Marital Status as Contingency for the Effects of Neighborhood Disorder on Older Adults’ Mental Health

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Objectives. This study examines whether the effects of neighborhood disorder on changes in levels of depression differ between the married and nonmarried, and whether these differences are because the married are less likely to experience a decrease in mastery due to neighborhood disorder.

Methods. Data are derived from a longitudinal study of adults aged 65 and older in the Washington, DC, metropolitan area over a 2-year period (2001–2003).

Results. Neighborhood disorder is positively related to change in depression and negatively related to change in mastery, but only for the nonmarried. Differences between the married and nonmarried in changes in mastery explain differences in effects of neighborhood disorder on change in depression.

Conclusion. This research contributes to the study of aging and health by demonstrating that neighborhood conditions continue to affect mental health well into late life by shaping older adults’ mastery, but a social connection to a marital partner helps mitigate these effects.

Key Words: Neighborhoods—Marital status—Mental health—Perceived control—Stress.

Neighborhoods beset by signs of disorder, such as unruly residents, dilapidated structures, and crime, can have substantial consequences for the psychological well-being of residents of these neighborhoods (e.g., Latkin & Curry, 2003; Schieman & Meersman, 2004). The effects of neighborhood disorder on mental health are of particular concern for older adults. The cessation of work and the increase in mobility limitations that tend to accompany aging are likely to heighten the importance of the neighborhood as an arena for social interaction (Cantor, 1975; Oh, 2003) so that neighborhood conditions increase in salience in late life (Glass & Balfour, 2003). In addition, increases in physical frailty associated with aging can lead to greater feelings of vulnerability to environmental threats (Pearlin & Skaff, 1995). As a result, problematic neighborhoods may be especially detrimental for the mental health of older adults, even if perceptions of the level of disorder in the neighborhood do not increase with age. The particular importance of neighborhood conditions for older adults is demonstrated in research showing that community conditions are more likely to affect the health of older as compared with younger adults (Robert & Li, 2001).

A stress process perspective on mental health suggests, however, that the effects of stress on mental health are not unitary and may vary by different aspects of social status (Pearlin, 1999). Hence, socially proscribed categories of older adults may be at greater risk for the mental health effects of neighborhood disorder in a process of “double jeopardy.” Research on double jeopardy in the context of aging has primarily examined whether the aging process is more detrimental to the health of racial minorities and women (e.g., Ferraro & Farmer, 1996; Rodeheaver & Datan, 1988), whereas other research has examined whether stressors experienced in late life may differ in their mental health effects by race and gender (e.g., Brooks, Kahana, Nauta, & Kahana, 2007; Milkie, Bierman, & Schieman, 2008). However, little research has examined how marital status may condition influences on mental health in late life, which is surprising because one of the most fundamental social status differences in mental health is marital status (Umberger & Williams, 1999). This lack of attention to marital status is also surprising because aging is often accompanied by a decrease in the size of one’s social network and the frequency of interaction within one’s social network (Ajrouch, Antonucci, & Janevic, 2001; Due, Holstein, Lund, Modvig, & Avlund, 1999; Morgan, 1988); consequently, marriage is likely to be a central resource for social support in late life during times of stress. Social support from families has in turn been highlighted in weakening the effects of stressors on the mental health of older adults (Fukukawa et al., 2004), and social support has been shown to buffer the effects of neighborhood disorder on mental health (Schieman & Meersman, 2004).

For these reasons, this research examines whether increases in psychological distress associated with neighborhood disorder are greater for older adults who do not have a marital partner. In the next section, a theoretical framework is outlined to explain how marital status may moderate the effects of neighborhood disorder on mental health. This framework focuses on loss of perceived control as a mediator...
Neighborhood Disorder, Loss of Perceived Control, and Marriage as Protective Factor

An important mechanism for explaining the effects of neighborhood disorder on psychological distress in older adults is likely to be loss of sense of control over life. In keeping with previous research in the sociology of mental health, perceived control is seen as “the extent to which one regards one’s life chances as being under one’s control in contrast to being fatalistically ruled” (Pearlin & Schooler, 1978, p. 5). Attention to loss of perceived control is guided by research showing that loss of perceived control is one of the most prominent mechanisms for the effects of stress (Avison & Cairney, 2003). Loss of perceived control is a prominent mediator in the stress process because the impression that success is merely random and people have little influence on their own lives can be quite distressing (Mirowsky & Ross, 2003). In addition, people with low levels of perceived control will also be less likely to attempt to find solutions to the problems that they face (Mirowsky & Ross, 1990), thereby prolonging stressful conditions and increasing the likelihood that new stressors will arise.

