Social Context, Stressors, and Disparities in Women's Health

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Objective: to describe stressors experienced by women living in an economically disenfranchised urban community and test the relationships between those stressors and women's self-reported health status.
Methods: We used a stress process framework to examine the implications of economic divestment and race-based residential segregation on the lives and health of women raising children in Detroit. We conducted qualitative analysis of in-depth interviews with 48 community residents and surveyed 679 women raising children in this community. Regression models controlling for age, education, and income examined the relationships of each of these stressors to symptoms of depression and general health status.
Results: Stressors described by women in the in-depth interviews included financial, work, family, safety, police and other municipal services, and disrespect or unfair treatment. Financial, police, and safety stress and unfair treatment were significantly associated with symptoms of depression; financial and family stress were significantly associated with self-reported general health status.
Conclusion: Our results support the hypothesis that life stressors associated with economic divestment contribute to the disproportionate burden of disease experienced by African-American women residing in urban communities. Efforts to address racial and socioeconomic disparities in women's health should include policies that support economic development and municipal infrastructure as fundamental to the maintenance of health. (*JAMWA*. 2001;56:143-149)

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Comparative research has established the existence of persistent racial and socioeconomic disparities in women's health in the United States.[1-4] As a group, African-American women have a shorter life expectancy[5] and experience earlier onset of such chronic conditions as diabetes and hypertension compared to white women.[2,6] Differentials in socioeconomic status account for much, although not all, of this health disparity.[3] Excess morbidity and mortality are highest for African Americans residing in large urban areas with high concentrations of poverty,[7-14] and there is evidence that neighborhood factors (eg, concentrations of poverty, poor housing) contribute to these disparities.[15-21]

In this article, we examine determinants of health among African-American women living in urban neighborhoods that have experienced economic divestment and race-based residential segregation during the past several decades.[22-23] Specifically, we analyze data from in-depth interviews to describe stressors experienced by women on Detroit's east side and to link those stressors to neighborhood-level social and material conditions. Drawing on survey data, we then test relationships between these particular stressors and women's self-reported health status. We discuss implications of the results for community and policy interventions to reduce racial and socioeconomic disparities in women's health.

The research presented here draws on and attempts to extend conceptual models of stress and health.[24-28] Stress process models identify and specify relationships among life experiences; social or personal resources used to promote or maintain health;[29-34] and psychological, physiological, and biological processes that influence well-being.[29,35-36] Stressors may be acute life events, such as the death of a loved one, or chronic life conditions, such as discrimination.[26,37] An extensive literature has examined the relationships between stressors and health outcomes,[24-29,32-39] much of it focused on individual stressors aggregated to the population level. These population-based results provide important evidence that social status may influence health because of its relationship to stressors and to resources with which to respond to stressors.[4,33,38-40] We used a stress process framework to examine relationships among social processes (eg, economic divestment), social context (eg, neighborhood characteristics), stress, and health outcomes.

The extent to which neighborhood conditions contribute to health disparities above and beyond the effects of individual or household social status is a matter of considerable interest.[15-20,41-43] Several studies have linked residence in areas of economic divestment and race-based segregation to poorer health outcomes.[20,44-52] Neighborhood characteristics may mediate the relationship between social status and health, affect health independently of individual characteristics, or both. For example, in urban communities where economic divestment has coincided with race-based segregation, residents' access to resources for promoting and maintaining health (eg, grocery stores, shopping centers, educational facilities, employment opportunities) may be reduced at the same time that exposures to risk factors (eg, hazardous waste, air pollutants) are increased.[22,23,53-60]

Detroit is one of the most racially segregated major urban areas in the United States,[22-23] and its residents disproportionately experience the combined effects of race-based residential segregation and economic divestments. During the past several decades, as middle-class residents

and employers increasingly relocated from aging urban industrial areas to outlying suburbs,[23,61] declining employment opportunities in increasingly segregated areas of the city have contributed to the impoverishment of residents.[22-23, 59,62-63] Between 1950 and 1990, Detroit lost between 130 000 and 250 000 jobs.[23,63,64] Some evidence indicates that employers responded by reducing rates of pay.[65] According to 1990 census data, the area in which this study was conducted was 95% African American, and 37% of all families and 65% of female-headed families with children under 18 reported incomes below the poverty line.[66] By comparison, in the areas surrounding Detroit city proper, 7% of residents were African American and 6% of households were below the poverty line.[66]

In this article we build on past research to examine how these population and economic changes may be linked to women's health. We ask: What stressors do women on Detroit's east side experience? How are these stressors connected to the physical and social context in which they live? How are these stressors associated with health outcomes? Ultimately, we are interested in exploring the potential of stress process models to illuminate the mechanisms through which social, political, and economic processes contribute to health disparities. By understanding how these fundamental social processes[67] contribute to systematic stressors and the relationship of those stressors to health outcomes, we seek to identify potential points of intervention to reduce the disproportionate burden of disease borne by women living in urban communities with high concentrations of poverty.

