Neighborhood Stressors, Mastery, and Depressive Symptoms: Racial and Ethnic Differences in an Ecological Model of the Stress Process in Chicago

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ABSTRACT *Neighborhood stressors are associated with depressive symptoms and are more likely to be experienced in poor, non-White neighborhoods. Neighborhood stress process theory suggests that neighborhood stressor affect mental health through personal coping resources, such as mastery. Mastery is thought to be both a pathway and a buffer of the ill effects of neighborhood stressors. This research examines the neighborhood stress process with a focus on racial and ethnic differences in the relationship between neighborhood stressors, mastery, and depressive symptoms in a multi-ethnic sample of Chicago residents. Findings suggest race-specific effects on depressive symptoms. Mastery is found to be a pathway from neighborhood stressors to depressive symptoms but not a buffer against neighborhood stressors. Mastery is most beneficial to Whites and those living in low stress neighborhoods.*

KEYWORDS *Depressive symptoms, Mental health, Neighborhoods, Social context, Multilevel analysis, Neighborhood stressors, Mastery*

The stress process model poses a framework for understanding the root of disparities in mental health by social and economic status. The stress process¹ suggests that social inequality shapes both exposure to stressors and the mental health consequence of those stressors. According to this model, stressors influence mental health outcomes directly and indirectly. In the indirect relationship to mental health, stressors influence mental health by decreasing one's coping resources. These coping resources also buffer against the direct, negative effect of stressors on mental health. This means that those exposed to more stressors (i.e., those of lower social and economic status) experience (1) fewer coping resources, (2) a larger effect of stressors on mental health, and (3) more mental health problems. Aneshensel² extended Pearlin's¹ model to the neighborhood level, suggesting an ecological model of the stress process. She suggests that both individual and neighborhood statuses contribute to exposure to neighborhood stressors. Like other stressors, neighborhood stressors directly and indirectly have negative effects on mental health of residents. Aneshensel then extends the stress process to consider whether the impact of stressors varies by social group status.²

The present study tests this neighborhood stress process model² with particular attention to the stress-buffering role of one coping resource, mastery. Furthermore, this research examines whether the stress associated with racial minority status for Blacks and Hispanics is compounded with the stress of the neighborhood context. I

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suggest that neighborhood stressors have a more detrimental effect on depressive symptoms for Blacks and Hispanics. Finally, I suggest that mastery is less beneficial in buffering against neighborhood stress, especially for Black and Hispanics who experience this stressor more.

NEIGHBORHOOD STRESSORS AND DEPRESSIVE SYMPTOMS

Neighborhood stressors, such as social disorder, deterioration of the physical environment, violence, and crime, are positively associated with depression and depressive symptoms.^{3,4} However, much of the evidence of the effect of neighborhood stressors on depression and depressive symptoms comes from studies that measure neighborhood conditions at the individual level as one's perceptions of neighborhood conditions. However, those experiencing mental health problems may perceive their neighborhood as more stressful and disorderly than their neighbors would. This same-source bias may inflate the relationship between neighborhood stressors and depressive symptoms. Not surprisingly then, an individual's perceptions of neighborhood crime and disorder are associated with higher levels of depressive symptoms⁵⁻⁸, and perceptions of community problems are predictive of major depression.⁹

Two methods of measuring neighborhood stressors address same-source bias: neighborhood-level aggregate resident perceptions and objective assessments.¹⁰ One study found that an aggregate measure of neighborhood problems remained significantly associated with depression symptoms even when controlling for individual assessments of neighborhood problems.¹¹ In the Chicago Community Adult Health Study, aggregate measures of perceived disorder and perceived violence as well as objective independent rater assessments of physical disorder and physical decay were all positively associated with depressive symptoms.¹² This research therefore employs both aggregate perceptions and objective assessments to measure neighborhood stressors.