Research in fact demonstrates that neighborhood disorder is related to lower levels of perceived control (Downey & Van Willigen, 2005; Schieman & Meersman, 2004). Neighborhood disorder is associated with reductions in perceived control because, by definition, people who see their neighborhoods as disordered perceive their environment as chaotic and unpredictable, and perceptions of randomness in one’s environment can decrease the sense that the environment can be controlled (Abeles, 2003). On a broader scale, neighborhood disorder is likely to be associated with reduced control because residents are confronted with a context in which they are stymied in their efforts to achieve a fundamental goal, to create a living environment that is safe, clean, and free of threat (Ross, Mirowsky, & Pribesh, 2001). Neighborhood disorder is therefore likely to affect the mental health of older adults in part by decreasing a sense of control over life.

Marriage may help older adults to retain a sense of control when they face neighborhood disorder, thereby helping to protect older adults from the effects of neighborhood disorder on distress. Ross (1991) points out that the social support provided by the married partner can give individuals “the confidence, security, and self-assurance that help them feel in control of their lives and able to cope with problems” (p. 832). Additionally, within marriages there are “established patterns of responsibilities and commitments” (Schieman & Taylor, 2001, p. 470). Marriage provides established patterns of social interaction that create a sense that one’s social environment is ordered, predictable, and responsive to one’s needs, thus further bolstering individual sense of control. These benefits have been demonstrated in research indicating that the married have higher levels of perceived control than the nonmarried (Bierman, Fazio, & Milkie, 2006; Cotten, 1999), and research suggesting that these advantages are not simply due to selection effects (Marks & Lambert, 1998).

It is important to differentiate the processes being suggested here. Much research has examined the direct effects of marriage on mental health (e.g., Bierman et al., 2006; Simon, 2002; Williams, 2003). However, little research has examined whether marriage may provide a benefit by moderating the effects of other influences. This is a critical distinction when examining older adults. Many older adults may have been married for years if not decades, so marriage may not lead to increases in perceived control specifically in late life or decreases in distress. At the same time, marriage may still provide benefits for the mental health of the older adults by creating a proximal social arena of care that weakens the influence of more distal control-debilitating stressors. Consequently, a central contribution of this research is to call attention to the way in which marriage may be beneficial for mental health not simply through a direct effect but also by preventing the effects of stress on mental health.

Aims

In summary, this article has two related aims. The primary aim is to examine whether nonmarried older adults are more vulnerable to the effects of neighborhood disorder on psychological distress than their married counterparts. The secondary aim is to examine whether marital status plays a role in this vulnerability by conditioning the extent to which neighborhood disorder influences loss of perceived control.

Methods

Sample

Data for this study come from the Aging, Stress, and Health (ASH) study. The ASH study is a longitudinal study of people 65 years and older residing in the District of Columbia and two adjoining Maryland counties, Prince George’s and Montgomery. Consistent with the purpose of the project to investigate status inequality and health disparities, a socially and economically diverse sample was sought. The three locales subsume this diversity. Sample selection and recruitment began with the Medicare Beneficiary files for the three areas. In addition to the names of all people 65 years and older who are entitled to Medicare, the files provided information about the race and gender of each beneficiary. To maximize the social and economic diversity within the sample, a total of 4,800 names were randomly selected and narrowed to a total of 1,237 names.
selected, equally divided among the three locales, Blacks and Whites, women and men, creating 12 groups, each containing 400 names. The goal was to enlist a sample of 1,200 people living independently, with approximately 100 in each of the 12 groups. Approximately 65% of all eligible respondents (1,741) who were contacted agreed to participate, yielding 1,167 cases. The age distribution within the four gender-race groups was similar to the population from the 2000 Census (Schieman & Plickert, 2007). Interviews for Wave 1 occurred during 2000–2001; two additional interviews were conducted, each 1 year apart. Interviews in the first wave were in person, whereas the shorter follow-up interviews were conducted over the telephone. Of the original 1,167 elders, 1,000 were interviewed at Wave 2 (85.69% retention), and 925 individuals were interviewed at Wave 3 (79.26% retention). In keeping with previous analyses of these data (e.g., Schieman & Plickert, 2007), changes between Wave 1 and Wave 3 were analyzed because of insufficient change in levels of depression between Waves 1 and 2. Because neighborhood disorder was asked only at Wave 1, a small number of individuals who moved during the course of the study (n = 54) were not included in analyses. Preliminary probit analyses that controlled for race, gender, age, education, time in the neighborhood, and functional limitations indicated that baseline depression, mastery, marital status, and neighborhood disorder did not significantly differentiate movers or stayers, suggesting that moving was not a function of neighborhood disorder, marital status, mastery, or depression. An additional number of respondents (n = 35) indicated marital transitions during the course of the study. Because this was too small a number to provide analytic groups of sufficient size to examine separate moderating effects of transitioning into or out of marriage, these individuals were also not included in analyses. Preliminary probit analyses also suggested that baseline depression, mastery, and neighborhood disorder did not influence the probability of experiencing a marital transition; those married at baseline were more likely to experience a marital transition, which is in accordance with the age of the sample.

