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The Influence of Women’s Neighborhood Resources on Perceptions of Social Disorder

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Abstract

Research links neighborhood social disorder with poorer health. But factors beyond observed disorder may influence perceptions that social disorder is problematic. This study investigates whether women’s aggregate socioeconomic resources relative to men’s in the broader neighborhood context attenuate the extent to which more prevalent observed social disorder within the immediate residential neighborhood contributes to perceptions of more problematic social disorder. This attenuation likely is pronounced among women, for whom sexual harassment in public spaces is a more salient concern compared to men. Using data from the Project on Human Development in Chicago Neighborhoods, multilevel models analyze individual perceptions of problematic social disorder (N=3,107) regressed on the interactive effect of observed social disorder within the census block group (N=525) and women’s relative resources within the neighborhood cluster (N=80). The results show that women’s relative resources within the broader neighborhood context protect against women’s perceptions that typically undesirable neighborhood conditions are problematic.

INTRODUCTION

Exposure to residential neighborhood social disorder—that is, public displays of behaviors such as drug use, prostitution, and intoxication—contributes to poor mental and physical health (Aneshensel and Sucoff 1996; Kim 2010; Sampson et al. 2002). Although some studies examine the consequences of the observed prevalence of behaviors associated with disorder (Browning et al. 2013; Molnar et al. 2004)—hereafter, observed social disorder cues—most research examines the effects of self-reported perceptions of the extent to which social disorder is problematic (Hill et al. 2005; Latkin and Curry 2003; Ross et al. 2001). And while the prevalence of observed social disorder cues and perceived social disorder are highly correlated (Sampson and Raudenbush 1999; 2004), research indicates that individuals interpret the same objective neighborhood conditions differently (Sampson 2009; Sampson...
et al. 2002; Wickes et al. 2013). Moreover, research suggests that the extent to which certain behaviors (e.g., violence) are understood as problematic varies according to neighborhood characteristics, such as socioeconomic disadvantage (Berg, Stewart and Simmons 2011) or the collective view that legal protections are unavailable (Anderson 1999; Kirk & Papachristos 2011; self-cites). To better understand the risks posed by exposure to social disorder, it is imperative to understand what induces individuals to interpret observed social disorder cues as problematic. We propose that neighborhood gender stratification plays an important role in shaping perceptions of social disorder because it contributes to contexts where women face a heightened risk of sexual harassment. Informed by the U.S. Equal Employment Opportunity Commission’s (2016) definition, we refer to sexual harassment as offensive behaviors that target women because of their gender, represent the devaluation and objectification of women, and contribute to contexts that are hostile toward women.

**OBSERVED VERSUS PERCEIVED SOCIAL DISORDER**

Recent discourse in the *British Journal of Sociology* highlights the importance of understanding how contextual factors inform individual interpretations of disorder. Summarizing a common theme of the discussion, Sampson (2009) remarked “we are processing something else than what we see directly” (p. 89). Consistent with this theme, research suggests that variation in individual perceptions of disorder is explained by factors other than the presence of observed social disorder cues. For example, Sampson and Raudenbush (2004) found that the racial composition of the neighborhood influences perceptions of neighborhood disorder net of observed disorder cues. They conclude that racial stigmas—which presume that minority-concentrated neighborhoods are disorderly—shape perceptions of disorder.

While Sampson and Raudenbush (2004) underscore the influence of contextual factors beyond observed behavioral cues, they did not assess whether key features of the neighborhood context modified interpretations of observed social disorder cues. But favorable neighborhood conditions along different dimensions may attenuate the association between exposure to behaviors or events that are typically menacing and perceptions that neighborhood conditions are problematic. For example, Wickes and colleagues (2013) found that residents perceive more social disorder when they overestimate the percentage of neighborhood residents who are racial or ethnic minorities, but that this association is diminished where neighborhood social cohesion is stronger. Taub and colleagues (1984) found that residents perceived some areas to be relatively safe despite high crime rates. They propose that apparent efforts by institutional actors, such as businesses and community organizations, to reduce crime attenuate the extent to which higher crime lowers perceptions of safety. Building on the idea that interpretations of neighborhood conditions are influenced by factors other than observed cues, we assess whether the association between observed and perceived social disorder is modified by neighborhood-level gender stratification—a factor typically absent from neighborhood studies but potentially key to understanding perceptions of social disorder, especially among women. In the following paragraphs we elaborate on this potential multilevel moderation, which is depicted in Figure 1.
GENDER, DISORDER, AND HARRASSMENT IN PUBLIC SPACE

Individuals’ use of public space is shaped by characteristics of the environment. Features of the environment that contribute to a heightened (perceived) risk of sexual harassment are particularly salient for women, who develop strategies for avoiding “dangerous places.” Valentine (1989) proposes that both physical and social cues—such as the control of public space by a threatening group—shape assessments of danger or safety in public space. Specifically, Valentine asserted that “women’s inhibited use and occupation of public space is therefore a spatial expression of patriarchy” (p. 289). Moreover, recent research suggests that women’s and girls’ apprehensions about neighborhood conditions are shaped by local gender dynamics (Miller 2008; Popkin et al. 2010) that advantage men and boys.