RACIAL AND ETHNIC DIFFERENCES IN NEIGHBORHOOD STRESSORS AND DEPRESSIVE SYMPTOMS

Neighborhood stressors do not occur randomly throughout a city; rather, they are concentrated in poorer, non-White neighborhoods. Because Blacks and Latinos are more likely to live in poor, non-White neighborhoods¹³, they are also more likely to experience higher levels of neighborhood stressors. Racial residential segregation has therefore been proposed as a fundamental cause of racial and ethnic disparities in health and mental health.¹⁴ The neighborhood stress process model is consistent with this argument. It ties neighborhood stressors to increased mental health problems for disadvantaged racial and ethnic groups.² Depressive symptoms among Blacks and Hispanics would therefore be expected to be higher than among non-Hispanic Whites, due to their concentration in more stressful neighborhood environments. Empirical evidence, however, suggests that this is not the case.

While racial and ethnic minorities, with the exclusion of recent immigrants, generally perform worse on measures of physical health, they fare better on measures of mental health when compared to non-Hispanic Whites.^{15,16} Among Hispanics, rates of major depression increase with assimilation but remain lower or roughly equivalent to rates for non-Hispanic Whites.¹⁷ Research suggests that Blacks have similar rates of depression and levels of depressive symptoms as Whites

after considering sociodemographic controls¹⁸ and despite their higher exposure to stress.¹⁴ It is possible that this unexpected finding is rooted in heterogeneity in the effect of neighborhood stressors on depressive symptoms.

Neighborhood stressors may have different effects for Blacks and Hispanics than they would for Whites. Blacks and Hispanics are exposed to stressors associated with their disadvantaged racial group status; the additional stressors that come from a disadvantaged neighborhood may operate in two ways: compound disadvantage or compound advantage. Because segregated neighborhoods are harder for Blacks and Hispanics to leave¹⁹, the stressful neighborhood conditions associated with racial residential segregation may be more psychologically harmful for Blacks and Hispanics. This is consistent with the compound disadvantage model²⁰—those who are disadvantaged experience additional hardships at greater levels and with larger effects.²⁰ In this case, neighborhood stressors would have larger effects for members of disadvantaged racial groups in comparison to advantaged racial groups. There is empirical support for compound disadvantage in neighborhood and individual socioeconomic status.^{20,21}

On the other hand, the compound advantage model suggests that neighborhood stressors may become more mundane, and less psychologically harmful, for those from disadvantaged groups. The compound advantage model²⁰ suggests that those who are disadvantaged fare better with additional hardships than those who are advantaged. Conversely, those who are advantaged fare better with less hardship. In one study, the effect of neighborhood disadvantage on social support varied by race and gender, supporting compound advantage for Black women.²²

The relationship between neighborhood stressors and depressive symptoms may be different by racial and ethnic group. Differences in this relationship could create neighborhood-contingent disparities in depressive symptoms between racial and ethnic groups. Understanding differences in the effect of neighborhood stressors may therefore be crucial to improving our understanding of racial and ethnic disparities.

MASTERY

Mastery, or personal sense of control, is a psychological coping resource in stress process model.^{2,23} Mastery has been found to be an important predictor of depressive symptoms in both White and Black samples.^{24,25} Mastery captures one's feelings of control over their own life chances. Those with a high sense of mastery are less likely to appraise situations as stressful and are better able to cope with stressful situations thus protecting against mental health problems.^{2,23} Thus, mastery is related to depressive symptoms in two ways: as a mediator and moderator of stressors.

While there is ample evidence that mastery is associated with mental health, few studies have examined whether mastery mediates and moderates the effects of neighborhood stressors on depressive symptoms. A mediational relationship *explains* the pathway through which neighborhood stressors affect depressive symptoms, whereas a moderational relationship *changes* the effect of neighborhood stressors. Ross and Mirowsky⁸ found that mastery partially mediates the relationship between perceived neighborhood disorder and days experiencing depressive symptoms. Mastery does have a clear, inverse relationship with neighborhood stressors.^{26,27} Furthermore, mastery mediates the effects of individual-level stressors on depression outcomes.^{24,25,28,29} While this evidence suggests that mastery is a mediator, there is less evidence of mastery as a moderator. Mastery has been found

to positively moderate—or buffer—the negative effect of stressors at the individual level.^{29,30} There is not yet evidence of buffering at the neighborhood level. Previous research has found no significant moderation of the association between neighborhood conditions and depression by mastery.³¹ Taken together, the literature suggests that mastery explains but does not buffer against the effects of stressors on mental health. Mastery may be even less important in buffering the effects of neighborhood stressors among Blacks and Hispanics because mobility out of stressful neighborhoods is constricted.