Measures

Depression.—Psychological distress was measured using what is arguably the most commonly used indicator of distress in the sociological study of mental health, depression. Depression is useful as a primary indicator of distress because feelings of depression are a common type of distress that correlate with other aspects of distress, such as anxiety and anger, as well as clinical diagnoses of depression (Ross & Mirowsky, 2006). Depression was measured using four items from the Hopkins Symptoms Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), which asked about the occurrence of each symptom over the past week: “feel downhearted or blue,” “lack enthusiasm for doing anything,” “feel bored or have little interest in things,” and “cry easily or feel like crying.” Response choices were no days (1), 1 or 2 days (2), 3 or 4 days (3), and 5 or more days (4). Responses were averaged to create a scale of depression (Cronbach’s alpha = .76 at Wave 1 and .71 at Wave 3), with higher scores indicating higher levels of depression.

Mastery.—Perceived control was measured using four items from Pearlin and Schooler’s (1978) mastery scale. Questions on the scale include: “You have little control over the things that happen to you,” “There is really no way you can solve some of the problems you have,” “You often feel helpless in dealing with problems of life,” and “Sometimes you feel that you are being pushed around in life.” Response choices were strongly agree (1), agree (2), disagree (3), and strongly disagree (4). All responses were coded so that higher values indicated greater mastery. Responses were averaged to create a mastery scale (Cronbach’s alpha = .72 at Wave 1 and .71 at Wave 3).

Neighborhood disorder was measured using an eight-item scale adapted from Ross and Mirowsky’s (1999) neighborhood disorder scale. This scale measures respondents’ perceptions of both physical and social dysfunctions within the neighborhood and therefore provides a broad overview of respondents’ perceptions of disorder in their neighborhoods. Items on the scale were as follows: “Your neighborhood is noisy,” “There is vandalism,” “There are run-down houses or buildings,” “There is trash on the streets,” “People hang around on the streets,” “There is crime,” “There is alcohol and drug use,” and “There is heavy traffic.” Respondents indicated the degree to which each statement described how much they saw and experienced their neighborhood, with possible responses including not at all (1), somewhat (2), quite a bit (3), and very much (4). A principle components analysis of these items showed one component with an eigenvalue above 1, which accounted for over 50% of the variance in the items and had loadings at approximately .5 or above, indicating that reports of physical and social disorder cohere on one measure. Responses were therefore averaged to create a scale of perceived neighborhood disorder (Cronbach’s alpha = .80), with higher scores indicating more neighborhood disorder. Although these are respondents’ own subjective ratings of the neighborhood, research indicates moderate to strong relationships between respondent and observer ratings of neighborhoods (Andresen, Malmstrom, Miller, & Wolinsky, 2006; Perkins & Taylor, 1996), and longitudinal research indicates that the measures of psychological distress do not predict changes in perceptions of neighborhood disorder (Hill, Ross, & Angel, 2005), suggesting that residents of neighborhoods can provide accurate indications of neighborhood conditions. In addition, some have pointed out research showing that the construct validity of respondents’ reports of neighborhood disorder is higher than observer assessments, supporting the argument.
that residents of neighborhoods are at least as able to describe their neighborhoods as outside observers (see Ross et al., 2001, p. 571). More importantly, although objective or observer ratings of neighborhood conditions are useful in many contexts, these alternative measures do not necessarily indicate a respondent’s own experiences with disorder, and it is personal experiences with disordered conditions that are hypothesized to influence perceived control and distress. It is for these reasons that what is of focal interest in this research is a respondent’s report of neighborhood disorder.

Marital status.—Marital status was measured as a dichotomous variable in which 1 = married and 0 = nonmarried. Some research splits the nonmarried into separate types (e.g., Simon, 2002), but this research uses sample sizes in the thousands, which allows for much larger cell sizes and statistical power than would be possible in this study if the nonmarried were broken into specific groups. Additionally, because the current research is focused on how stress may affect people differently depending on whether they have a marital partner, rather than the way in which resources may vary by nonmarried group or life course trajectory, it is more appropriate to examine the moderating effects of marriage with a dichotomous variable. A small number of nonmarried individuals (n = 13) indicated at baseline “living with someone you consider to be your partner,” and because of their small number, these individuals could not be analyzed as a separate group and were excluded from analyses.