In their study of the federal government’s Moving To Opportunity demonstration, Popkin and colleagues (2010) found that sexual harassment in the neighborhood is a salient concern for female residents. Girls and mothers who moved from high- to low-poverty neighborhoods experienced less harassment and felt safer from harassment by men and boys. In contrast, those who remained in high-poverty neighborhoods experienced more sexual harassment. Importantly, exposure to menacing conditions in public spaces contributed to girls’ and mother’s apprehensions about living in a high-poverty neighborhood. A common concern was that men and older boys would prey on adolescent girls, offering them drugs and pressuring them into sexual activity. And although boys in the study were less concerned with harassment, those living in the high-poverty neighborhoods nonetheless acknowledged the widespread view of women and girls as objects of sexual conquest.

Consistent with Popkin et al. (2010), Miller’s (2008) qualitative study of disadvantaged, African American-concentrated communities found that “youths emphasized the dangers to girls caused by predatory male behavior” (p. 37), whereas risks to boys and young men generally were associated with gangs and criminal offending. Respondents in Miller’s study also emphasized the public nature of the risks for girls and women, such as the presence of threatening groups of men who were using or selling drugs. Respondents perceived that the men engaging in these disorderly behaviors were likely to sexually harass women who crossed their path. Additionally, Miller noted the pervasive views that women are vulnerable and easy targets for victimization, arguing:

These widespread belief systems did not just affect youths’ perceptions of gender and risk but contributed more broadly to a hierarchy on the streets in which females were situationally disadvantaged vis-à-vis males and therefore often viewed by males simply in terms of their sexual availability… Such gendered status hierarchies affected how young women were treated in public places and how others responded to incidents in which females were mistreated. Moreover, these inequalities limited the recourse available to young women for challenging gender-based violence. (P.39)

Consistent with previous research on neighborhood contexts and notions of gender and masculinity (Anderson 1999), the studies by Popkin et al. (2010) and Miller (2008) suggest that socioeconomically disadvantaged neighborhoods are characterized by gendered
hierarchies that endorse the objectification and sexual harassment of women. So although socioeconomically disadvantaged neighborhoods often are also precarious environments for women, these studies emphasize that the key determinants of sexual harassment are rooted in gender stratification within neighborhoods. And according to Blumberg’s (1984) theory of gender stratification, women’s position in the gender hierarchy—particularly at low levels of aggregation, such as the neighborhood—is determined primarily by their control over economic resources.

Research at higher levels of aggregation, such as the city, state, or country, links women’s aggregate socioeconomic resources to various outcomes that benefit women (Bolzendahl 2009; Huber and Stephens 2000; self-cite; McCammon et al. 2001; Soule and Olzak 2006; Vieraitis et al. 2008; Xie, Heimer, and Lauritsen 2012; Yllö and Straus 1995; Yodanis 2004). The neighborhood literature, however, largely has neglected the influence of women’s collective resources. But one recent study suggests that women’s socioeconomic resources relative to men’s at the neighborhood-level of aggregation reduce a woman’s risk of intimate partner violent (IPV) victimization by prioritizing the extent to which informal social control in the neighborhood is directed at protecting women’s wellbeing (self-cite). In this study we investigate whether women’s relative neighborhood resources also shape women’s perceptions that observed social disorder cues within the neighborhood are problematic.

Women’s Relative Resources

Blumberg (1984) proposes that a woman’s power to control her life circumstances at the micro level is conditional in part on women’s relative socioeconomic resources at more macro levels. Specifically, Blumberg proposes a moderating relationship wherein favorable conditions at micro levels are more advantageous when women’s relative macro-level resources are greater. For example, research on the division of housework between spouses finds that women reap added benefits from their individual-level time availability and gender egalitarian ideology when they reside in countries with higher levels of women’s relative parliamentary representation, employment in high status occupations, and earned income (Fuwa 2004). Likewise, adverse conditions at microlevels should be less detrimental to women’s wellbeing where women’s relative macrolevel resources are greater. For instance, [self-cite] found that although a woman with a higher salary relative to that of her partner has a greater risk of IPV victimization, this risk is diminished when she resides in a neighborhood where women’s aggregate relative resources are greater. Accordingly, observed social disorder cues within a local environment should be less threatening toward a woman’s (perceived) capacity to avoid or prevent sexual harassment and victimization when they are embedded in a broader neighborhood context characterized by higher levels of women’s relative resources.

Women’s relative resources is the neighborhood, specifically, should be influential because the neighborhood is a context where individuals often engage in economic activity (Imagami et al., 2006; Sastry, Pebley and Zonta 2002). Women’s absence from paid labor and related activities—which Blumberg (1984) argues are the foundation of economic power—not only limits women’s capacity to improve their circumstances, but it also limits the prominence of women’s public presence (Valentine 1989). If women lack resources independent of
husbands or male kin, then women are not the sources of financial input to local businesses, government taxes, or other investments in the neighborhood. Thus, where women’s labor tends to be confined to the home or to lower-status positions, it is possible that the public environment more closely resembles “male-dominated terrains” (Miller 2008:41), within which men view women as opportunities for sexual conquest. Under these conditions, the sexual harassment of women is unlikely to be understood as a public problem that should be addressed by neighborhood social controls (self-cite). Consequently, where women collectively lack socioeconomic resources compared to men, it is likely that a woman will be less confident that the neighborhood will protect her from sexual harassment, and she accordingly will interpret observed cues of social disorder as indicators that the immediate environment is particularly hostile toward women.

