral health was slightly lower (3.11,  $SD = 0.99$ ), reflecting responses clustered near “good.” Self-rated childhood health was considerably higher at 4.11 ( $SD = 0.92$ ), with responses clustered between “very good” and “excellent.” Material hardship was relatively low; the mean of the material hardship scale (range 0/low-7/high) was 0.89 ( $SD = 1.31$ ). Almost three quarters of respondents (74.3%) reported never having been on welfare, 18.9% report having been on welfare, and 6.8% were currently receiving welfare. Roughly 13% of respondents (13.3%) had a history of military service. Almost 17% (16.7%) of the sample had been incarcerated and 11.5% had a family member who was currently incarcerated. Slightly more than 1% of the sample (1.1%) reported having a family member who was currently homeless.</P>

<P>Table 2 <zaq;3>{TBL 2} presents the negative binomial regression analysis of SPD. With the exception of marital status, all covariates in Model 1 were significantly associated with SPD. Age, education and income were negatively associated with SPD,

indicating that older adults, adults with more years of education, and adults with higher incomes had lower levels of SPD than their younger, less educated, and lower income counterparts. Additionally, respondents who resided in the North Central region had higher levels of distress than those who resided in the South; no other regional differences in psychological distress were detected. Psychological distress was higher for women than men, but, surprisingly, marital status was unrelated to psychological distress among African Americans.

The negative binomial regression analysis for the full model is presented in Model 2 (Table 2), which included controls for parenthood status, self-rated health, self-rated oral health, self-rated childhood health, material hardship, military service, previous incarceration, current incarceration of a family member, having a family member who was currently homeless, and welfare history. Age, education, and income remained significant in the full model. Self-rated health, self-rated childhood health, material hardship, previous incarceration, and having a family member who was incarcerated or homeless were all significantly associated with psychological distress among African Americans. Respondents with higher levels of current self-rated health and higher self-rated health during childhood were less likely to have SPD than their less healthy counterparts. Respondents who had higher levels of material hardship and who had been previously incarcerated had higher levels of distress. Last, respondents who had immediate family members who were currently incarcerated and those who had immediate family members who were currently homeless had higher levels of distress.

## DISCUSSION

<P>Our study provided a comprehensive examination of SPD among African American adults aged 18 years and older using both standard demographic measures in addition to comprehensive measures of life circumstances (i.e., cohabitation, military service, and incarceration). We further had the benefit of having a large national sample, which allowed the investigation of a full range of marital status and region categories, as well as several novel independent variables. Overall, our findings indicate a considerable degree of variation in the level of SPD experienced by African American adults. This included a number of previously underexplored correlates of distress among African Americans, namely, material hardship, military service, history of incarceration, welfare history, and the effect of family members who are currently either incarcerated or homeless.</P>

## <H2>SES and Homelessness</H2>

<P>Consistent with previous research on the link between SES and mental health (Eaton, Muntaner, & Sapag, 2010; Pratt et al., 2007), we found that higher levels of income and more years of education predicted lower psychological distress among African Americans. This inverse relationship between SES and psychological distress is consistent in analysis among African Americans (Gaines, 2007; Lincoln et al., 2010), non-Hispanic Whites (Caron & Liu, 2011; Kessler, 1982), and diverse samples (Han et al., 2011; Schwabe & Kodras, 2000).</P>

<P>We also found that even when controlling for income, material hardship was associated with high levels of distress among African Americans. Material hardship (e.g., failure to meet basic expenses such as mortgage and utilities) indicates an extremely severe level of economic deprivation. A recent longitudinal study found that material hardship

explains most of the link between poverty and depression among low-income women (Heflin & Iceland, 2009). Although material hardship and poverty are related, national estimates indicate higher levels of material hardship as compared to income-based poverty. This suggests that material hardship offers additional explanatory power for understanding economic deprivation (Nelson, 2011). Our findings (in conjunction with previous research) indicate that material hardship itself is an important correlate of psychological distress. Future research should employ material hardship measures, in addition to more general socioeconomic indicators such as income and educational attainment, to understand its unique association with mental health outcomes.