Covariates.—All covariates were measured at baseline. Social and economic statuses associated with perceived control and mental health were included as covariates to rule out the possibility that relationships between these statuses and exposure to neighborhood disorder could create spurious relationships with the outcomes. These statuses included race (coded so that 1 = Black, 0 = White), gender (coded so that 1 = women, 0 = men), work status (1 = working, 0 = not working), owning one’s home (1 = owns home, 0 = does not own), education, and income. Education was measured by asking respondents: “Can you tell me how far you went in school?” with response choices ranging from 1 (eighth grade or less) to 6 (college graduate or more). Income was measured by asking for total household income before taxes in the past year, including salaries for everyone in the household, money market funds, Social Security, pensions, real estate, or government entitlements, with response choices ranging from 1 (less than $10,000) to 11 ($100,000 or more). Following previous research on neighborhood disorder that controls for subjective indicators of financial strain as an important aspect of socioeconomic status (e.g., Hill et al., 2005), respondents’ ratings of difficulty meeting five basic needs (clothing, food, housing, transportation, and medical expenses) were also included as a covariate. Response categories were 1 (not at all difficult) to 3 (very difficult), and the mean of the five responses was used (Cronbach’s alpha = .81). Age in years was included to take into account age variations in health disparities. Supplementary analyses indicated no significant nonlinear relationships between age and change in mastery or depression.

Because of the focus in this research on marriage, differences in family experiences that may spuriously lead to differences in moderating effects of marriage were also taken into account. These experiences include number of children, number of people living in the home, and years in current marital status. Similarly, because levels of social integration tend to vary by marital status (Bierman et al., 2006), social integration was also controlled. Formal social integration was controlled using three measures—frequency of attendance at religious meetings, secular meetings, and volunteering. Informal social integration was controlled using measures of frequency of visiting friends and frequency of speaking to friends and relatives on the telephone. Responses ranged from never (1) to daily (6) for each measure.

Because access to neighborhood social resources varies by tenure of residence (Oh, 2003), time in the neighborhood was measured by controlling for years spent at the address. Individuals who had lived in the address less than a year were given a value of 1. Similarly, because physical limitations likely affect both neighborhood experiences and levels of mastery and depression (Mirowsky, 1995; Schieman & Plickert, 2007), physical limitations were controlled. In a four-item measure of basic functional limitations, respondents indicated if they had difficulties dressing, getting in and out of bed, toileting, and bathing. Responses ranged from 1 (without difficulty) to 4 (unable to do this without complete help from someone or special equipment), and the mean of the four responses was used (Cronbach’s alpha = .88).

Means, standard deviations, and zero-order correlations for all variables used in analyses are described in the Appendix.

Statistical Analyses

Models are analyzed using full-information maximum likelihood (FIML) regression. FIML estimation of regression models is preferable to the more typical ordinary least squares regression because estimates are produced using the information that is available for each observation (Bollen & Curran, 2006), “including information about the mean and variance of missing portions of a variable, given the observed portion(s) of other variables” (Wothke, 2000, p. 224), so that FIML estimation is capable of providing unbiased, efficient parameter estimates in the presence of missing data (Enders, 2006), and, in the presence of sample attrition, FIML provides far more unbiased estimates compared with more conventional missing data methods (such as listwise deletion or mean imputation) (Wothke, 2000). Use of FIML does assume that data are “missing at random” (MAR), but even when data are not MAR,
methods that assume MAR often present results that are better than those produced using more conventional estimation procedures (Allison, 2003). Simulation studies that compare FIML and multiple imputation procedures indicate a large degree of similarity of results (Collins, Schafer, & Kam, 2001), and because FIML could be directly employed to estimate regressions using MPLUS 5.0, its use was favored in this research.

Following previous research on change in depression (e.g., Mirowsky & Ross, 2001; Schieman & Plickert, 2007), difference scores in depression and mastery (T3 – T1) are analyzed as the dependent variables, controlling for Time 1 status to control for regression to the mean. Analyses are conducted in two stages. In the first stage, change in mastery is analyzed. Change is analyzed using two models. The main-effects model examines whether and how neighborhood disorder is related to change in mastery, independent of the controls. The second model, the double jeopardy model, includes an interaction between neighborhood disorder and marital status to test whether the relationship between neighborhood disorder and change in mastery differs between the married and nonmarried. The second stage of the analyses examines changes in depression. The first two models follow the previous analyses, with a main-effects and double jeopardy model. A third model controls for change in mastery to examine whether differences between the married and nonmarried in changes in mastery explain why neighborhood disorder has different associations with change in depression for the married and nonmarried. In all models, the measure of neighborhood disorder is centered over its mean prior to the creation of the interaction term to reduce multicolinearity (Aiken & West, 1991).

