Putting Gender in Context: Gender Differences in Neighborhood Influences on Health

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Abstract:
We examine gender differences in exposure and susceptibility to hazardous neighborhood conditions. We utilize a unique data source, the Chicago Community Adult Health Survey, which combines information on adult health with a rich set of neighborhood measures. Using multilevel regression, we determine if: 1) women live in worse neighborhood conditions compared to men; 2) there are gender differences in the influence of socioeconomic disadvantage on body mass index; and 3) the influence of neighborhood psychosocial stressors on anxiety differs by gender. We found that, compared to men, women lived in more disadvantaged and stressful neighborhoods. In addition, neighborhood socioeconomic disadvantage was positively related to BMI among women, but not men, and neighborhood stressors were more strongly related to anxiety among women. These results suggest that neighborhoods matter differently for men and women. Next steps include using decomposition models to differentiate between gender differences attributable to exposure and susceptibility.

Extended Abstract:

Numerous studies have examined the links between neighborhoods and health. However, the importance of gender in shaping neighborhood influences has gone largely unnoticed. Yet there is reason to expect that men and women vary in their exposure and susceptibility to neighborhood influences. For instance, women tend to have lower income and fewer economic resources than men and may, as a result, be more likely to live in poor neighborhoods. There has been little empirical research to-date, however, establishing whether gender differences exist in exposure to harmful neighborhood environments.

Even if men and women are exposed to similar environments, women may be more susceptible to neighborhood hazards. For instance, quantitative and ethnographic research suggests that women generally experience greater fear than men of being victimized by crime (Ferraro 1996; Warr 1987) and that men and women engage in different adaptive strategies to avoid risk in high-crime neighborhoods: whereas women tend to retreat from public spaces into the domestic realm and avoid being outdoors in the evening (or times that are considered least safe), men are more inclined to engage in "street life" and adapt a "hypermasculine" identity that includes physical prowess and toughness (Bouorgois 1996; Carvalho and Lewis 2003; Pain 1991). Women living in such neighborhoods may also experience more stress than men because they respond to their heightened fear of crime by practicing hypervigilance while in public spaces. Thus, we would expect that stressful neighborhood conditions are more harmful to the health of women.

Although there are strong theoretical reasons for expecting neighborhood conditions to be distributed, and operate, differently for men and women, there has been very little research on gender differences in neighborhood conditions and influence on health. Our aims are to determine if women live in worse neighborhood conditions than men and if neighborhood influences on health differ for men and women.

We analyze data from the 2001-2003 Chicago Community Adult Health Survey (CCAHS), a multi-stage probability sample of 3,105 adults age 18 and older living in Chicago, IL. The sample is stratified by 343 neighborhood clusters (NC), as defined by the Project on Human Development in

Chicago Neighborhoods (PHDCN) (Sampson, Raudenbush, & Earls, 1997), with an average of 9.1 subjects per NC. Data on the neighborhood environment come from a community survey assessing neighborhood social processes, direct observations of the area surrounding respondents' homes, and the 2000 Census.

Two indicators representing physical and mental health are examined: body mass index (BMI) and anxiety. We chose these specific outcomes because prior research has established that they differ according to gender and that they are associated with neighborhood conditions. Although we examine several dimensions of the neighborhood environment, we focus in particular on socioeconomic disadvantage and psychosocial stressors, which have been linked to BMI and anxiety in previous research. Disadvantage is a mean scale (α=0.96) of six standardized variables: proportion of households with income below $15,000, proportion of households with annual income of $50,000 and higher, proportion of the 16 and older labor force that is unemployed, proportion of families with 1999 income below the poverty line, proportion of households with public assistance income, and proportion of housing units that are vacant. Psychosocial stressors is a standardized mean (α=0.92) of five scales representing community levels of disorder, violence, safety, hazards, and services.