In contrast, where women’s relative resources are greater, women become more indispensible to the wellbeing of the local economy. Under these circumstances, women’s (continued) contributions to local businesses, institutions, and taxes become a neighborhood priority (self-cite). Accordingly, threats to women’s interests and wellbeing in public spaces—which might deter their use of public space and corresponding economic activity—are more likely to be viewed as problems that the neighborhood should control against. Thus, where women’s aggregate relative resources are greater, a woman should have more confidence that the community will protect her from sexual harassment and consequently interpret observed social disorder cues as less problematic.

**CURRENT STUDY**

In sum, we hypothesize that by enhancing the expectation that community social controls will protect women from sexual harassment, higher levels of women’s relative resources within the broader neighborhood context will attenuate the association between more prevalent observed social disorder cues in the immediate residential neighborhood and individual perceptions that neighborhood social disorder is more problematic. And while men may agree that the harassment of women is problematic, this issue almost certainly is more salient for women—the primary targets of this menacing behavior (Popkins et al. 2010). We therefore expect that the modifying influence of women’s relative neighborhood resources will be pronounced among women.

We further expect that women’s relative resources will modify the effect of observed social disorder cues net of overall concentrated disadvantage in the neighborhood. It is possible, for example, that within the same neighborhood women control a greater share of socioeconomic resources compared to men and there is substantial overall concentrated disadvantage. On the one hand, concentrated disadvantaged is linked to social disorganization within the neighborhood and consequently weak informal social control of public space (Shaw and McKay 1969; Sampson et al. 1997). Such a neighborhood therefore may exhibit a high prevalence of observed social disorder cues (Sampson and Raudenbush 1999). But informal social control against the harassment of women, specifically—even if that control is weak—nonetheless should receive higher priority than in neighborhoods where women’s relative resources are smaller. Consequently, observed social disorder cues—which may be abundant in this neighborhood—should be interpreted as less threatening.
toward women—and therefore less problematic—than social disorder in neighborhoods with comparable disadvantage but lower levels of women’s relative resources.

Finally, drawing insights from Wickes et al. (2013) and Taub et al. (1984), we investigate the possibility that the modifying influence of women’s relative resources is mediated by individual perceptions of local social control. If neighborhoods with higher levels of women’s relative resources better protect women from sexual harassment, then it follows that individuals in those neighborhoods will expect that others are more likely to intervene on their behalf. This perception in turn may reduce the extent to which individuals view observed social disorder cues as problematic. We therefore examine whether individual-level perceptions of neighborhood collective efficacy—that is, trust and cohesion among neighbors and their commitment to the informal social control of public space (Sampson et al. 1997)—or police efficacy mediate the association between observed social disorder cues and perceived problematic social disorder.

We examine the determinants of perceived problematic social disorder using hierarchical linear models (HLM) and data from the 1990 census and two components of the Project on Human Development in Chicago Neighborhoods (PHDCN)—the Community Survey (CS) and the Systematic Social Observation (SSO). The PHDCN data are well-suited for this analysis because they may be linked together to yield a sample of individuals who are geographically nested within immediate residential neighborhoods that are nested within broader neighborhood contexts. Additionally, the CS provides self-reports of perceived problematic social disorder, and the SSO contains independently collected video data on social disorder cues that are observed on streets comprising the immediate residential neighborhoods (Raudenbush and Sampson 1999).

**METHODS**

**Data**

The CS data, which were collected in 1994, were derived from a sample of 8,782 adults residing in Chicago neighborhoods. The PHDCN identified 343 neighborhood clusters (NCs) based on 1990 Census data, geographic boundaries (e.g., railroad tracks, parks), and knowledge of Chicago neighborhoods. Within each NC, city blocks were sampled, and within each block, dwelling units were sampled. Finally, one adult respondent per dwelling unit was sampled and interviewed for the CS (Earls et al. 2007; Sampson et al. 1997).

The SSO, which was conducted between June and September of 1995, is a study of physical and social attributes of Chicago neighborhoods through video observations and observer logs. To collect data, the National Opinion Research Center drove a vehicle at 5 miles per hour down every street of 80 NCs. The 80 NCs were selected based on a probability sample of all 343 NCs, which were stratified by racial/ethnic composition and socioeconomic status. A videographer and two observers recorded events and characteristics for each block face (i.e., one side of a city block). Although a total of 23,816 block faces were observed and video recorded, some variables—including those we use in this study—were coded only for this subsample of block faces (N=15,141) (Earls et al. 2005; Raudenbush and Sampson 1999). We aggregated SSO data to the census block group (BG) level (N=539).
Sample

Three nested units of analysis are represented in this study—the individual, his or her immediate residential neighborhood, and the broader neighborhood context in which it is embedded. Both the immediate and broader neighborhood likely influence perceptions of local social disorder. We consider an immediate residential neighborhood as one that is geographically bound and maximizes internal pedestrian activity. T-communities, for example, are areas in which access to houses is not disrupted by non-residential streets (Grannis 1998). BGs resemble t-communities in that they typically are not dissected by major highways or thoroughfares. Following Sampson and Raudenbush (2004), we use BGs to approximate the immediate residential neighborhood.

In addition to the immediate residential neighborhood, individuals often engage in routine activities (e.g., religious worship and grocery shopping) within the geographic area that extends beyond their residential block group or even census tract (Sastry et al. 2002). With this idea of routine activity space in mind, the NCs capture larger areas with differentiated and relatively internally consistent social climates (Sampson et al. 1997). In this study we use NCs to represent the broader neighborhood context.