Table 1. Effects of Neighborhood Disorder on Change in Mastery and Depression

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Change in Mastery</td>
<td>Change in Depression</td>
<td>Change in Depression</td>
<td>Change in Depression</td>
<td>Change in Depression</td>
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<tr>
<td>Focal variables</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Neighborhood disorder</td>
<td>−.050 (.042)</td>
<td>−.157 (.059)**</td>
<td>.081 (.041)*</td>
<td>.164 (.056)**</td>
<td>.151 (.056)**</td>
</tr>
<tr>
<td>Married</td>
<td>−.038 (.047)</td>
<td>−.037 (.047)</td>
<td>−.047 (.045)</td>
<td>−.048 (.044)</td>
<td>−.053 (.044)</td>
</tr>
<tr>
<td>Neighborhood Disorder × Married</td>
<td>.214 (.082)**</td>
<td>Change in mastery</td>
<td>−.167 (.078)*</td>
<td>−.149 (.078)</td>
<td>−.099 (.029)**</td>
</tr>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Baseline depression</td>
<td>−.010 (.003)**</td>
<td>−.011 (.003)**</td>
<td>.005 (.003)</td>
<td>.006 (.003)</td>
<td>.005 (.003)</td>
</tr>
<tr>
<td>Age</td>
<td>.010 (.038)</td>
<td>.007 (.038)</td>
<td>.015 (.036)</td>
<td>.018 (.036)</td>
<td>.018 (.036)</td>
</tr>
<tr>
<td>Race</td>
<td>.021 (.040)</td>
<td>.020 (.039)</td>
<td>.023 (.038)</td>
<td>.023 (.038)</td>
<td>−.019 (.037)</td>
</tr>
<tr>
<td>Education</td>
<td>.034 (.015)*</td>
<td>.035 (.013)**</td>
<td>.003 (.013)</td>
<td>.002 (.013)</td>
<td>.004 (.012)</td>
</tr>
<tr>
<td>Income</td>
<td>.012 (.008)</td>
<td>.012 (.008)</td>
<td>.001 (.008)</td>
<td>.001 (.008)</td>
<td>.000 (.008)</td>
</tr>
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<td>Own home</td>
<td>.005 (.053)</td>
<td>.052 (.053)</td>
<td>.026 (.050)</td>
<td>−.015 (.050)</td>
<td>−.011 (.050)</td>
</tr>
<tr>
<td>Work status</td>
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<td>.014 (.043)</td>
<td>.024 (.041)</td>
<td>−.024 (.041)</td>
<td>−.028 (.040)</td>
</tr>
<tr>
<td>Financial strain</td>
<td>−.005 (.072)</td>
<td>−.014 (.072)</td>
<td>.196 (.067)**</td>
<td>.202 (.067)**</td>
<td>.221 (.067)**</td>
</tr>
<tr>
<td>Years in marital status</td>
<td>−.001 (.001)</td>
<td>.000 (.001)</td>
<td>.000 (.001)</td>
<td>.000 (.001)</td>
<td>.000 (.001)</td>
</tr>
<tr>
<td>Number of children</td>
<td>−.001 (.009)</td>
<td>−.003 (.009)</td>
<td>.004 (.009)</td>
<td>.005 (.009)</td>
<td>.004 (.009)</td>
</tr>
<tr>
<td>Number of people in home</td>
<td>−.003 (.018)</td>
<td>−.005 (.017)</td>
<td>.001 (.017)</td>
<td>.002 (.017)</td>
<td>.004 (.017)</td>
</tr>
<tr>
<td>Religious attendance</td>
<td>.000 (.014)</td>
<td>.000 (.013)</td>
<td>−.005 (.013)</td>
<td>−.005 (.013)</td>
<td>−.006 (.013)</td>
</tr>
<tr>
<td>Organizational attendance</td>
<td>.003 (.017)</td>
<td>.002 (.017)</td>
<td>−.008 (.016)</td>
<td>−.006 (.016)</td>
<td>−.004 (.016)</td>
</tr>
<tr>
<td>Volunteering</td>
<td>.008 (.015)</td>
<td>.009 (.013)</td>
<td>−.033 (.012)**</td>
<td>−.033 (.012)**</td>
<td>−.034 (.012)**</td>
</tr>
<tr>
<td>Frequency visiting friends</td>
<td>.025 (.013)</td>
<td>.025 (.013)</td>
<td>.014 (.013)</td>
<td>.014 (.013)</td>
<td>.016 (.013)</td>
</tr>
<tr>
<td>Frequency speaking on the telephone</td>
<td>−.025 (.015)</td>
<td>−.025 (.015)</td>
<td>.008 (.014)</td>
<td>.008 (.014)</td>
<td>.004 (.014)</td>
</tr>
<tr>
<td>Time in neighborhood</td>
<td>−.001 (.001)</td>
<td>.000 (.001)</td>
<td>.000 (.001)</td>
<td>.000 (.001)</td>
<td>.000 (.001)</td>
</tr>
<tr>
<td>Functional limitations</td>
<td>−.112 (.070)</td>
<td>−.102 (.070)</td>
<td>.119 (.068)</td>
<td>.110 (.068)</td>
<td>.105 (.067)</td>
</tr>
<tr>
<td>Constant</td>
<td>2.278</td>
<td>2.328</td>
<td>0.112</td>
<td>0.073</td>
<td>0.096</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.249</td>
<td>.257</td>
<td>.351</td>
<td>.356</td>
<td>.365</td>
</tr>
</tbody>
</table>