First, we assess differences in neighborhood environments by gender. Then, we use multilevel linear regression models, which account for the clustering of respondents in NCs, to determine if gender moderates the influence of key neighborhood characteristics. Models include controls for age, race/ethnicity, foreign born status, education, income, employment status, and marital status. All analyses are weighted

Results from Table 1 indicate that women live in neighborhoods characterized by lower levels of affluence and higher levels of disadvantage and psychosocial stressors. Men and women live in neighborhoods with similar levels of social support and engagement. Table 2 shows the results for BMI. Men have lower BMI than women (model 1) and neighborhood socioeconomic disadvantage is associated with higher BMI (model 2). Model 3 shows a statistically significant interaction between male gender and neighborhood disadvantage. This interaction is graphed in Figure 1. As the level of neighborhood disadvantage increases, BMI increases among women but decreases among men. Table 3 shows the results for anxiety. Men report less anxiety than women (model 1) and neighborhood psychosocial stressors are associated with higher levels of anxiety (model 2). Model 3 shows a statistically significant interaction between male gender and neighborhood stressors. Figure 2 shows that anxiety increases with increasing levels of neighborhood stressors for both men and women, but increases more rapidly for women.

These initial results suggest that neighborhood influences on health differ in important ways for men and women. Future analyses will incorporate decomposition models, which will help us determine how much of the gender difference in health is attributable to gender differences in exposure to neighborhood conditions and how much is attributable to gender differences in susceptibility to similar neighborhood environments.

References

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Table 1. Gender Differences in Neighborhood Conditions, CCAHS (N=3,105)

	Mean		Gender Gap	
	Women	Men		
Affluence	0.16	0.31	-0.15	***
Disadvantage	-0.19	-0.29	0.10	***
Psychosocial Stress	-0.15	-0.22	0.08	*
Social Support	0.06	0.01	0.05	
Social Participation	0.00	-0.03	0.03	

*** p<.001, ** p<.01, * p<.05, + p<.10 (statistical significance is based on F test for difference in means)

Table 2. Multilevel Regression of Body Mass Index, CCAHS (n = 3,105)

	Model 1		Model 2		Model 3	
	b (se)		b (se)		b (se)	
Focal Measures						
Male	-0.56	(0.27) *	-0.56	(0.27) *	-1.00	(0.27) ***
Neighborhood disadvantage			0.91	(0.28) **	0.50	(0.29) +
Disadvantage*Male					-1.54	(0.39) ***
Controls						
Age	0.04	(0.01) ***	0.05	(0.01) ***	0.05	(0.01) ***
Race/Ethnicity (ref-Nhwhite)						
Nhblack	2.90	(0.39) ***	2.78	(0.44) ***	2.61	(0.44) ***
Hispanic	3.09	(0.40) ***	3.06	(0.40) ***	2.87	(0.41) ***
Nhother	-0.01	(0.50)	-0.02	(0.50)	-0.17	(0.46)
Education (ref=16+ years)						
<12 years	0.91	(0.45) *	0.87	(0.46) +	0.65	(0.46)
12-15 years	0.58	(0.35) +	0.56	(0.35)	0.34	(0.35)
Income (ref=$50k+)						
<$10,000	-0.53	(0.61)	-0.56	(0.62)	-0.41	(0.62)
$10,000-$29,999	-0.05	(0.42)	-0.07	(0.43)	-0.00	(0.42)
$30,000-49,999	-0.77	(0.40) +	-0.77	(0.40) +	-0.69	(0.39) +
Missing	-0.84	(0.44) +	-0.84	(0.44) +	-0.89	(0.43) *
Employment status (ref=employed)						
Unemployed	-0.55	(0.56)	-0.56	(0.56)	-0.68	(0.54)
Not in the labor force	-0.81	(0.35) *	-0.82	(0.35) *	-0.82	(0.35) *
Nativity (ref=U.S. born)						
Foreign born	-0.98	(0.33) **	-0.97	(0.33) **	-0.94	(0.33) **
Marital Status (ref=Married)						
Not currently married	-0.44	(0.40)	-0.44	(0.41)	-0.47	(0.40)
Never married	-1.11	(0.35) **	-1.11	(0.35) **	-1.07	(0.35) **
Intercept	25.75	(0.56) ***	25.84	(0.58) ***	26.17	(0.58) ***
Variance Components						
Level 1	1.79	(0.02) ***	1.79	(0.02) ***	1.78	(0.02) ***
Level 2	0.40	(0.12) ***	0.39	(0.12) ***	0.33	(0.12) **
Log Likelihood	-10041.637		-10041.443		-10011.42	

*** p<.001, ** p<.01, * p<.05, + p<.10

Table 3. Multilevel Regression of Anxiety, CCAHS (n = 3,105)