Methods

Our data were gathered through the East Side Village Health Worker Partnership, a community-based participatory research partnership of representatives from community-based organizations, health and human service agencies, academic institutions, and east side community members, under the auspices of the Detroit Community-Academic Urban Research Center funded by the Centers for Disease Control and Prevention. The East Side Village Health Worker Partnership integrates research to gain a better understanding of social determinants of health for women and children on the east side of Detroit, with a lay health advisor model to address social factors. The community-based participatory research process actively engages members of the Partnership in all aspects of research and intervention, using a stress process model as an underlying conceptual framework.[68-69]

Sample. Qualitative data come from interviews with 48 east side Detroit residents age 25 to 85, 40 of whom were African-American women. Interviewees identified themselves as active or engaged in their communities or were identified by other community members as "key informants" who were knowledgeable about the neighborhood.

Quantitative data are from a random-sample face-to-face survey conducted in 2 adjacent geographically defined subcommunities, both of which are racially segregated (94%-97% African American) and have high poverty rates (~40% below poverty). Households were selected randomly from a list of households in the identified area and respondents were selected randomly from a list of eligible respondents in each selected household. We surveyed 700 women age 18 and older who were caring for children under 18 and living on Detroit's east side.[69] The response rate was 80%. The analyses reported here are limited to the 97% of survey respondents who reported their race as African American (n=679). The mean age of survey respondents was 38.9 years, the mean household income was $14,443, and the mean number of years of education was 12.1.

Measures. We used semistructured interviews in which respondents were asked about stressors experienced by women living on Detroit's east side, strategies to maintain and promote health, and community members' perceptions of the long-term effects of those stressors and health-promoting strategies for women in the community.

The survey had 2 dependent variables: a single-item indicator of general health status (excellent, very good, good, fair, or poor) that has been shown to be a reliable predictor of future population mortality[70] and scores on the Center for Epidemiologic Studies-Depression Scale, a sum of 11 items assessing symptoms associated with depression (Cronbach's α=.83).

Independent variables included: age (years); education (1=< high school graduation; 2=high school graduation, 3=some college, 4=college graduate); and total family income (1=<$5000, 2=$5,000-9,999, 3=$10,000-14,999, 4=$15,000-19,999, 5=$20,000-24,999, 6=$25,000-29,999, 7=$30,000-39,999, 8=$40,000-49,999, 9=>$50,000). We used both pre-existing scales and scales we developed on the basis of the in-depth interviews to identify chronic stressors (available from the authors). Unfair treatment is the mean of 5 items assessing the frequency of unfair treatment experienced in the previous 12 months[71] (Cronbach's α=.82). Police stress is the sum of 3 items on the extent to which lack of trust in the police was considered a problem in the neighborhood (Cronbach's α=.84).[72] Financial stress is the sum of 5 items assessing worries about having enough money for daily necessities (Cronbach's α=.78). Safety stress is the mean of 7 items (Cronbach's α=.83), physical environment is the sum of 5 items (Cronbach's α=.72), family stress is the mean of 3 items (Cronbach's α=.63), and work stress consists of 2 items (Cronbach's α=.77). Finally, life events reported by respondents in the preceding 12 months included the sum of 6 items.

Data Analysis. In-depth interviews were tape recorded and transcribed, then analyzed using in-vivo coding and a constant comparison method to construct code categories.[73-75] Major stressors identified through this process are presented; names of all participants have been changed to ensure anonymity.

A correlation matrix was used to examine relationships between the independent and dependent variables. Next we used regression analyses to test the hypothesis that each of the stressors was associated with symptoms of depression and general health status. Each regression model included age, education, and income in addition to the measure of stress in order to assess the contribution of the stressor above and beyond the effects of those demographic variables. Finally, regression analyses were used

to test the independent and cumulative effects of each of these stressors on symptoms of depression and general health status.

Results

Financial and Family Stress. Study participants noted the lack of "viable employment opportunities" and jobs that pay "more than minimum wage" on the east side. One respondent noted that "working at Wendy's or McDonald's at $5.15 an hour, no benefits … is not going to do it," particularly if you want to "pay rent, if you have children, if you want to do something like go to school." Some interviewees felt that unemployment contributed to "the breakup of the family," as men felt they had "nothing to contribute." In keeping with these qualitative results, two-thirds (67%) of women in our survey reported that they had never been married, were divorced or widowed, and were caring for children without a partner in the household.