Neighborhood stressors are concentrated in poorer, non-White neighborhoods and are therefore more likely to be experienced by Blacks and Latinos. Blacks have limited mobility out of non-White neighborhoods.¹⁹ There is evidence that, in Chicago, Blacks have not been able to move out of high crime neighborhoods. In fact, increasing crime in and near a neighborhood is associated with Black population gain but White population loss.³² Leaving the city altogether may be the only opportunity to escape neighborhood stressors for residents of poor, non-White neighborhoods.³³ Just as the compound disadvantage model suggests that there may be heterogeneity in the effects of neighborhood stressors on depressive symptoms, the extent to which mastery mediates and moderates the effect of neighborhood stressors may also be neighborhood contingent. If Black and Hispanic residents of Chicago, and especially of stressful neighborhoods have limited opportunity to escape those neighborhoods, a sense of mastery, or control over your circumstances, may not be healthy.

SUMMARY AND HYPOTHESES

This research examines racial and ethnic variation in the neighborhood stress process model. While there is empirical support for the direct relationships of the neighborhood stress process, it is unclear from existing research whether mastery serves as a coping resource by buffering the effect of neighborhood stressors. The first hypothesis therefore focuses on that relationship:

H1: Mastery buffers (i.e., positively moderates) the relationship between neighborhood stressors and depressive symptoms.

Moreover, I suggest that the relationships between neighborhood stressors, mastery, and depressive symptoms, may vary by race and ethnicity. Blacks and Hispanics not only disproportionately experience neighborhood stressors, but they have fewer opportunities to move out of stressful neighborhoods. The compound disadvantage model suggests that Blacks and Hispanics experience a more detrimental effect of neighborhood stressors. Furthermore, mastery may be less protective of depressive symptoms because sense of control contradicts the experience of limited mobility out of disadvantaged, stressful neighborhoods for Blacks and Hispanics. Comparing non-Hispanic White, non-Hispanic Black, and Hispanic adults, the last three hypotheses predict differences in the neighborhood stress process:

H2: The magnitude of the positive association between neighborhood stressors and depressive symptoms will be greater for Blacks and Hispanics than for Whites.

H3: The magnitude of the negative association between mastery and depressive symptoms will be smaller for Blacks and Hispanics than for Whites.

H4: The magnitude of the positive moderation effect of mastery on the relationship between neighborhood stressors and depressive symptoms will be greater for Blacks and Hispanics than for Whites.

To fully understand the relationships between neighborhood stressors, mastery, and depressive symptoms, models include individual sociodemographic characteristics that are often associated with depressive symptoms in community samples. This includes age, gender, education, unemployment, income, race and ethnicity, first generation immigrant status, as well as tenure in neighborhood.

METHODS

Data

Data come from the Chicago Community Adult Health Study (CCAHS). Respondents are 3,105 adults from a neighborhood-based sample of residents of Chicago, IL between 2001 and 2003. One adult was interviewed from each sampled home, with a response rate of 72 %. Respondents were asked about their health, mental health, activities, and their neighborhood. Respondents live in 343 Chicago neighborhood clusters that are aggregations of contiguous census tracts. Neighborhood clusters had 1 to 21 respondents with a mean of 9.06 per cluster. CCAHS also included a systematic social observation (SSO) of neighborhoods in order to collect data on observable characteristics of neighborhoods, as described previously.^{10,34} Data on crime were amassed from the Uniform Crime Reports. Finally, the 2000 US Census provides summary data on neighborhood clusters, which are aggregates from census tract-level information.