	Model 1		Model 2		Model 3	
	b (se)		b (se)		b (se)	
Focal Measures						
Male	-0.07	(0.02) **	-0.07	(0.02) **	-0.08	(0.02) **
Neighborhood stressors			0.07	(0.02) **	0.10	(0.03) ***
Stressors*Male					-0.05	(0.03) *
Controls						
Age	-0.00	(0.00)	-0.00	(0.00)	-0.00	(0.00)
Race/Ethnicity (ref-Nhwhite)						
Nhblack	0.06	(0.03) *	0.05	(0.04)	0.05	(0.04)
Hispanic	0.03	(0.04)	0.02	(0.04)	0.02	(0.04)
Nhother	0.10	(0.07)	0.09	(0.07)	0.08	(0.07)
Education (ref=16+ years)						
<12 years	0.14	(0.04) **	0.14	(0.05) **	0.14	(0.05) **
12-15 years	0.09	(0.03) **	0.10	(0.03) **	0.10	(0.03) **
Income (ref=$50k+)						
<$10,000	0.20	(0.06) ***	0.19	(0.06) ***	0.20	(0.06) ***
$10,000-$29,999	0.13	(0.04) ***	0.13	(0.04) ***	0.13	(0.04) ***
$30,000-49,999	0.03	(0.03)	0.03	(0.03)	0.03	(0.03)
Missing	0.06	(0.04) +	0.07	(0.04) +	0.07	(0.04) +
Employment status (ref=employed)						
Unemployed	0.03	(0.05)	0.03	(0.05)	0.03	(0.05)
Not in the labor force	0.11	(0.03) **	0.11	(0.03) ***	0.11	(0.03) **
Nativity (ref=U.S. born)						
Foreign born	-0.11	(0.04) **	-0.11	(0.04) **	-0.10	(0.04) **
Marital Status (ref=Married)						
Not currently married	0.08	(0.04) *	0.07	(0.04) *	0.07	(0.04) *
Never married	0.03	(0.03)	0.02	(0.03)	0.02	(0.03)
Neighborhood disadvantage			-0.01	(0.03)	-0.01	(0.03)
Intercept	1.41	(0.05) ***	1.41	(0.06) ***	1.41	(0.06) ***
Variance Components						
Level 1	-0.61	(0.02) ***	-0.61	(0.02) ***	-0.61	(0.02) ***
Level 2	-1.91	(0.13) ***	-1.96	(0.13) ***	-1.96	(0.13) ***
Log Likelihood	-2600.355		-2592.178		-2589.767	

*** p<.001, ** p<.01, * p<.05, + p<.10

Figure 1. BMI by Neighborhood Socioeconomic Disadvantage and Gender

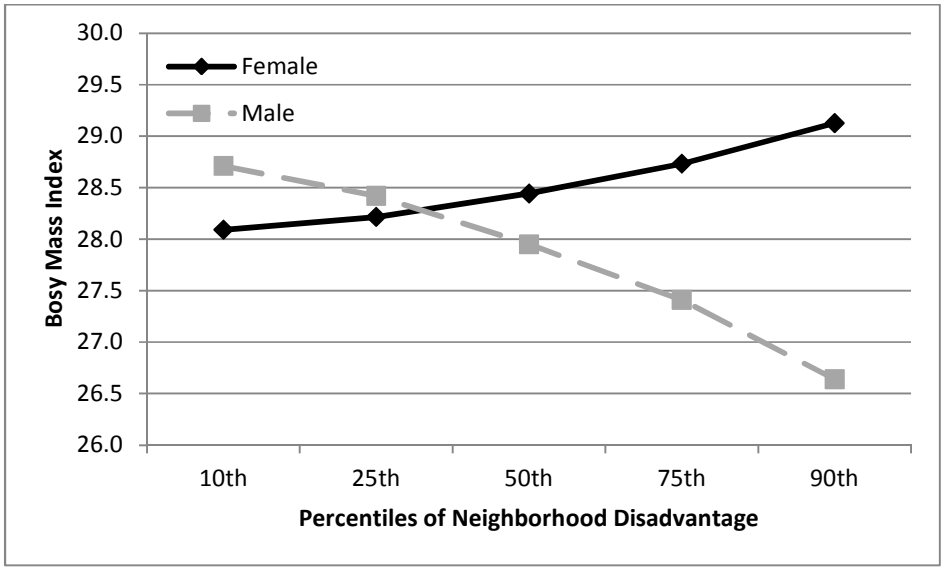

Figure 2. Anxiety by Neighborhood Psychosocial Stressors and Gender