Lack of employment also shaped family structure and related stressors. For example, Aretha lived with her daughter and grandchildren, pooling incomes to cover expenses. She described her average workday, saying, "I get up at 3:00 am to catch the bus to [an outlying community] to get to work by 6:00. I usually get off around 3:00, take the bus, and get home around 5:00. Then I watch my grandchildren while my daughter goes to work." Some women, especially single parents, resorted to inadequate or dangerous child care arrangements, leaving young children in the care of other children "who may not be old enough to stay home [from school]" themselves or with adults they might not have selected under better circumstances.

Women relied heavily on extended family networks to provide support in child rearing. Tina noted, "There are so many children now that are being raised by grandparents and some by great-grandparents." Describing the challenges of energy, health, and resources faced by these elderly men and women, she went on to say that it "makes it tough, because if God had intended for grandparents—old folks—to have children, he would have given them to them when they got old." Those raising children without social support, who "have to do it all within the household, seeing to the kids' welfare and all that," faced the most significant challenges on all fronts.

Safety Stress. All residents reported concerns about safety, but women were particularly concerned about the safety of children, and—to a lesser extent—their own safety. Deanna worried about the safety of children who played outside, noting that "we have an awful lot of through traffic." Others described "drug and crime activity" and the potential for violence, saying, "I can hear a lot of guns going off at different times of the day, and I don't know if it's people just firing things into the air, but it's reckless." Fifty-four percent of survey respondents reported that in the past 12 months their houses had been shot at or there had been gunfire in their neighborhoods. Jean noted, "I don't allow my kids to play outside too much. I keep a really close eye on them." Some were involved in neighborhood organizing to address these concerns, but these activities required considerable time and energy, and community leaders sometimes became targets for retribution. One respondent indicated that "It's too dangerous … you go to messing with drug people, you can get yourself involved. Then they get after you."

Respondents also described gendered forms of violence, such as sexual assault and violence within intimate relationships. Georgina described the hierarchy of official responses, "Of course [the police] address the gun issues first … Not to say they won't respond [to violence against women], just what I've noticed by the time they get there [it's often too late]."

Police Stress. Janelle described the police force as an important source of support, saying, "If you ever need anything or help, they are there for you, and it's not just a cliché. My car got stolen about a couple of months ago and … I had that card of one of the cops and he was there within 5 minutes." Others, however, described a pervasive lack of trust in the police. One woman described calling the police to report suspected drug activity at a neighboring home, "and when they came, they pulled right into my driveway." Such responses, which single out and identify community residents who report illegal activities, contributed to a climate of fear in which residents were hesitant to contact police.

Physical Environment. Respondents were also frustrated over city services, for example, street lights that had "been out since summer." Arianna, an elected city official, said, "I call once a month … Nothing happens. Now I could call and say 'I, the [job title], want you to do something,' but I don't operate that way, number 1, and number 2, if I can't get it done, what can a normal citizen do?" Poor city maintenance contributed to concerns about safety when, for example, "your kids gotta go out, the street lights aren't on." East side community residents were also concerned about illegal dumping. Deanna described her efforts to get the city to clean up illegally dumped material in a vacant house near her home. "I mentioned it to one of the inspectors. One of them says, 'I'll go out tomorrow.' A year later … I said, 'by the way, you guys, I mentioned this house next to me, nothing's been done in a year.' And the guy says, 'I'm the one who went and looked. I went out the next day. Has nothing been done?' I said 'No, nothing's been done.' I've mentioned it 3 times to my Community Relations Officer at the police precinct … But apparently they can't do anything either." Illegally dumped materials posed physical threats to residents, including children who might play in vacant lots contaminated with unknown materials.

Unfair Treatment. Women described day-to-day encounters with individuals and organizations—including those to whom they turned for support in raising children—that they found disillusioning, disrespectful, or discouraging. Some attributed such interactions directly to racial discrimination, noting that "you get out there in society, and it is real." In addition to disrespect or lack of courtesy, respondents also described the "red tape" they experienced as they sought support from community services.