Current research confirms the adverse effect of individual homelessness on emotional well-being, with rates of mental disorder among the homeless exceeding rates for the general population across a number of Western countries (Fazel, Khosla, & Geddes, 2008). Further, persons who are currently homeless also have high levels of psychological distress (Schutt, Meschede, & Rierdan, 1994) and suicidal ideation and behaviors (Eynan et al., 2002). However, to the best of our knowledge, the effect of a family member's homelessness on psychological distress has not been examined. Qualitative research in the field of homelessness indicates that homeless individuals are not isolated from their larger extended family networks (Desmond, 2012; Reitzes, Crimmins, Yarbrough, & Parker, 2011).

Further, in many cases, homeless people may live with their family members for short periods of time (Taylor, Chatters, & Celious, 2003). Homeless adults may have become estranged from their family members due to serious problems such as chronic substance use or mental health problems. Our data cannot provide information concerning the nature of relationships with homeless family members. However, our findings indicating

that individuals are affected by their relatives' homelessness underscore the importance of studying not only individual-level predictors of psychological distress but also factors associated with the larger social networks within which individuals are embedded.

## **The Role of Incarceration**

Comprising only 5% of the world's population but home to 25% of all prisoners worldwide (National Research Council, 2014), the United States has recently earned the dubious distinction of being called an "incarceration nation." Moreover, this protracted era of mass incarceration is driven in large part by increasing incarceration rates of low-income people and people of color, rates that have accelerated since the War on Drugs in the 1980s (Alexander, 2012). For example, non-Hispanic Black men have seven times the current incarceration rate as Non-Hispanic White men. The incarceration rate of non-Hispanic Black women is almost three times as high as the incarceration rate of non-Hispanic White women (Guerino, et al., 2011).

Our finding that African Americans who have been previously incarcerated have higher levels of psychological distress is consistent with recent research (National Research Council and The Institute of Medicine, 2004). For instance, formerly incarcerated individuals have higher levels of psychological distress than those who have never been incarcerated (Schnittker, 2014). Formerly incarcerated individuals also have higher rates of subsequent major depressive disorder, bipolar disorder, and dysthymia (Schnittker, Massoglia, & Uggen, 2012). The stigma of former incarceration has important mental health effects upon release from custodial care. For example, men who report high levels of criminal record



discrimination have higher levels of psychological distress than men reporting lower levels of perceived criminal record discrimination (Turney, Lee, & Comfort, 2013).

Formerly incarcerated individuals face tremendous barriers to successful reentry into the community. Convicted felons are often unable to qualify for governmental assistance in the form of welfare, Medicaid, and the SNAP program (Supplemental Nutrition Assistance Program), and they are often banned from both receiving student loans for higher education and living in publicly funded housing developments. Perhaps most importantly, the formerly incarcerated also face tremendous disadvantage in the labor market upon release and are less likely than those without a criminal record to receive callbacks for potential job opportunities. Finally, the effect of incarceration on job prospects is far more negative for Blacks than Whites (Pager, 2003; Pager & Quillian, 2005). Taken together, these phenomena represent critical barriers to postincarceration adjustment and successful community reentry, effects that may be particularly pronounced for African Americans.

Despite increasing knowledge about the social, economic, and health challenges faced by former offenders, there is very little research on the impact of incarceration on family members' health. Our finding that African Americans who have a currently incarcerated family member themselves have higher levels of SPD is consistent with several recent studies. For example, Lee, Wildeman, Wang, Matusko, and Jackson (2014) found that women who currently have a family member who is incarcerated had higher odds of reporting poor self-rated health and having several chronic conditions (i.e., diabetes, hypertension, obesity, prior history of heart attack or stroke). African American mothers with adult sons who were incarcerated experienced higher levels of psychological distress than their counterparts whose sons either had never been incarcerated or had been incarcerated farther in the past. This pattern was driven in part by the mothers' increased grandparent

burden and financial pressures (Green, Ensminger, Robertson, & Juon, 2006), further emphasizing the effect of incarceration on the family system. Collectively, these findings indicate that the mass incarceration experienced by African Americans negatively affects the health and mental health of not only families but also those who are incarcerated.

## Demographic Correlates

Age was negatively associated with psychological distress, a finding that is consistent with previous research on depressive symptoms (Lincoln, Chatters, Taylor, & Jackson, 2007), major depressive disorder (Williams et al., 2007), SPD (Lincoln et al., 2010), and mood disorders (Ford et al., 2008). In bivariate analyses, African American women had higher levels of psychological distress than African American men. This gender difference is consistent with research on depressive symptoms (Lincoln et al., 2007) and major depressive disorder among African Americans (Williams et al., 2007) and non-Hispanic Whites (Angst et al., 2002; Patten et al., 2006; Van de Velde, Bracke, & Levecque, 2010). However, gender was not significant in the full model, which controlled for parental status, health status, and novel social correlates of distress. The lack of a gender effect in the full model could be due to the fact that African American women have higher levels of material hardship.