Measures

Mastery. Mastery is measured by a 5-item version of the Pearlin Mastery scale.²³ The scale has a range of 1 to 4, where 4 is the highest sense of mastery. The scale was constructed from the mean of all items with responses; 18 respondents had less than five responses. Furthermore, two respondents had no responses to the questions on this scale, and the scales for these respondents were imputed using OLS with age, sex, education, income, race, Hispanic ethnicity, immigration status, marital status, home ownership, and other psychological resources used as predictors. When mastery is used as a predictor of depressive symptoms it is mean centered in order to facilitate the interpretation of interaction terms.

Depressive Symptoms. Depressive symptoms are measured by the mean score of an 11-item version of Center for Epidemiologic Studies-Depression³⁵ (CES-D) scale. The possible range on these items is 1 to 4, where 1 indicates no symptoms and 4 indicates experiencing the most symptoms within the last week. The actual scores among the present sample range from 1.00 to 3.82. The scale was constructed from the mean of all items with responses; seven respondents had one item missing from the scale.

Perceived Neighborhood Stressors. One variable summarizes aggregate resident perceptions of several scales that measure the neighborhood context. All scales are derived from survey responses aggregated to the neighborhood level using empirical Bayes estimation.³⁶ The perceived neighborhood stressors variable includes four

scales identified in a factor analysis of neighborhood-level measures of Chicago neighborhoods: (a) neighborhood disorder, (b) perceived neighborhood violence, (c) neighborhood hazards, and (d) neighborhood services (with a negative loading).³⁷ Questions included in each of these items are in [Appendix](#). The composite measure is the average of these standardized scales. Higher scores on the measure indicate more neighborhood stressors.

Observed Neighborhood Stressors. Observed neighborhood stressors is composed of Uniform Crime Report data on homicide, robbery, and burglary rates; SSO data on disorder, deterioration, vacant lots, and street condition; and US Census data on vacant housing. These components were standardized and averaged in order to create a composite measure, with an alpha value of 0.89. Perceived and observed neighborhood stressors have a neighborhood-level correlation of 0.71 ($p < 0.001$, $n = 343$).

Individual-Level Variables. Race and ethnicity is a four-category variable: non-Hispanic White, non-Hispanic Black, Hispanic, and non-Hispanic other. Due to a small sample size, American Indian, Asian, Pacific Islander, and other race, if not also Hispanic, were all grouped into the “other non-Hispanic” category. Interpretation and discussion of results do not focus on this heterogeneous group. The Hispanic category is comprised of Hispanics and Latinos of any race.

Respondent gender was obtained by interviewer observation. Employment status was obtained with the question “are you working now for pay, looking for work, retired, keeping house, a student, or something else?” Years of education are categorized into four groups: less than a high school education (< 12 years), a high school diploma (12 years), some college (13–15 years), and a college diploma or beyond (≥ 16 years). Marital status categories are married, separated, divorced, widowed, and never married. Income is measured by a categorical variable based on a survey question about household income. Four categories of income (less than \$5,000; \$5,000–14,999; \$15,000–39,999; and \$40,000 or more) and, because many individuals ($n = 577$) were missing on income, another category identifying those with missing income data. Age is a categorical variable with six categories (18–29, 30–39, 40–49, 50–59, 60–69, and 70 or older). Respondents were asked about their length of residence at their current address. Residential stability was assigned to respondents who reported living at their current address for five or more years.

Sample Characteristics

Weighted sample characteristics are detailed in [Table 1](#). With survey weights applied, the sample is 25.8 % Hispanic, 38.4 % non-Hispanic White, 32.1 % non-Hispanic Black, and 4.8 % other race or ethnicity. The sample is also diverse in educational background. While 23.4 % have less than a high school education, 23.8 % have a high school diploma, 24.9 % have some education beyond high school, and 27.9 % have at least a college degree.