Provider rules and regulations were amplified for women who had to negotiate with multiple agencies. For example, Johnetta described her efforts to help a woman move her children from a rental property because high lead levels were

Table 1. Associations Between Stressors and Symptoms of Depression and General Self-Reported Health Status Among African-American Women Living in Detroit, Controlling for Age, Income, and Education

	Depressive Symptoms*				General Health Status†			
	b (SE)	β	R^2	P	b (SE)	β	R^2	P
Age, education, and income	. . .	. . .	.054		. . .	. . .	.152	
Financial stress	.167 (.017)	.386	.182	<.001	-.252 (.044)	-.216	.191	<.001
Family stress	.091 (.017)	.199	.094	<.001	-.230 (.043)	-.187	.187	<.001
Work stress	.060 (.016)	.152	.074	<.001	-.084 (.040)	-.080	.158	.037
Safety stress	.133 (.018)	.278	.126	<.001	-.192 (.046)	-.150	.174	<.001
Police stress	.065 (.013)	.196	.091	<.001	-.104 (.032)	-.115	.165	.002
Physical environment	.075 (.017)	.168	.075	<.001	-.182 (.044)	-.151	.176	<.001
Unfair treatment	.130 (.018)	.265	.123	<.001	-.140 (.047)	-.107	.163	.003
Acute life events	.059 (.017)	.138	.069	<.001	-.116 (.042)	.099	.161	.006

*Education significant at between .05 and .001, and income significant at .001.
†Age and income significant at .001.

affecting the children's health. The woman could not "move without money for a new place. In order to get money through [a particular agency], she had to be declared ineligible for emergency assistance at FIA [Family Independence Agency]."

Participants also described the fragmentation of services that often required multiple trips and extended efforts to obtain needed health care. Abrupt or discourteous treatment by staff, overbooked clinics, and long waits that sometimes resulted in excess time away from work often meant women's own health care needs came last. Corinne summed up the challenges by saying, "the entire system is so un-user friendly [that it] is the number one barrier" to the use of health care. Some respondents voiced suspicion that service providers might have intentionally discouraged their use of services. For example, a working single mother with 2 young daughters noted that, "social service offices, I think they do things that discourage you and that's their job. They figure you would get tired of doing this, and you would do something about your situation and get off of ADC. But I don't think it's right."

Relationships Between Stressors and Health Outcomes. In this section, we test the hypothesis that the stressors identified in the in-depth interviews—financial, family, work, safety, police, physical environment, and unfair treatment—are independently and cumulatively related to symptoms of depression and general health status, above and beyond the effects of age and socioeconomic status. Correlations ranged from .099 ($p=.010$) to .461 ($p<.001$). The strongest correlations (above .400) were between financial stress and safety stress, physical environment and family stress, and physical environment and safety and police stress.

Each of the stressors was significantly associated with depressive symptoms ($p<.001$) above and beyond the effects of age, household income, and education (Table 1). In each of these models, education ($p<.05$) and income ($p<.001$) were significantly associated with symptoms of depression (results not shown). Financial

Table 2. Associations Between Chronic Stressors and Symptoms of Depression and General Self-Reported Health Status Among African-American Women in Detroit

	Symptoms of Depression Model 1			General Self-reported Health Status Model 2		
	b (SE)	β	P	b (SE)	β	P
Age	-.028 (.010)	.051	.193	-.260 (.027)	-.381	<.001
Education	-.041 (.017)	-.098	.017	.063 (.047)	.055	.179
Income	-.011 (.007)	-.066	.126	.066 (.020)	.146	.001
Financial stress	.125 (.021)	.292	<.001	-.178 (.058)	-.151	.002
Family stress	.004 (.019)	.008	.847	-.150 (.053)	-.122	.005
Work stress	-.011 (.017)	-.029	.502	.052 (.046)	.049	.259
Safety stress	.044 (.021)	.092	.036	-.001 (.057)	-.001	.982
Police stress	.043 (.014)	.127	.002	-.058 (.038)	-.064	.129
Physical environment	-.014 (.019)	-.032	.462	-.048 (.052)	-.040	.353
Unfair treatment	.062 (.019)	.126	.002	-.015 (.053)	-.011	.781
Constant	1.003			4.588		
R^2	.218			.217		

stress showed the strongest association with symptoms of depression, and the model with just the control variables and financial stress accounted for 18% of the variation in symptoms of depression in this sample. Safety stress and unfair treatment were also strongly associated with symptoms of depression, accounting for 13% and 12% of the variance in depressive symptoms, respectively. Police stress, the physical environment, work stress, family stress, and the number of acute life events experienced in the previous year accounted for between 7% and 9% of the variation in symptoms of depression.

Regression analyses with the same set of chronic and acute stressors showed that each stressor contributed significantly to explaining the variance in general self-reported health status when included alone in the model with the demographic variables ($p<.05$). In each model, age and income were significant predictors of general, self-reported health status ($p<.001$). Financial and family stress showed the strongest relationships, and together with age, income, and education, each accounted for about 19% of the variance in self-reported general health status. Models with the remaining stressors accounted for approximately 16% to 18% of the variance in general health status.