In summary, at level one are CS respondents, who are nested within BGs, which are nested within NCs. Only 3,869 CS respondents resided in the subsample of SSO BGs. Of these respondents, 206 have missing data on all items comprising the dependent variable, and an additional 356 have missing data on independent variables. The resulting sample is 3,107 adults—58% of whom are women—nested in 525 block groups and 80 NCs. On average, there are 5.92 respondents per BG, and 6.56 BGs per NC.

Dependent Variable Measurement

The dependent variable captures the extent to which respondents view the following social disorder items as problematic within the neighborhood: (1) “drinking in public;” (2) “people selling or using drugs;” and (3) “teenagers or adults hanging out in the neighborhood and causing trouble.” Respondents reported whether they thought the item was 1-“not a problem,” 2-“somewhat of a problem,” or 3-“a big problem.” The dependent variable—perceived problematic social disorder—is the mean of the three items (alpha=.846). If respondents had missing data on any of the items, then the mean of the non-missing items was used.¹ Descriptive statistics on the dependent and independent variables are presented in Table 1.

Independent Variable Measurement

Individual Level—Individual-level measures were derived from the CS. We controlled for several demographic characteristics of the female and male respondents. Age is measured in years, and we included its square to capture a potential quadratic effect. Race/ethnicity is captured by a series of three indicators for non-Hispanic black, Hispanic, and non-Hispanic other (non-Hispanic white is the omitted category). We included an indicator of whether a

¹Case-wise deletion of respondents with missing data on any of the dependent variable scale items did not change the substantive findings.
language other than English is regularly spoken in the household. We included an indicator for whether the respondent is currently married or in a domestic partnership (i.e., “partnered”). Residential tenure is captured by the years the respondent has resided at his or her current address. Years at current address is positively skewed, so we used a log transformation to reduce heteroskedasticity. Home ownership captures whether the respondent or his or her family owns the home. Respondent educational attainment is captured with two indicators for high school and college completion (less than high school is the omitted category). Household income is the log of a continuous measure based on the PHDCN’s imputation of a 15-category variable ranging from “less than $5,000” to “$150,000 or more.” We also included an indicator of whether the respondent is currently employed.

We included a measure capturing the respondent’s experiences with victimization in his or her residential neighborhood. Respondents indicated whether in the past six months the following acts occurred: (1) they or anyone in their household was the victim of violence (e.g., “mugging, fight, or sexual assault”) within the neighborhood; (2) their homes were broken into; (3) anything was stolen from their property, or (4) they had their property damaged. Victimization is the mean of these dichotomous items (alpha=.511).

**Block Group Level**—At the BG level we included a measure of observed social disorder cues that is based on seven items from the SSO. For each item, coders indicated whether the following were observed on the block face: (1) peer group that resembles a gang; (2) adults arguing, fighting, or acting hostile or threatening; (3) adults loitering; (4) prostitutes; (5) people selling illegal drugs; (6) people drinking alcohol; or (7) people who are drunk or intoxicated. Using these items, we estimated a Rasch model of observed social disorder. The Rasch model is a type of item response theory (IRT) model for dichotomous outcomes (Bond and Fox 2007; Raudenbush et al. 2003). To estimate the Rasch model, we used a three-level (items nested within block faces nested within BGs) logistic regression with random intercepts estimated in HLM 7. The outcome in this case is an indicator of observed social disorder. At level one are dummies indicating to which social disorder item the outcome refers. At level two we controlled for time of day with five of six indicators for the two hour intervals between 7 AM and 7 PM during which block faces were observed. The final measure of observed social disorder cues is the level-three empirical Bayes adjusted intercepts from this model—that is, the predicted log odds of observing the average social disorder item on a block face within each BG adjusted for the time of day and the severities of social disorder items. Higher values on this measure indicate greater prevalence of observed social disorder cues in the BG.

**Neighborhood Cluster Level**—Correlations between NC-level variables are presented in Table 2. We controlled for concentrated disadvantage, residential stability, and immigrant concentration. These measures—which are based on 1990 census tract data aggregated to

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2The CS did not ask respondents about immigrant generation.

3The CS did not ask about the number of children or adults residing in the household.

4Because it is not possible to take a log of zero—which is the observed minimum in the data—we added .0001 (i.e., 3 days) to all values of years at the current address.
the NC level—are factor scores derived from a principal component factor analysis with oblique rotated factors of nine items related to social disorganization (Land et al. 1990). Concentrated disadvantage is dominated by the following five items: (1) the percentage of residents on public assistance; (2) the percentage of residents with incomes below the poverty line; (3) the percentage of female-headed households; (4) the percentage unemployed; and (5) the percentage of residents who are younger than 18. Residential stability is dominated by the following two items: (1) the percentage of owner-occupied homes; and (2) the percentage of persons living in the same house for five or more years. Immigrant concentration is dominated by (1) the percentage of foreign-born residents; and (2) the percentage of residents who are Latino.

