# Individual-level influences on perceptions of neighborhood disorder: A multilevel analysis

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## Abstract

Health outcomes are associated with aggregate neighborhood measures and individual neighborhood perceptions. This paper sought to delineate individual, social network, and spatial factors that may influence perceptions of neighborhood disorder. Multilevel regression analysis showed that neighborhood perceptions were more negative in neighborhoods with higher crime reports. Controlling for neighborhood crime, higher perceptions of disorder were associated with younger age, no main partner, non-drug use, higher depression, more network drug use and more time on the street. Results suggest that neighborhood perceptions are based on objective factors, individual differences in experiences and experience of others. Accounting for individual and community-level factors associated with neighborhood perceptions may help clarify associations between neighborhood factors and physical and mental health and assist community-planning efforts.

### Keywords

neighborhood perceptions; neighborhood disorder; multi-level models

## Introduction

Theories of neighborhood impact on health have highlighted the experience of social disorder as stressful and harmful to mental well-being (Ross, Reynolds, & Geis, 2000; Geis & Ross, 1998). Studies of neighborhood perceptions and health indicate that the association between perceived social disorder and health is often a factor of one's evaluation of their surroundings as well as the objective environmental qualities, such as crime, vandalism, and loitering. However, it is likely that personal characteristics and prior experiences shape resident perceptions of neighborhood disorder and the extent to which they contribute to on-going mental distress. For example, a recent crime victim may have a more heightened sense of neighborhood disorder and exacerbated fear level than someone with less cause for vigilance. Individuals with a history of depression may be more sensitive to stressors (Harkness & Monroe, 2006) and hence rate neighborhood stressors as more problematic or more intense.

Many empirical studies on the relationship between geographic area and health have relied on aggregate measures of neighborhood characteristics, such as census data and police reports. They often model spatial data as a main effect, assuming that they have equal impact on all within a geographically bounded areas (Sampson, Morenoff, & Gannon-Rowley, 2002). Individual characteristics are often included in models to control for their association with health status outcomes, but rarely explored for a possible mediating relationship with residents'

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experiences of their neighborhood environment. While the association between neighborhood disorder and health outcomes is moderated by socio-demographic characteristics, it is also likely affected by the moderating effect of socio-demographic characteristics on perceptions of disorder.

Some studies of neighborhood factors have used observer ratings to assess the built and social environment independent of respondent bias (Taylor, 2001; Sampson & Raudenbush, 1999; Perkins & Taylor, 1996), although most have not due to costs and large geographic distribution of participants. A strength of these studies is that they are not constrained by administrative boundaries, such as census block groups or zip codes that may not reflect important social of natural geographic boundaries. Yet one recent study evaluated inter-rater reliability of observer ratings and found substantial variability even among highly trained observers (Zenk et al., 2007). These authors highlighted the training concerns, attributing the measurement variation to time delay between observations, operationalization of measures and data collection logistics. It is also likely that observer attributes and experiences contributed to the variability. Additionally, observer rater studies also usually model the physical and social environment as having the same impact on all individuals in a given geographic area. This methodology is based on the assumption that neighborhood residents' accounts of disorder in their communities are subject to influence by their daily neighborhood experience. Yet the individual-level factors which contribute to variation in neighborhood experience remain relatively unexplored.

Another set of studies have examined the relationship between individuals' perceptions of their neighborhoods and physical and mental health (Perkins, Meeks, & Taylor, 1992; Latkin & Curry, 2003), with the view that residents are impacted both by their direct experience within a community and how they perceive their neighborhood environment. These studies have the advantage of capturing individual differences in neighborhood perceptions but the source of these differences is not well documented. It is plausible that the differences are due to differences in actual experiences in a neighborhood, contextual cues or interpretation of these experiences. For example, individuals who have high levels of fear or anxiety may rate their neighborhoods more negatively compared to those who have lower levels. Yet perceived neighborhood disorder can also amplify fear (Ross & Jang, 2000), suggesting a cyclical process. Several studies have also found that self-reports of neighborhood disorder are related to objective observer reports and to police crime reports (Perkins et al., 1992; Perkins et al., 1996; McGuire, 1997; Skogan, 1990).