Analyses

As the data are grouped by neighborhood cluster, individual observations are not independent at the neighborhood level. The analysis is therefore conducted using

TABLE 1 Weighted descriptive characteristics by race and ethnicity (N=3,105)

	Total N=3,105	Non-Hispanic White N=983	Hispanic N=802	Non-Hispanic Black N=1240	Non-Hispanic other N=80
Individual level measures					
Mastery	3.187	3.239	3.115	3.192	3.098
Depressive symptoms	1.815	1.759	1.779	1.923	1.726
First generation immigrant	26.9 %	19.3 %	63.5 %	1.6 %	68.7 %
Female	52.6 %	50.4 %	51.4 %	57.4 %	43.2 %
Employment status					
Employed	64.4 %	67.8 %	66.0 %	57.4 %	77.5 %
Unemployed	8.8 %	7.1 %	7.8 %	11.7 %	7.9 %
Retired	15.7 %	17.4 %	7.8 %	21.6 %	2.7 %
Home caregiver	7.8 %	5.0 %	14.6 %	6.2 %	5.0 %
Student	3.4 %	2.7 %	4.0 %	3.2 %	6.9 %
Education					
Less than 12 years	23.4 %	11.0 %	44.7 %	23.4 %	4.4 %
12 years	23.8 %	20.2 %	24.7 %	28.1 %	16.9 %
13–15 years	24.9 %	23.5 %	20.6 %	30.9 %	19.2 %
16+ years	27.9 %	45.4 %	10.2 %	17.6 %	59.5 %
Marital status					
Married	41.8 %	43.5 %	53.9 %	29.7 %	44.8 %
Separated	4.0 %	1.7 %	4.3 %	6.9 %	1.3 %
Divorced	10.8 %	9.5 %	7.4 %	15.5 %	7.1 %
Widowed	6.7 %	7.7 %	3.1 %	8.9 %	3.0 %
Never married	36.7 %	37.7 %	31.3 %	39.0 %	43.7 %
Income					
<5,000	5.2 %	3.3 %	3.5 %	8.7 %	5.4 %
5–15,000	14.9 %	8.2 %	19.0 %	19.9 %	14.5 %
15–40,000	26.4 %	20.3 %	31.8 %	29.6 %	25.0 %
40,000 +	34.9 %	47.2 %	27.6 %	26.1 %	33.7 %

TABLE 1 Continued

	Total N=3,105	Non-Hispanic White N=983	Hispanic N=802	Non-Hispanic Black N=1240	Non-Hispanic other N=80
Missing	18.6 %	21.0 %	18.1 %	15.8 %	21.4 %
Age					
18–29	27.5 %	25.0 %	34.4 %	23.6 %	39.5 %
30–39	22.7 %	20.7 %	28.4 %	20.8 %	20.5 %
40–49	18.7 %	19.8 %	16.0 %	19.7 %	18.5 %
50–59	12.9 %	13.1 %	10.1 %	15.0 %	12.4 %
60–69	9.0 %	8.9 %	6.5 %	11.3 %	6.6 %
70+	9.2 %	12.5 %	4.7 %	9.7 %	2.4 %
Residential stability	58.9 %	59.0 %	56.4 %	63.0 %	39.9 %
Neighborhood level measures					
Aggregate perceptions of neighborhood stressors	–0.183	–0.660	0.029	0.256	–0.515
Objective assessments of neighborhood stressors	–0.170	–0.560	–0.238	0.393	–0.508

multilevel modeling using HLM 6.08.³⁸ Maximum likelihood estimation models have two levels, with individual characteristics at level one and both measures of neighborhood stressors at level two, the neighborhood level. Survey weights are used to account for the complex survey design and so that the sample is representative of the population of Chicago. Models include random intercepts for baseline and direct effects models with random intercepts for race/ethnicity and mastery in interaction models. Continuous variables in interactions are grand mean centered. Interaction terms are tested for statistical significance in models with continuous terms at ± 1 standard deviations from the mean. Descriptive analyses are conducted in Stata 11.2.³⁹

RESULTS

There are racial and ethnic differences for a number of variables of interest in the descriptive analysis presented in Table 1. As expected, Hispanic and non-Hispanic Blacks have lower mastery scores and higher CES-D scores compared to Whites. Hispanic and non-Hispanic Black respondents experience more perceived and observed neighborhood stressors than Whites.