Following [self-cite], we derived measures of women's NC-level resources using a principal component factor analysis with oblique rotated factor patterns of the following six items based on CS data: (1) the percentage of the employed population who are women; (2) the percentage of professional and managerial workers who are women; (3) the percentage of college graduates ages 25 and older who are women; (4) the percentage of women who are employed; (5) the percentage of women who are professional or managerial workers; and (6) the percentage of women ages 25 and older who are college graduates. The women's relative resources measure is dominated by the first three items. The descriptive statistics for each component of this measure, which are listed in Table 1, suggest there is substantial variation across NCs. We also find that this measure is empirically distinct from a measure capturing overall resources in the neighborhood; women's relative resources and concentrated disadvantage are correlated at only .277. Additionally, we find that NCs in the lower half of the distribution of women’s relative resources span the 7th to the 96th percentiles of neighborhood concentrated disadvantage, whereas NCs in the top half of the distribution span the entire range of concentrated disadvantage. The remaining three items dominate a second factor capturing women’s absolute resources, that is, women’s resources regardless of men’s. This measure is moderately correlated with concentrated disadvantage (r=−.473). Given our theoretical focus—inequality between women and men—we used the measure of women’s relative resources (controlling for concentrated disadvantage) in our main models. But in supplemental analyses (results not shown but available upon request), we find that although women’s absolute resources are negatively associated with perceived problematic social disorder, they do not modify the effect of observed social disorder cues on the outcome. Moreover, the findings from our most comprehensive model (Model 3) persist whether we control for concentrated disadvantage or women’s absolute resources.

**Analytic Strategy**

We use three-level hierarchical linear models (HLM) of perceived problematic social disorder with random intercepts estimated in Stata 13. Model 1 includes the following covariates at level one: age, race/ethnicity, foreign language, partner status, residential tenure, home ownership, educational attainment, household income, employment status, and household victimization. At level two, we estimated the influence of observed social disorder cues separately for women and men. In Model 2 we added the following covariates at level three: women’s relative resources (estimated separately for women and men), concentrated disadvantage, residential stability, and immigrant concentration. Finally, in
Model 3 we added the cross-level interaction between observed social disorder cues at level two, and women’s relative neighborhood resources at level three.

The most comprehensive model—Model 3—takes the following form at level 1:

\[ Y_{ijk} = \pi_{1jk}FEM_{ijk} + \pi_{2jk}MALE_{ijk} + \sum_{p=3}^{16} \pi_{pjk}a_{pijk} + e_{ijk}, \]

where \( Y_{ijk} \) is perceived problematic social disorder of respondent \( i \) in block group \( j \) and neighborhood cluster \( k \). Coefficients on a series of \( p \) covariates \( a \) are represented by \( \pi_{pjk} \), and \( e_{ijk} \) is the level one error term. We estimated separate randomly varying adjusted BG intercepts for female (\( \pi_{1jk} \)) and male (\( \pi_{2jk} \)) respondents at level two as follows:

\[ \pi_{1jk} = \beta_{10k} + \beta_{11k}OBSOCDIS_{jk} + \gamma_{1jk}, \]
\[ \pi_{2jk} = \beta_{20k} + \beta_{21k}OBSOCDIS_{jk} + \gamma_{2jk}, \]

where \( \beta_{11k} \) captures the effect of observed social disorder cues for women, \( \beta_{21k} \) is the effect of observed social disorder cues for men, and \( OBSOCDIS_{jk} \) is the prevalence of observed social disorder in BG \( j \) in NC \( k \). Sex-specific random effects are represented by \( r_{1jk} \) and \( r_{2jk} \).

Finally, randomly varying adjusted NC intercepts for women (\( \beta_{10k} \)) and men (\( \beta_{20k} \)) are modeled at level three as follows:

\[ \beta_{10k} = \gamma_{100} + \gamma_{101}WOMRES_{k} + \sum_{s=2}^{4} \gamma_{10s}W_{sk} + \mu_{10k}, \]
\[ \beta_{20k} = \gamma_{200} + \gamma_{201}WOMRES_{k} + \sum_{s=2}^{4} \gamma_{20s}W_{sk} + \mu_{20k}. \]

Here, \( \beta_{10k} \) and \( \beta_{20k} \) are modeled as functions of female- and male-specific intercepts \( \gamma_{100} \) and \( \gamma_{200} \), respectively; female- and male-specific women’s relative neighborhood resources (\( WOMRES \)) effects \( \gamma_{101} \) and \( \gamma_{201} \), respectively; a series of \( s \) covariates \( W \); and female- and male-specific random effects \( \mu_{10k} \) and \( \mu_{20k} \), respectively. The final set of equations estimate sex-specific effects of the cross-level interactions between observed social disorder cues at the BG level and women’s relative resources at the NC level.

\[ \beta_{11k} = \gamma_{110} + \gamma_{111}WOMRES_{k} + \mu_{11k}, \]
\[ \beta_{21k} = \gamma_{210} + \gamma_{211}WOMRES_{k} + \mu_{21k}. \]
The randomly varying coefficients $\beta_{11k}$ and $\beta_{21k}$ on observed social disorder cues for women and men, respectively, are modeled as functions of female- and male-specific adjusted intercepts $\gamma_{110}$ and $\gamma_{210}$ respectively; female- and male-specific NC-level intercepts on women’s relative resources $\gamma_{111}$ and $\gamma_{211}$, respectively; and female- and male-specific random effects $\mu_{10k}$ and $\mu_{20k}$, respectively.

All variables are grand-mean centered. Thus, the female and male intercepts refer to perceived problematic social disorder for the average woman or man (adjusted for level-one covariates), respectively, and coefficients refer to the change in the outcome associated with a change in the predictor for the average person adjusted for other covariates in the model, and random variation at the BG and NC levels.