All of these types of studies have found that aggregate neighborhood level SES measures and individual level perceptions of neighborhoods are associated with health outcomes. Yet several have found that the effects of the objective neighborhood measures are diminished when measures of neighborhood perceptions are also included in the models (Ross & Mirowsky, 2001). In a recent study, Wen and colleagues (2006) found that inclusion of perceived neighborhood quality reduced the association between neighborhood SES and self-rated health by 69%. Ross (2000) reported that neighborhood disadvantage, measured by census data percent in poverty and mother-only households, was not a significant predictor of psychological distress in a model that also included a measure of perceptions of neighborhood disorder. In a cross-sectional study, Stiffman and colleagues (1999) examined the links between objective neighborhood conditions, perceived neighborhood conditions and mental health among urban adolescents. They assessed the relationship between actual neighborhood conditions, perceived neighborhood conditions, and mental health. They found no direct impact of neighborhood conditions on mental health; however, they did find an indirect pathway through individual perceptions of neighborhood conditions.

One important question is what the relationship is between objective characteristics and individuals' perceptions of their neighborhoods. The focus of this paper was to delineate factors

that may influence individuals' perceptions of their neighborhoods. It is likely that individuals' perceptions of their neighborhoods are in part due to actual differences in their experiences. For example, individuals who drive through their neighborhood each day may have significantly different experiences than those who walk through their neighborhoods. Similarly, one might expect neighborhood experiences to differ depending on the extent of time spent within the neighborhood and the extent of contact one has with neighborhood residents. Other individual level characteristics such as gender, age, ethnicity and socioeconomic status may also influence neighborhood experiences. Individuals' perceptions of their surroundings may also be influenced by members of their social networks who provide them information about their environment. Social psychological studies of helping and conformity suggest that in experimental settings confederate peers can influence individuals' perception of social situations, yet there is little information on how significant others shape perceptions of neighborhoods and other physical environments.

There is some evidence that demographic characteristics, mood states and social ties influence neighborhood perceptions, even while controlling for objective neighborhood indicators. One study of adolescents in Los Angeles County demonstrated a link between individual characteristics, perceptions of neighborhood danger and mental health (Aneshensel & Sucoff, 1996). Controlling for neighborhood level characteristics of residential stability, segregation and SES, neighborhoods were perceived as more threatening among those who were older, who did not live with both natural parents and African-Americans. Perceived neighborhood social cohesion was not strongly influenced by neighborhood or individual characteristics; however females and older adolescents tended to rate the neighborhood higher on disconnection. Perceived neighborhood danger was positively associated with symptoms of depression, anxiety, conduct disorder and oppositional defiant disorder.

Wen and colleagues (2006) evaluated the effect of individual social and psychological factors as moderators of the association between neighborhood perceptions and self-rated health, finding evidence for psychological factors but not social resources. These authors did not explore the potential social and psychological influences on perceptions of neighborhood quality. However, the study found significant positive correlations between perceived neighborhood quality and social connection, social support and optimism and negative correlations with loneliness, depression, hostility, and stress.

A few researchers have investigated the extent to which neighborhood perceptions vary according to specific demographic characteristics. For example, Kruger, Reischl and Gee (2007) found that perception of neighborhood social capital varied by age, marital status, education and employment status; neighborhood satisfaction varied by age and education; and fear of crime varied according to marital status, education and employment status. In a study of African-American and white adults living in two contiguous economically-similar and racially-homogenous census tracks, African-Americans reported fewer neighborhood problems than white residents although perceptions of neighborhood problems were similarly predictive of increased anxiety and stress in both groups (Gary, Stark and LaVeist, 2007).

Sampson and Raudenbush (2004) examined the extent to which implicit racial bias contributed to perceived neighborhood disorder. They found that perceptions of neighborhood disorder increased with the proportion of minority residents, regardless of respondent racial background, but that black residents reported less neighborhood disorder overall than whites. Additionally, perceptions of disorder within neighborhoods were higher among younger residents, women, and those who were separated or divorced compared to widowed residents. Homeowner status, mobility, unemployment and SES did not have a significant effect on neighborhood perceptions. In a model with neighborhood characteristics included, only the association with being younger, African-American, and separated or divorced attained statistical significance.

A scale measure of SES and social ties were also negatively associated with disorder perceptions in the larger model.

In this paper we sought to examine factors that may lead to different perceptions of neighborhood among a sample of impoverished inner-residents. Specifically, we hypothesized that individuals who spent more time on the streets, had greater number of drug users in their social networks, and were involved in the drug economy would rate their neighborhoods as having higher levels of social disorder. Existing studies of individual-level influences on neighborhood perceptions have not explored the role of drug use or involvement in the drug economy as a personal characteristic or source of exposure to disorder. It was anticipated that individuals who frequently interact with more drug users would not only experience greater direct exposure to neighborhood disorder, but also more negative indirect exposure through the experience of their network members. We expected that these associations would hold even after adjusting for the geographic location of their residence, neighborhood crime levels and their current mood state.