Notes: Nonstandardized coefficients are presented with standard errors in parentheses. *p < .05; **p < .01; ***p < .001 (two-tailed tests).
disorder is significantly and negatively related to change in mastery for the nonmarried ($b = -0.164, p < .01$) but not for the married ($b = 0.029, p > .10$). Thus, greater levels of neighborhood disorder are related to losses in mastery for the nonmarried, but for the married, greater levels of disorder are not significantly related to changes in mastery.

The next set of models examines change in depression. Model 3 indicates that, independent of controls, neighborhood disorder is significantly and positively related to change in depression, supporting previous findings that indicate that the residents of disordered neighborhoods experience increases in psychological distress. However, Model 4 indicates a significant interaction between neighborhood disorder and marital status, indicating that the relationship between neighborhood disorder and change in depression differs for the married and nonmarried. These differences are illustrated in Figure 1, which uses Model 4 to present the predicted mean change in depression separately for the married and nonmarried at the minimum for disorder and a moderate amount of disorder ($M = 2$). Figure 1 indicates that higher levels of neighborhood disorder are related to increases in depression for the nonmarried, but not for the married. Ancillary analyses conducted separately for the married and nonmarried confirmed this, as neighborhood disorder was significantly and positively related to change in depression for the nonmarried ($b = 0.164, p < .05$), but not for the married ($b = 0.002, p > .10$).

Model 5 includes change in mastery as a predictor of depression to examine the extent to which this variable explains differences by marital status in the relationship between neighborhood disorder and change in depression. When change in mastery is included in the model, decreases in mastery are related to increases in depression, and the interaction between marital status and neighborhood disorder is reduced to nonsignificance. In alternative analyses that removed the measure of change in mastery from the model but included a control for baseline mastery, the interaction between neighborhood disorder and marital status was not substantially reduced in size or significance. Hence, these analyses suggest that the differences between married and nonmarried older adults in the effects of neighborhood disorder on depression are in part because the married are less likely than the nonmarried to experience a decrease in mastery due to neighborhood disorder.

**DISCUSSION**

This article contributes to the study of stress and mental health in late life by demonstrating that research on the way in which social status conditions vulnerability to the effects of stress should include marital status as a critical contingency. Previous research has examined whether the effects of stress in late life vary by such characteristics as race and gender (e.g., Milkie et al., 2008), as well as whether aging itself is more detrimental to the health of African Americans and women (e.g., Ferraro & Farmer, 1996; Rodeheaver & Datan, 1988). However, aging is a time of decreasing social bonds and social activity (Ajrouch et al., 2001; Due et al., 1999; Morgan, 1988). Consequently, the social connection to a marital partner is likely to be a vital source of support and stability in late life that helps to moderate the relationship between stress and mental health. This is especially likely to be the case when older adults encounter disordered neighborhood environments. Previous research suggests that living in a disordered neighborhood can decrease individual perceived control (Downey & Van Willigen, 2005; Schieman & Meersman, 2004), but the presence of a marital partner is likely to create a more proximal arena of social concern and predictability within the larger neighborhood, thereby staving off effects of neighborhood disorder on perceived control and in turn preventing effects on psychological distress. This pattern can be seen in the results of these analyses. Neighborhood disorder was related to increases in distress over a 2-year period, but only for the nonmarried. Further, differences in effects of neighborhood disorder on distress were specifically because marriage prevented a loss in mastery due to neighborhood disorder. Therefore, although researchers have given little attention to the way in which marital status conditions the effects of stress in late life, it is clear that marriage may be an important stress buffer among older adults, and future research should examine whether marriage buffers the effects of additional stressors experienced in late life.

Additional research is necessary, though, to explain specifically how the presence of a marital partner may prevent losses in mastery. Because social support can help buffer the effects of stress, and marriage may be a primary source of social support in late life, it was suggested that marriage may buffer the effects of stress due to its social support function. However, additional analyses not shown here that controlled for perceived social support failed to substantially reduce the significance of these moderating effects. Further analyses that controlled for marital quality also did not reduce these moderating effects to nonsignificance. That neither the quality of the relationship nor advantages
in support explain these moderating effects suggests that it
is the presence of a predictable, stable social relationship,
rather than the content of the relationship, that is the pri-
mary source of these moderating effects. A predictable,
stable social relationship likely provides these benefits by
decreasing the sense of randomness and lack of predictabil-
ity in the environment, which prevents a loss of mastery and
the subsequent increase in distress. Hence, in addition to
examining whether marital status moderates the effects of
additional stressors, researchers should also examine more
closely whether marriage provides a buffering effect by fa-
cilitating a sense of order and predictability within the envi-
ronment.