RESULTS

The results from Models 1 through 3 are presented in Tables 3. For parsimony, the results shown in this table constrain the NC-level coefficients on concentrated disadvantage, residential stability, and immigrant concentration to be the same for women and men, and they omit the random effects ($\mu_{10k}$ and $\mu_{20k}$), which were miniscule (<.001) and not significant, on the intercepts for women’s and men’s observed social disorder cues in the BG. Statistical significance on all coefficients is assessed with two-tailed tests.

The results from Model 1 show that more prevalent observed social disorder cues in the BG are associated with both women’s and men’s perceptions that social disorder is more problematic. We also find a negative albeit small association between age and perceived problematic social disorder that weakens at older ages. Compared to whites, Hispanics on average report higher perceived problematic social disorder. College attainment (compared to less than high school) and household income each is negatively associated with the outcome. In contrast, household victimization is positively associated with perceived problematic social disorder.

In Model 2 we added NC-level covariates. Women’s relative neighborhood resources is not associated with perceived problematic social disorder for women or for men at the p<.05 level. But individuals in neighborhoods with higher concentrated disadvantage or immigrant concentration perceive more problematic social disorder. In contrast, more residential stability is linked to less perceived problematic social disorder. All the other findings from Model 1 persist including the positive association between BG observed social disorder cues and women’s and men’s perceived problematic social disorder.

Modifying Influence of Women’s Relative Resources

Finally, in Model 3 we tested our hypothesis that increases in women’s relative resources attenuate the positive association between observed social disorder cues in the immediate residential neighborhood and perceptions that social disorder is problematic. To do this we added the sex-specific cross-level interactions between observed social disorder cues and women’s relative neighborhood resources. With the inclusion of these interaction terms, we

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5Results from sex-specific models are consistent with the findings from Model 3.
no longer find a significant difference in perceived problematic social disorder between Hispanics and whites. But all the other individual-level findings as well as the NC-level findings regarding concentrated disadvantage, residential stability, and immigrant concentration remain.

Supporting our hypothesis, the negative and significant (p<.05) coefficient on the observed social disorder cues*women’s relative resources cross-level interaction term for women indicates that where women’s relative neighborhood resources are greater, the link between more prevalent observed social disorder cues in the BG and women’s perceptions that social disorder is more problematic is weaker. For men, however, the observed social disorder cues*women’s relative resources cross-level interaction term is slightly smaller in magnitude and fails to reach statistical significance at the conventional p<.05 level. Thus, we find that women’s relative neighborhood resources significantly modify the association between observed social disorder cues and perceived problematic social disorder for women but not for men.

**Women’s Perceived Problematic Social Disorder**—Figure 2 shows women’s predicted perceived problematic social disorder by the prevalence of observed social disorder cues when women’s relative neighborhood resources are low (1.5 standard deviations below the mean), medium (the mean), and high (1.5 standard deviations above the mean). Predictions are based on Model 3 results when all other variables are held at their grand means. As the figure shows, the positive slope between observed social disorder cues and perceived problematic social disorder becomes flatter as women’s relative neighborhood resources increase. A test of the significance region indicates that the slope of observed social disorder cues is not significantly different from zero when women’s relative neighborhood resources are .5 standard deviations above the mean or higher. Thus, consistent with our hypothesis, women’s relative resources in the broader neighborhood context strongly attenuate the extent to which women interpret observed disorder cues in the immediate residential neighborhood as problematic net of overall disadvantage in the neighborhood.

We further investigated the differences between women and men in the modifying influence of women’s relative resources. A test comparing the Model 3 coefficients on the female*observed social disorder cues*women’s relative resources and male*observed social disorder cues*women’s relative resources interaction terms reveals that they are not significantly different from each other (χ²=.15, p=.695). So although the interaction term is significant only for women, the results lack clear evidence that the modifying influence of women’s relative neighborhood resources is different for women versus men.

The effects of observed social disorder cues on perceived problematic social disorder across levels of women’s relative resources for women and men are depicted in Figure 3. In this figure the circles and triangles indicate the average effects (as estimated by Model 3) of

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6In a supplemental analysis (results not shown but available upon request) we tested a four-way, cross-level interaction between sex dummies (omitting the overall intercept), race/ethnicity dummies, observed social disorder cues, and women’s relative resources. Neither of the coefficients on the interaction terms estimated for women or for men reached statistical significance. Given our sample size, however, it is likely that we lack sufficient statistical power to adequately test four-way interactions.

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observed social disorder cues on the outcome for women and men, respectively, and the lines extending from these markers represent the 95% confidence intervals. As the figure shows, the positive effect of observed social disorder cues on perceived problematic social disorder is comparable for men and women at low levels of women’s relative resources. For both women and men, the effect of observed social disorder cues decreases as women’s relative resources increase to medium and high levels. But the attenuating effect of women’s resources is larger in magnitude for women, with changes in observed social disorder cues eventually producing no changes, on average, in women’s perceptions of problematic social disorder net of other covariates in the model. This illustrates our finding of a significant modifying influence of women’s relative resources among women but not men despite similarities between the two interactive effects.

**Potential Mediators**—We investigated whether the interactive effect of observed social disorder cues and women’s relative neighborhood resources on women’s perceived problematic social disorder is explained by individual measures (with coefficients estimated separately for women and men) of perceptions of neighborhood collective efficacy or of police efficacy. But the negative coefficient on the interaction term remains significant and changes little in magnitude when either of these measures is included in models otherwise equivalent to Model 3.