Although hypotheses predicted similar results for non-Hispanic Blacks and Hispanics, results described below detail findings for each hypothesis by race and ethnicity, as findings were different for each group.

Depressive Symptoms

In a null model predicting CES-D scores, the interclass correlation was moderate ($\rho = 0.063$) and the neighborhood-cluster level variance significant ($\tau = 0.020$, $p < 0.001$). Table 2 presents multilevel models predicting depressive symptoms as measured by CES-D scores. Model 1 presents racial and ethnic differences in depressive symptoms scores when no other individual or neighborhood characteristics are considered. Results demonstrate that non-Hispanic Black respondents have significantly higher depressive symptoms than Whites. This disparity is explained by the inclusion of individual socioeconomic and demographic characteristics in model 2. In models 3 and 5, both perceived and observed neighborhood stressors are associated with higher depressive symptoms. In model 4, mastery is significantly associated with lower CES-D scores and mediates the association of perceived neighborhood problems and depressive symptoms. Similarly, in model 6, mastery partially mediates the association of observed neighborhood problems and depressive symptom scores. As expected, mastery explains the relationship between neighborhood stressors, particularly perceived stressors, and depressive symptoms scores.

Interaction terms test the remaining hypotheses. Only observed neighborhood stressors are examined going forward because perceived stressors were fully mediated by mastery in model 4. In model 7, mastery moderates the association between neighborhood stressors and depressive symptoms, but not in the expected, positive direction, providing no support for hypothesis 1. Rather than buffering neighborhood stress as predicted by stress process theory, mastery exacerbates the relationship between neighborhood stress and depressive symptoms. Figure 1 displays this interaction at cut points of neighborhood stress.

In results not shown, the interaction of observed neighborhood stressors with race and ethnicity was found not to be statistically significant, lending no support for hypothesis 2. In model 8, the relationship of mastery to depressive symptoms is found to vary by race and ethnicity. The negative relationship between mastery

TABLE 2 Hierarchical linear modeling of individual and neighborhood characteristics on depressive symptom scores (*n* = 3,105)

	Model 1	Model 2	Model 3	Model 4
Individual level				
Race and Ethnicity (non-Hispanic White reference)				
Hispanic	0.014	0.003	-0.016	0.007
Non-Hispanic Black	0.155***	0.031	-0.003	0.040
Other non-Hispanic	-0.045	0.035	0.032	-0.024
First Generation immigrant		-0.137***	-0.139***	-0.157***
Female		0.089***	0.088***	0.074***
Employment status (employed reference)				
Unemployed		0.082*	0.079*	0.055+
Retired		0.229***	0.227***	0.138***
Home caregiver		0.161***	0.158***	0.152***
Student		-0.036	-0.036	0.015
Education (less than 12 years reference)				
12 years		-0.034	-0.023	0.025
13–15 years		-0.066*	-0.053+	0.019
16+ years		-0.134***	-0.120***	-0.007
Marital status (married reference)				
Separated		0.139**	0.131*	0.128**
Divorced		0.194***	0.188***	0.200***
Widowed		0.204***	0.202***	0.196***
Never married		0.135***	0.130***	0.142***
Income (40,000+ reference)				
<5,000		0.110*	0.103*	0.024
5–15,000		0.129***	0.120***	0.042
15–40,000		0.116***	0.109***	0.083***
Missing		0.002	-0.001	-0.055*
Age (18–29 reference)				
30–39		0.013	0.014	0.008

TABLE 2 (continued)