In addition, some research indicates that the mental health
effects of marriage may vary by gender (Simon, 2002),
although other research reports no gender difference in the
mental health effects of marriage across multiple outcomes
(e.g., Bierman et al., 2006; Williams, 2003). This leads to
the question of whether the moderating effects of marriage
may vary by gender. In ancillary analyses, a three-term in-
teraction involving gender, marriage, and neighborhood
disorder did not significantly predict change in either mas-
tery or depression, indicating no gender differences in the
degree to which marriage moderated the effects of neigh-
borhood disorder. However, if it is the presence of a stable,
predictable relationship that underlies the moderating ef-
fects of marriage, rather than specific interactions within
the marriage that may be patterned by gender, we would expect
few gender differences in this moderation. Nevertheless, in
addition to examining how marital status may contribute to
double jeopardy when older adults experience stressors be-
sides neighborhood disorder, future research should also
consider whether marital status acts in concert with gender
to create a state of triple jeopardy when other types of stress-
sors are experienced.

Given the strength of differences between the married
and nonmarried in this study, one may in fact question
whether marital status should be considered as a contributor
to double jeopardy at all. Double jeopardy usually refers to
increased risk for detrimental health outcomes, but this re-
search indicated that the effects of neighborhood disorder
were not significant for the married, suggesting a total lack
of risk for the married. However, in light of previous re-
search indicating that the nonmarried tend to have higher
levels of psychological distress (e.g., Bierman et al., 2006;
Williams, 2003), as well as evidence from this study show-
ing that nonmarried older adults have higher mean levels
of baseline depression, it is reasonable to apply the label of
“double jeopardy” to the relationships examined here—a
lack of a marital partner in late life is related to both higher
levels of psychological distress and greater vulnerability to
increases in distress due to neighborhood disorder, thereby
indicating a state of double jeopardy.

There are several limitations to this study that should be
acknowledged. It was not nationally representative, so the
question of whether the pattern of results observed here
will generalize to broader samples remains. However, the
diversity with which this sample was purposely gathered
suggests that these results are likely to be applicable to a
broader population. In addition, it would be useful to study
the effects of neighborhood conditions over a longer length
of time. It would also be useful to have examined neigh-
borhood disorder at both waves so that the extent of per-
ceived changes in neighborhood conditions, as well as
changes in neighborhood location, could also have been
examined. It is questionable, though, as to whether neigh-
borhood conditions would have changed a substantial
amount over only a 2-year period, and research on similar
types of health outcomes indicates that the effects of
neighborhood problems remain significant, even when
changes in neighborhood problems are controlled (e.g.,
Hill & Angel, 2005). Furthermore, that the effects of
neighborhood disorder can be observed over this short of
a time period lends confidence to the robustness of these
effects. It should also be noted that the effects observed
here although significant were not extremely large—the
adjusted mean change in depression predicted for the non-
married due to a moderate level of neighborhood disorder
was an increase of .145, and an adjusted mean loss of a
similar size was predicted for mastery. However, as indi-
cated in Table 1, few measures were significantly related
to changes in depression, thereby illustrating the relative
importance of neighborhood disorder for mental health in
late life. Furthermore, it should also be noted that respon-
dents had been living on average in their neighborhoods
for many years; that neighborhood disorder was still re-
lated to changes in mental health highlights the relevance
of neighborhood conditions for well-being across the life
course.

**Conclusions**

Research on the sociology of mental health indicates
that social status pervades each aspect of the stress pro-
cess (Pearlin, 1999). Research has examined how marital
status plays a role in this process by directly influencing
mental health (e.g., Bierman et al., 2006; Simon, 2002),
but little research has examined the role of marital status
in moderating the effects of stress. This research shows
that marriage protects the mental health of older adults
from the stressful effects of neighborhood conditions, and
marriage plays this role in part by preventing losses in
mastery. This research therefore contributes to the litera-
ture on social status and mental health in late life by call-
ing attention to the way that marital status should be
considered by aging researchers in addition to race and
gender as a social status that may condition the risk for
psychological distress; marital status plays this condition-
ing role by modifying the relationship between stress and
psychological distress.
### Appendix

Zero-Order Correlations, Means, and Standard Deviations for Variables Used in Analyses