**DISCUSSION**

Research suggests that perceptions of social disorder within the residential neighborhood contribute to poorer mental and physical health. To better understand this health risk, we used multilevel models and data from the PHDCN to assess the neighborhood factors associated with perceptions that neighborhood social disorder is problematic. Unsurprisingly, a greater prevalence of adults loitering, public intoxication, and similar behaviors—that is, observed social disorder cues—in the immediate residential neighborhood is associated with perceptions that social disorder is more problematic. But we find that net of observed social disorder cues, individual demographic characteristics, personal or household experiences with neighborhood crime and victimization, and other features of the broader neighborhood context—including gender stratification—also are influential.

We find that on average, individuals residing in more socioeconomically disadvantaged or immigrant concentrated neighborhoods report that neighborhood social disorder is more problematic net of the prevalence of observed social disorder cues. One explanation is that stereotypes associated with certain neighborhood characteristics shape perceptions of social disorder (Sampson 2009). For example, Sampson and Raudenbush (2004) found a strong association between perceptions of disorder and minority presence in the neighborhood. They concluded that stereotypes about race and ethnicity contribute to expectations that minority concentrated neighborhoods should be disorderly. Beyond expectations that there is a greater prevalence of disorderly behavior in certain contexts, we explored the possibility that expectations about *encounters* with those engaging in disorderly behavior also differ across neighborhood contexts as well as across groups embedded in those contexts.
Previous research suggests that interpretations of behavior are shaped by the context in which they are embedded (Berg et al. 2011; self-cites). To investigate whether interpretations of observed social disorder cues vary across neighborhood contexts, we examined a factor that has been under-studied at the neighborhood level—gender stratification. According to Blumberg’s (1984) theory of gender stratification, women’s socioeconomic resources relative to men’s at the macro level should modify how micro-level conditions influence women’s wellbeing. Specifically, where women’s relative macro-level resources are greater, the adverse consequences of micro-level conditions should be attenuated. Accordingly, we hypothesized that the association between more prevalent observed social disorder cues within the immediate residential neighborhood and women’s perceptions that social disorder is more problematic would be weaker where women’s relative resources in the broader neighborhood context are greater. We further expected this moderation to be pronounced among women.

To explain why women’s relative neighborhood resources would shape interpretations of observed social disorder cues, we proposed that where women control more socioeconomic resources compared to men, they become relatively more indispensable to the local economy. Women’s (potential) economic activity in turn promotes an environment more supportive of women’s interests and safety in public spaces. We argued that under such circumstances, women should be more confident that existing neighborhood social controls—whether weak or strong—will mobilize on their behalf, namely, against sexual harassment in public spaces. We therefore expected that observed social disorder cues would be less likely to be interpreted as indicative of an environment particularly threatening toward women. The results support this explanation; we find that women’s relative resources in the broader neighborhood context buffer the extent to which women interpret observed social disorder cues as problematic. For men, however, we fail to find a modifying influence of women’s relative resources. It is plausible that the we observe the modifying effect only for women because women are more likely to be sexually harassed in public than are men and therefore are more attuned to this menace compared to men.

Although we find support that neighborhood gender stratification shapes interpretations of social disorder, one limitation of our study is that we were not able to directly assess differences in neighborhood support for women’s safety and wellbeing or in the prevalence of sexual harassment. We also were not able to identify the individual-level mechanism(s) linking the modifying effect of women’s relative resources on the association between observed social disorder cues and perceived problematic social disorder. Neither individual perceptions of neighborhood collective efficacy nor police efficacy explained the moderation. It is possible, however, that measures more focused on the social control of sexual harassment would yield different results. For example, surveys could assess the perceived likelihood that neighbors would intervene if they observed various forms of sexual harassment, such as offensive comments that are sexual in nature, and unwanted or discouraged leering or sexual advances (De Haas and Timmerman 2010). Such measures, however, were not available using CS data. The CS also did not ask about respondents’ mental health. Thus, we were unable to assess whether women’s relative resources influence anxieties about the local context, which in turn shape interpretations of observed social disorder cues. Future research could expand on this study by examining women’s public
experiences with sexual harassment and the (perceived) social control of that behavior within their neighborhoods, and the role of mental health and related cognitive processes.

Finally, our study is based on a sample of residents in one urban city. It is possible that the influence of women’s relative resources varies across US cities, or that its relationship to sexual harassment and social disorder is different in suburban and rural settings. This ultimately is an empirical question, but multilevel survey data linked to observational data on social disorder are not available in other extant sources. Nonetheless, our findings point to the importance of considering local gender dynamics in investigating interpretations of potentially menacing conditions.

**Conclusion**

We find that the broader neighborhood context in which individuals engage in routine activities shapes how individuals interpret their more immediate residential neighborhoods. Specifically, we find that women’s collective share of socioeconomic resources within the broader neighborhood context—which remains understudied in the literatures on neighborhoods and health—may safeguard against women’s perceptions that typically undesirable neighborhood conditions are problematic. And as previous research on social disorder suggests, perceptions of neighborhood problems have important consequences for health and wellbeing. This finding underscores the importance of considering how women’s interactions with and interpretations of their local environments are influenced by the gender hierarchy in which they are embedded.