Last, respondents with lower levels of self-rated health and lower levels of self-rated childhood health had higher levels of psychological distress than their healthier counterparts. Despite limited research on self-rated health and psychological distress, prior evidence indicates that self-rated health is highly correlated with depressive symptoms (Han, 2002; Mulsant, Ganguli, & Seaberg, 1997) and mortality (Idler & Benyamini, 1999;

Benjamins, Hummer, Eberstein, & Nam, 2004). Further, findings on self-rated childhood health and adult psychological distress contribute to the evidence confirming the important association between early childhood health and adult health status and outcomes (e.g., National Research Council and Institute of Medicine 2013).</P>

## <H2>Limitations</H2>

<P>There are important limitations to consider in this study. First, given the cross-sectional nature of the data, it is not possible to definitively ascertain causal ordering of psychological distress with factors such as material hardship, personal incarceration, and familial incarceration and homelessness. We do not know the length of time respondents had been incarcerated and how much time has elapsed since their incarceration. Similarly, we do not have information concerning the timing and sequencing of factors associated with material hardship, history of personal welfare receipt, or the duration of homelessness or incarceration of a family member. With regard to the family measures, there were no survey questions to determine the qualitative features of the relationship between the respondent and the family member who was presently homeless or incarcerated. Although we would expect that psychological distress would be higher if a respondent felt very emotionally close to an incarcerated or homeless family member, we were unable to directly examine the possibility that felt emotional closeness mediates this relationship.</P>

<P>As is the case in the majority of survey-based studies, the independent variables are based on self-report information provided by respondents. There are acknowledged potential limitations in regards to self-reported information (Stone, Bachrach, Jobe, Kurtzman, & Cain, 1999). The study elicited information about welfare history and

incarceration involving the respondent and family members. Self-reports for several of these items are potentially influenced by social desirability; that is, respondents may distort information in the attempt to present a more socially acceptable image of themselves resulting in underreporting of whether they have a family member who is currently incarcerated (see Jackson, Neighbors, et al., 2004, for the results of a pilot study on this issue).

Several self-report health measures including overall health, oral health and health from childhood to age 16 are used. Two of these—overall health and oral health—ask respondents to report on their current state. Studies of health self-reports or subjective health ratings indicate that they are largely accurate as reflections of health when compared to objective measures. Self-ratings of health have strong concordance with objective measures and good predictive ability with respect to mortality risk. These studies indicate that health perceptions are a reliable correlate and predictor of health status (see Idler & Benyamini, 1997). Respondents were also asked to provide information on their health from childhood to age 16. As a retrospective account, this item may be affected by recall bias and recall error in the reporting childhood health. However, it is important to recognize that the item, similar to those for current overall physical health and oral health, is focused on perceptions of health in a very broad sense. As such, it elicits a general health perception of childhood health in contrast to requests for information on specific childhood illness episodes, hospitalizations, or health conditions (e.g., Type 1 diabetes), which are more prone to recall error and bias.

## **Conclusion**

<P>Despite these limitations, this study offers several notable strengths. First, its use of a nationally representative sample of African Americans is an uncommon practice in most social research. The second strength of this analysis is our focus on the previously underexplored measures of material hardship, history of welfare receipt, personal incarceration history, family incarceration history, and family homelessness history on psychological distress. The present study's focus on psychological distress among African Americans identifies relevant demographic, social, and health correlates and contributes to the limited body of work examining this important emotional health outcome.</P>

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Short Title: African American Psychological Distress  
{TBL1}<TC>**Table 1. Demographic Characteristics of the Sample and Distribution of Study Variables, 2001–2003 National Survey of American Life**</TC>