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<td>Change in depression</td>
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<td>Baseline depression</td>
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<tr>
<td>Change in mastery</td>
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<td>Baseline mastery</td>
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<td>-0.327***</td>
<td>-0.446***</td>
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<tr>
<td>Neighborhood disorder</td>
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<td>-0.002</td>
<td>-0.129***</td>
<td>1.00</td>
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<td></td>
</tr>
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<td>Married</td>
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<td>-0.084***</td>
<td>-0.023</td>
<td>0.103***</td>
<td>-0.088***</td>
<td>1.00</td>
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<td>Age</td>
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<td>-0.065</td>
<td>-0.110***</td>
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<td>-0.203***</td>
<td>1.000***</td>
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<tr>
<td>Gender</td>
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<td>0.002</td>
<td>-0.081**</td>
<td>0.002</td>
<td>-0.389***</td>
<td>1.000***</td>
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<td>Race</td>
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<td>0.005</td>
<td>0.019</td>
<td>-0.099**</td>
<td>0.096**</td>
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<td>-0.089***</td>
<td>0.009</td>
<td>1.000</td>
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<td>0.273***</td>
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<td>-0.083***</td>
<td>-0.161***</td>
<td>-0.306***</td>
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<td>Income</td>
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<td>-0.038</td>
<td>0.326***</td>
<td>-0.233***</td>
<td>0.445***</td>
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<td>-0.266***</td>
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<td>Own home</td>
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<td>-0.096**</td>
<td>0.021</td>
<td>0.164***</td>
<td>-0.133***</td>
<td>0.326***</td>
<td>-0.111***</td>
<td>-0.137***</td>
<td>-0.153***</td>
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<td>0.016***</td>
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<tr>
<td>Financial strain</td>
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<td>0.081*</td>
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<td>0.161***</td>
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<td>-0.043</td>
<td>0.059</td>
<td>0.106***</td>
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<td>Years in marital status</td>
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<td>-0.008</td>
<td>-0.044</td>
<td>0.029</td>
<td>0.312***</td>
<td>0.042</td>
<td>-0.082**</td>
<td>-0.097**</td>
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<td>Number of children</td>
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<td>-0.048</td>
<td>-0.022</td>
<td>-0.026</td>
<td>0.041</td>
<td>0.094**</td>
<td>-0.110***</td>
<td>0.062*</td>
<td>0.086**</td>
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<tr>
<td>Number of people in home</td>
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<td>-0.084**</td>
<td>0.011</td>
<td>-0.047</td>
<td>0.037</td>
<td>-0.273***</td>
<td>-0.109***</td>
<td>-0.091***</td>
<td>0.170***</td>
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<td>Religious attendance</td>
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<td>-0.062*</td>
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<td>-0.044</td>
<td>0.141***</td>
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<td>Organizational attendance</td>
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<td>0.082***</td>
<td>-0.070***</td>
<td>0.034</td>
<td>-0.018</td>
<td>0.075***</td>
<td>-0.049</td>
</tr>
<tr>
<td>Volunteering</td>
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<td>-0.118***</td>
<td>0.003</td>
<td>0.116***</td>
<td>-0.032</td>
<td>-0.107***</td>
<td>-0.076**</td>
<td>-0.036</td>
<td>-0.052</td>
</tr>
<tr>
<td>Frequency visiting friends</td>
<td>0.066</td>
<td>0.096*</td>
<td>0.031</td>
<td>0.120***</td>
<td>-0.065*</td>
<td>0.081**</td>
<td>-0.019</td>
<td>0.009</td>
<td>-0.224***</td>
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<td>Frequency speaking on the telephone</td>
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<td>-0.069</td>
<td>0.057</td>
<td>0.013</td>
<td>-0.102***</td>
<td>-0.031</td>
<td>0.195***</td>
<td>0.124***</td>
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<tr>
<td>Time in neighborhood</td>
<td>-0.005</td>
<td>0.003</td>
<td>0.003</td>
<td>-0.032</td>
<td>0.071*</td>
<td>0.107***</td>
<td>0.128***</td>
<td>-0.030</td>
<td>-0.070</td>
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<tr>
<td>Functional limitations</td>
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<td>0.194***</td>
<td>0.007</td>
<td>-0.162***</td>
<td>0.001</td>
<td>-0.095**</td>
<td>0.169***</td>
<td>0.014</td>
<td>0.035</td>
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<tr>
<td>M</td>
<td>0.012</td>
<td>1.407</td>
<td>-0.043</td>
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<td>74.602</td>
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<td>SD</td>
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<td>0.571</td>
<td>0.547</td>
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<td>0.428</td>
<td>0.500</td>
<td>6.508</td>
<td>0.500</td>
<td>0.500</td>
</tr>
</tbody>
</table>

**Correspondence**

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**References**


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