	Model 1	Model 2	Model 3	Model 4
40–49		0.011	0.013	–0.011
50–59		–0.032	–0.030	–0.054
60–69		–0.111*	–0.102*	–0.147***
70+		–0.280***	–0.270***	–0.302***
Stable residence (<5 years reference)		–0.053*	–0.053*	–0.038+
Mastery (grand mean centered)				–0.308***
Hispanic × mastery				
Non-Hispanic Black × mastery				
Other non-Hispanic × mastery				
Neighborhood level				
Aggregate perceptions of neighborhood stressors			0.046**	0.021
Intercept	1.761***	1.720***	1.741***	1.723***

	Model 5	Model 6	Model 7	Model 8
Individual level				
Race and Ethnicity (non-Hispanic White reference)				
Hispanic	–0.011	0.007	0.007	0.006
Non-Hispanic Black	–0.019	0.024	0.025	0.017
Other non-Hispanic	0.032	–0.025	–0.031	–0.037
First generation immigrant	–0.133***	–0.154***	–0.155***	–0.160***
Female	0.088***	0.074***	0.073***	0.077***
Employment status (employed reference)				
Unemployed	0.074*	0.051	0.051	0.051
Retired	0.226***	0.137***	0.137***	0.136***
Home caregiver	0.157***	0.151***	0.152***	0.149***
Student	–0.040	0.012	0.010	0.010
Education (less than 12 years reference)				
12 years	–0.026	0.026	0.023	0.016

TABLE 2 (continued)

	Model 5	Model 6	Model 7	Model 8
13–15 years	–0.057+	0.019	0.016	0.011
16+ years	–0.125***	–0.007	–0.005	–0.005
Marital status (married reference)				
Separated	0.131*	0.126**	0.125**	0.122**
Divorced	0.190***	0.201***	0.201***	0.200***
Widowed	0.205***	0.198***	0.192***	0.198***
Never married	0.131***	0.142***	0.142***	0.143***
Income (40,000+ reference)				
<5,000	0.101*	0.022	0.025	0.026
5–15,000	0.121***	0.040	0.041	0.039
15–40,000	0.112***	0.083***	0.085***	0.084***
Missing	0.000	–0.055*	–0.059*	–0.060*
Age (18–29 reference)				
30–39	0.012	0.007	0.008	0.008
40–49	0.010	–0.013	–0.011	–0.015
50–59	–0.032	–0.055	–0.054	–0.059+
60–69	–0.109*	–0.150***	–0.147***	–0.145***
70+	–0.279***	–0.306***	–0.303***	–0.307***
Stable residence (<5 years reference)	–0.052*	–0.038+	–0.037+	–0.037+
Mastery (grand mean centered)			–0.304***	–0.355***
Hispanic × mastery				0.054+
Non-Hispanic Black × mastery				0.099***
Other non-Hispanic × mastery				–0.097
Neighborhood level				
Objective neighborhood stressors	0.060**	0.038*	0.039*	0.042*
Cross-level interactions				
Mastery × objective neighborhood stressors			0.043*	
Intercept	1.749***	1.731***	1.734***	1.740***

+*p*<0.10, **p*<0.05, ***p*<0.01, ****p*<0.001

FIG. 1 Graph of the interaction between objective neighborhood stressors and mastery on depressive symptoms.

and depression scores is significantly smaller for Blacks and marginally smaller for Hispanics compared to Whites, supporting hypothesis 43. Mastery is less beneficial for Blacks and Hispanics than Whites. Figure 2 displays this interaction. While there are no significant differences in the intercept between racial and ethnic groups at the mean of mastery, subsequent tests indicated that there were significant differences between Blacks and Whites at ± 1 standard deviations from the mean of mastery. As mastery scores increase by one point, CES-D scores for non-Hispanic Whites are 0.355 points lower on a 4-point scale whereas the score for non-Hispanic Black are only 0.256 points lower. At the highest mastery scores, the difference between Black and White CES-D scores is 0.101 (higher for Blacks).

Finally, three way interactions between race, mastery, and neighborhood stressor are modeled to examine hypothesis 4. In results not shown here, the three-way interaction was not significant. In this full, three-way interaction model, results remain similar to findings in models 7 and 8.