Our study also points to broader social processes with important policy implications. Advancing women’s position in the neighborhood gender hierarchy has the potential to better women’s experiences in their local environment by discouraging social interactions that disparage women and instead supporting exchanges that value women and their wellbeing. Policies aimed reducing neighborhood gender stratification accordingly could benefit women across a wide range of outcomes occurring within that context. For instance, policies that encourage women’s socioeconomic success may lessen women’s (perceived) risk of being sexually harassed by those engaging in disorderly behaviors and by those thought to legitimately occupy public space. Moreover, such policies may produce other benefits for women, such as reductions in IPV risk (self-cite) and greater confidence that they can achieve desired outcomes more generally. In contrast, policies targeting only the prevalence of social disorder cues in the neighborhood would be less likely to influence (expectations of) sexual harassment by those not engaged in disorderly behaviors or affect other outcomes, such as IPV. Strategies to improve local health and wellbeing therefore may have limited success if they neglect underlying social dynamics within the neighborhood.

Finally, this research suggests that policy-makers should carefully consider how efforts to address gender inequality affect women across geographic contexts. Our study emphasizes not only that women’s aggregate relative resources matter for health risks among women, but that they matter at the neighborhood level of aggregation, specifically. Both policy and empirical research on health and risk behaviors should consider the role of gender stratification at this local level, and its impact on women’s wellbeing.
Acknowledgments

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References


Figure 1.
Hypothesized Moderating Effect of Women’s Relative Resources on the Association between Observed Social Disorder Cues and Perceived Problematic Social Disorder.

\( ^{a} \)Operationalized as the neighborhood cluster (NC).

\( ^{b} \)Operationalized as the block group (BG).
Figure 2.
Predicted Perceived Problematic Social Disorder by Observed Social Disorder Cues when Women’s Relative Resources are Low (1.5 Standard Deviations Below the Mean), Medium (the Mean), and High (1.5 Standard Deviations Above the Mean).\(^a\)

\(^a\)Predicted values based on Model 3 results when all other variables are held at their grand means.
Figure 3.
Average Effects with 95% Confidence Intervals of Observed Social Disorder Cues on Perceived Problematic Social Disorder for Women and Men when Women’s Relative Resources are Low (1.5 Standard Deviations Below the Mean), Medium (the Mean), and High (1.5 Standard Deviations Above the Mean).\textsuperscript{a}

\textsuperscript{a}Values based on Model 3 results.
Table 1
Descriptive Statistics for Dependent and Independent Variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std. Dev.</th>
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<td>Dependent (N=3,107)</td>
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Table 2
Correlations Between Neighborhood Cluster-Level Variables.

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<td>4 Immigrant Concentration</td>
<td>−.308</td>
<td>−.018</td>
<td>−078</td>
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Table 3
Results from Hierarchical Linear Models of Perceived Problematic Social Disorder (coefficients and standard errors in parentheses).a

<table>
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<tr>
<th>Independent Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
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</thead>
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<tr>
<td>Age</td>
<td>−.002 (.001) *</td>
<td>−.002 (.001) *</td>
<td>−.002 (.001) *</td>
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<tr>
<td>Age²</td>
<td>.000 (.000) ***</td>
<td>.000 (.000) ***</td>
<td>.000 (.000) ***</td>
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<td>Race/Ethnicity</td>
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<td>Black</td>
<td>.059 (.039)</td>
<td>.033 (.040)</td>
<td>.037 (.039)</td>
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<tr>
<td>Hispanic</td>
<td>.121 (.043) **</td>
<td>.085 (.043) *</td>
<td>.089 (.043)</td>
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<td>.021 (.050)</td>
<td>.021 (.050)</td>
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<td>−.048 (.035)</td>
<td>−.048 (.035)</td>
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<td>−.024 (.024)</td>
<td>−.024 (.024)</td>
<td>−.026 (.024)</td>
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<td>.001 (.003)</td>
<td>.001 (.003)</td>
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<td>Own Home</td>
<td>−.041 (.028)</td>
<td>−.024 (.028)</td>
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<td>Educational Attainment</td>
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<td>High School</td>
<td>−.017 (.029)</td>
<td>−.016 (.029)</td>
<td>−.015 (.029)</td>
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<td>College</td>
<td>−.112 (.041) **</td>
<td>−.108 (.041) **</td>
<td>−.107 (.041) **</td>
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<td>−.084 (.023) ***</td>
<td>−.083 (.023) ***</td>
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<td>.050 (.029)</td>
<td>.049 (.029)</td>
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<td>.512 (.045) ***</td>
<td>.499 (.045) ***</td>
<td>.498 (.044) ***</td>
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<td>Female</td>
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<tr>
<td>Intercept</td>
<td>1.901 (.035) ***</td>
<td>1.910 (.028) ***</td>
<td>1.908 (.028) ***</td>
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<td>Observed Social DisorderBG</td>
<td>.172 (.029) ***</td>
<td>.097 (.028) **</td>
<td>.098 (.028) **</td>
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<tr>
<td>Women’s Relative ResourcesNC</td>
<td>−.045 (.036)</td>
<td>−.038 (.036)</td>
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<td>1.889 (.034) ***</td>
<td>1.894 (.030) ***</td>
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<td>−.072 (.020) ***</td>
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<td>.053 (.020) *</td>
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<td>u_fem</td>
<td>.070 ***</td>
<td>.035 ***</td>
<td>.033 ***</td>
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<tr>
<td>r_fem</td>
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<td>.014</td>
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<td>.030 **</td>
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<tr>
<td>r_male</td>
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<td>.033 **</td>
<td>.034 **</td>
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</tbody>
</table>

*p<.05.
** p<.01,  
*** p<.001;  
2-tailed significance tests.

Individual N=3,107; Block Group (BG) N=525; Neighborhood Cluster (NC) N=80.