Table 2 shows the cumulative effect of the chronic stressors on depression and general health status. Model 1 included all of the chronic stressors regressed on symptoms of depression, and they accounted for 22% of the variance in the dependent variable. Education, unfair treatment, police stress, safety stress, and financial stress were statistically significant ($p<.05$). Acute life events did not make a significant contribution to explaining the variance in symptoms of depression, above and beyond the effects of the chronic stressor scales (results not shown).

Model 2 included all of the chronic stressors regressed on general self-reported health status. This model accounted for 22% of the variance in self-reported general health status, with age, income, financial stress, and family stress significant ($p<.05$). Acute life events did not make a significant independent contribution to understanding variations in general self-reported health status above and beyond the effects of the chronic stress subscales (results not shown).

Discussion

The complex set of stressors experienced by women on Detroit's east side are consistent with those described by African-American women in other urban communities.[76-80] They suggest that limited employment opportunities have implications for family structure as well as for income and working conditions.[77] Reported concerns about neighborhood safety and the physical environment were associated with financial stress, suggesting that these stressors may be linked or that they may reflect a common underlying factor. For example, economic divestment may contribute to increased financial vulnerability as families have decreased access to employment and at the same time contribute to a declining urban tax base, with implications for police responsiveness, residents' sense of safety, and funding for other city services.[4,55,81] Each of the stressors examined here was significantly related to women's health outcomes; that is, women who reported higher levels of these stressors reported poorer mental and general health status. These results are consistent with theoretical frameworks that explicitly link fundamental factors, such as socioeconomic status, to health through their implications for proximate stressors.

Women also reported unfair treatment and disrespect in their day-to-day experiences and in their encounters with health and social service providers. A large body of research has established direct and negative effects of unfair treatment on mental and physical health.[56,59,73,82-87] African Americans report many more such experiences than do white Americans.[56,57,71,85,86] These experiences contribute to racial disparities in health above and beyond the effects of discrimination on socioeconomic status and are not limited to African Americans who live in high-poverty neighborhoods.[56,71,88-89] These results suggest that women raising children in urban communities with few economic resources experience a constellation of interrelated stressors linked to the conditions of life in their neighborhoods, and that African-American women face the additional stress of disrespectful or unfair treatment.

Our results lend support to an understanding of the stress process that encompasses variations in social and physical conditions as well as in the degree to which those conditions are experienced as stressful. Neighborhood conditions may vary within geographic areas; for example, neighborhoods with stronger social networks may be nested within areas with weaker ties. How stressors are experienced may depend on household or individual factors, such as household composition or the health of household members. Efforts to address health disparities must recognize relationships between fundamental social processes and more proximate stressors, as well as coping strategies and, ultimately, the impact of stressors on health.[90-95]

This study has several limitations. First, the data are cross-sectional and provide no basis for drawing causal inferences—that is, whether stressors cause symptoms of depression or vice versa. Nevertheless, our findings are consistent with a large body of work suggesting that socio-environmental conditions are related to variations in mental health[38,57,96,97] and physical health.[4,38] Furthermore, the study does not include comparisons across communities. However, these results are consistent with other studies that have associated residence in high-poverty communities with increased exposure to some stressors as well as with poorer health outcomes.[51,52,56,98-101]

The results presented here report on our efforts to extend the stress process model beyond the level of intrapsychic, personal, or family stressors. These results make explicit that stressors are not simply, in the words of C. Wright Mills, "personal troubles," but are, indeed, "public issues."[102] Connecting individually experienced stressors with the social context in which they are produced shifts the lens through which we view not only the problems, but also the potential solutions. Our results point to interventions that address underlying or fundamental causes of health disparities.[87] City services, for example, may be enhanced through collaborations among community-based organizations, educational institutions, and community residents who work

together to develop responsive policing, clean up illegally dumped materials, or replace streetlights. Community-based organizations and educational institutions may join with local businesses to provide job skills and employment training.

Community projects must be complemented by state or federal initiatives such as tax incentives to encourage business development in economically disenfranchised urban areas, ensuring that residents have employment opportunities to match their new job skills. Local employers must offer more parent-friendly work environments if these employment opportunities are to be viable options for women and men with child care responsibilities, especially single parents. Collective mobilization, public advocacy, and other policy change strategies are important components of health promotion efforts that seek to address disparities between the health of women residing in high-poverty urban communities and those with greater access to resources.

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