DISCUSSION

This research sought to understand racial and ethnic differences in the neighborhood stress process. Findings suggest that mastery explains some of the relationship between both perceived and observed neighborhood stressors and depressive

FIG. 2 Graph of the interaction of racial and ethnic group and mastery on CES-D measured depressive symptoms.

symptoms, but does not buffer against neighborhood stressors. Mastery does not protect against depressive symptoms as much for Blacks and Hispanics. In failing to find group specific effects of neighborhood stressors or buffering, results lend limited support for the neighborhood stress process model.

Mastery both mediates and moderates the relationship between neighborhood stressors and more depressive symptoms, but it exacerbates rather than tempers the effects. While higher mastery is associated with lower depressive symptoms, this association is weakest at higher levels of neighborhood stress. Said another way, neighborhood stressors have the largest impact on someone with high mastery. This finding runs contrary to the stress process model, which describes mastery as a resource to cope with stress.⁴⁰ This finding is also consistent with previous research that found that mastery does not buffer against the effect of neighborhood stressors on depression.³¹ It may be that mastery is not an effective coping resource to overcome neighborhood stressors. Other psychological and social resources may buffer the effects of neighborhood stress.

Similarly, mastery is found to be less beneficial for Blacks. Neighborhood stressors have a direct relationship to depressive symptoms that does not vary by race. Nevertheless, the indirect pathway of neighborhood stressors through mastery is group-specific. Mastery has a stronger relationship to depressive symptoms for Whites. Research and practice should carefully investigate its role with diverse populations and in disadvantaged neighborhoods. Taken together, mastery is more protective for Whites and those experiencing less neighborhood stress. This lends support to the compound disadvantage model.

The strengths and weaknesses of the present study should be considered when evaluating these findings. While the data are well suited to studying neighborhood contexts and race and ethnicity, they are limited in that they are representative only of Chicago, IL. Data are also from 2001 to 2003, although neighborhood characteristics in Chicago are quite stable.⁴² The results must also be interpreted carefully as the cross-sectional data employed here impede causal inference. Furthermore, the process of social stratification in residential neighborhoods may contribute to selection bias, further hampering causal inference. Individual characteristics are controlled for in order to address this issue of causal inference. At the same time, some individual characteristics, such as health, that are predictive of depressive symptoms are not included as they may overcontrol for the long-term effects of neighborhood context.⁴² While these limitations affect generalizability and causal inferences, the strength of these data is the racial and ethnic diversity of the sample.

The findings from this study support Aneshensel's² call for further investigation of group-specific effects in the stress process. The neighborhood stress process model has potential for helping us understand inequality and mental health. Rather than group differences in the magnitude of neighborhood stressors' effects, this research suggests that group differences in the pathways of those effects may be an important avenue for future stress process research. Future research should investigate racial and ethnic differences in the role of other psychological resources in the neighborhood stress process. Finally, while diverse samples are more frequently used in research, further analysis of racial and ethnic differences in exposures and responses to stressors will be important for improving our understanding of mental health disparities.

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APPENDIX Perceived neighborhood stressor component scale items

	Questions/data source
Neighborhood disorder	How much broken glass or trash on sidewalks and streets do you see in your neighborhood? How much graffiti do you see on buildings and walls in your neighborhood? How many vacant or deserted houses or storefronts do you see in your neighborhood? How often do you see people drinking in public places in your neighborhood? How often do you see unsupervised children hanging out on the street in your neighborhood?
Neighborhood hazards	How would you rate the quality of air in this neighborhood? How often do you see rats, mice, or roaches in your neighborhood? How dangerous do you think traffic is in your neighborhood either to people driving in cars or walking on the street? How noisy would you say your neighborhood is? How often do you encounter potentially toxic substances in your neighborhood?
Perceived violence	During the past six months, how often was there a fight in this neighborhood in which a weapon was used? A violent argument between neighbors? Gang fights? A sexual assault or rape? A robbery or mugging?
Services	How would rate your neighborhood on its accessibility to parks or other areas where people can jog and exercise or kids can play? How would you rate the quality of street cleaning and garbage collection in this neighborhood?

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