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<TH>	%	<i>N</i>	Mean	<i>SD</i>	Min-Max
<TB>Female	55.97	2,299			
Age		3,570	42.33	14.50	18–93
Family income		3,570	36832.66	33068.07	0–520000
Education		3,570	12.43	2.23	0–17
Marital status					
Married	24.00	707			
2 <sup>nd</sup> or more marriages	8.91	253			
Cohabit	8.74	260			
Divorced	7.16	286			
Widowed	11.75	524			
Separated	7.90	353			
Never married	31.55	1,170			
Region					
Northeast	15.69	411			
North Central	18.81	595			
South	56.24	2,330			
West	9.25	234			
Military service					
Served in military	13.28	417			
Did not serve in military	86.72	3,110			
Incarceration					
Previously incarcerated	16.70	531			

Never incarcerated	83.30	2,988			
Welfare history					
Currently on welfare	6.81	271			
Past recipient	18.87	715			
Never on welfare	74.32	2517			
Parental status					
Parent	81.55	2,964			
Nonparent	18.45	589			
Self-rated health		3,437	3.42	0.95	1-5
Self-rated oral health		3,435	3.11	0.99	1-5
Childhood health		3,524	4.11	0.92	1-5
Immediate family member currently incarcerated					
Yes	11.54	411			
No	88.46	3,108			
Family household member currently homeless					
Yes	1.06	34			
No	98.94	3,488			
Material hardship		3,528	0.89	1.31	0-7

<TF>

*Note.* SD = standard deviation. Percents and Ns are presented for categorical variables. Means and standard deviations are presented for continuous variables. Percentages are weighted and frequencies are unweighted.

</TF>



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**Table 2. Negative Binomial Regression Analysis of Sociodemographic Variables on Serious Psychological Distress (K6) Among African Americans, 2001–2003 National Survey of American Life**

Independent variables <sup>a</sup>	Model 1		Full model	
	IRR	95% CI	IRR	95% CI
Age	0.99***	[0.99, 0.99]	0.99***	[0.98, 0.99]
Gender--female	1.15*	[1.03, 1.28]	1.06	[0.95, 1.18]
Log family income	0.82***	[0.78, 0.87]	0.90***	[0.86, 0.95]
Years of education	0.94***	[0.92, 0.96]	0.95***	[0.93, 0.98]
Marital status				
Remarried	0.91	[0.70, 1.19]	0.91	[0.70, 1.20]
Cohabit	1.15	[0.98, 1.36]	1.10	[0.93, 1.30]
Separated	1.19	[0.97, 1.45]	1.03	[0.86, 1.24]
Divorced	0.94	[0.76, 1.15]	0.90	[0.75, 1.09]
Widowed	0.81	[0.61, 1.09]	0.86	[0.68, 1.09]
Never married	0.96	[0.84, 1.09]	0.99	[0.86, 1.13]
Region				
Northeast	1.11	[0.98, 1.26]	1.04	[0.93, 1.17]
North Central	1.18*	[1.00, 1.39]	1.03	[0.90, 1.17]
West	0.97	[0.75, 1.26]	0.88	[0.68, 1.14]
Parental status--parent	--	--	1.03	[0.91, 1.16]
Self-rated health	--	--	0.83***	[0.78, 0.88]
Self-rated oral health	--	--	0.96	[0.91, 1.01]
Self-rated childhood health	--	--	0.92***	[0.88, 0.96]

Material hardship	--	--	1.14***	[1.11, 1.17]
Military service	--	--	0.98	[0.86, 1.11]
Previous incarceration	--	--	1.13*	[1.00, 1.28]
Family member incarcerated	--	--	1.15*	[1.02, 1.30]
Family member homeless	--	--	1.62**	[1.15, 2.27]
Welfare history	--	--		
Past recipient	--	--	0.98	[0.85, 1.13]
Never on welfare	--	--	0.90	[0.77, 1.06]
Constant	76.36***		80.43***	
<i>F</i>	33.07***		18.96***	
<i>N</i>	3357		3314	

<TF>Note. IRR = inter-rater reliability; CI = confidence interval. Marital status: married is the excluded category; region: south is the excluded category; parental status: 0 = nonparent, 1 = parent; welfare history: currently on welfare is the excluded category.

<sup>a</sup>Dummy variables represent several independent variables.</TF>

<<enote>>AQ1: Please note that the word 'from' in the title was changed to 'From'.

<<enote>>AQ2: The Jackson citations were revised per APA style. Please check that the Jackson, Torres, et al citations are indeed for Torres versus Neighbors.

<<enote>>AQ3: Please verify that IRR was defined correctly in the footnote section. Also not the formatting change to the confidence intervals, per APA style.

<<enote>>AQ4: Note that Limitations and Conclusion headings were added.