## Methods

### Sample

Participants were recruited through the Self Help In Eliminating Life-threatening Disease (SHIELD) study (1997–2004). The SHIELD study was a social network-based HIV prevention intervention composed of individuals from the drug-using community in Baltimore, Maryland. Participants were required to meet the following eligibility criteria: a) 18 years or older; b) have at least weekly contact with drug users; c) willingness to introduce network members to the project; d) willingness to talk to others about HIV prevention; and e) not enrolled in other HIV prevention or social network studies. Out of a baseline sample of 1,637 respondents, 430 cases were excluded for invalid addresses or incomplete residential data. Thus, the current analysis is based on 1,207 respondents.

### Procedures

Participants were recruited through street outreach in areas with high drug activity and through advertisements at community organizations. Community members who were familiar with the recruitment areas were trained to be study recruiters. During street outreach, recruiters passed out flyers stating that a study was being conducted to stop the spread of diseases, such as HIV, in the community. Interested individuals were instructed to call a toll-free number to be screened to determine eligibility.

Eligible individuals were invited to participate in a face-to-face interview at a local community research clinic. After completing informed consent procedures, the interview was administered by a trained interviewer and took approximately 1–2 hours to complete. The interview was designed to generate a comprehensive profile of characteristics and behaviors of participants. Examples of the survey domains included demographics, sources of income, living situation, physical and mental health, drug use and history, and HIV behaviors. The interview protocol was developed after extensive pre-testing through focus groups and interviews with pilot participants. Participants were compensated $20 for baseline interviews. Data were collected during baseline and two follow-up interviews. Baseline data were collected from June 1997 to February 1999. All protocols were approved by the Johns Hopkins School of Public Health Committee for Human Research prior to implementation.

### Measures

**Level one data—**Actual experience of neighborhoods was examined with the variables "time spend on the street" and total number of arrests in the prior six months. To adjust for the

potential of a mood effect altering perceptions, depressive symptoms were assessed with the 20-item Centers for Epidemiological Studies Depression Scale (CES-D). Number of roles in the drug economy were measured by responses to the question "In the past 6 months, did you participate in any of the following drug-related activities to get money or drugs? a. Sold drugs, b. Sell methadone, c. Steering or touting, d. Holding drugs or money, e. Providing street security, f. Cut, package, or cook drugs, g. Selling or renting pipes/tools/rigs, and h. Street doctor or hitting veins on others?" Current drug use was assessed by self-reports of heroin, cocaine or speedball use in the past six months.

Social network data were collected through a network inventory consisting of several name-generating items. This social network inventory has been shown to have concurrent and predictive validity (Latkin, Mandell, Vlahov, Oziemkowska, & Celentano, 1996). These data assessed the number and roles of social network members as well as the type of interaction each person had with the participant, such as using drugs together or having sex. After listing individuals for each interaction, participants were asked about the characteristics of each network member including gender, age, and type of drug use. Size of active drug use network was operationalized as number of individuals who were current drug users.

**Level two data—**Police crime reports were assessed using Baltimore City Police Department records of violent and interpersonal crimes in 1996, the year preceding study data collection. The police reports provided addresses of crime locations, which were then geocoded and aggregated by block group. Rates for each block group were calculated per 1000 residents per year for the following four crime categories: assaults, murders, rapes, and robberies. Natural log transformations of the crime rates were used because of skewed distributions. The rates for each category were summed to create a single scaled measure of violent crime with Cronbach's alpha 0.79 (N=385 block groups).

**Dependent variable—**A 7-item, three-point scale that assessed perceptions of neighborhood physical and social disorder, based on Perkins and Taylor's inventory of neighborhood disorder was administered during the interview(Perkins et al., 1996).This instrument has been utilized in a range of studies of perceptions of neighborhood characteristics Participants were asked if the following items were "not a problem", "somewhat of a problem", or a "big problem" on their block: vandalism, litter or trash in the streets, vacant housing, groups of teenagers hanging out on the street, burglary, people selling drugs, and people getting robbed. A high score reflects more negative neighborhood perceptions.

## Analyses

Multilevel analysis techniques were used to evaluate the extent to which hypothesized variables contributed to variation in perceptions of neighborhood disorder while also accounting for block-group level differences. Variables were selected by scientific importance suggested in the literature and bivariate associations with the neighborhood perception score using t-test, linear regression, and GEE. A series of random intercept models were fit using the MIXED command in Statistical Analysis Software, version 8. An empty model was first fit including only a random intercept term for neighborhood block group to access the possibility that the crime perception score differed across neighborhoods, followed by a model including a random intercept term for neighborhood and the fixed level-2 covariate, police crime report scale, to assess to what degree that variation in perception between neighborhoods could be explained by differences in police crime report, an objective measure of neighborhood crime. Level 1 covariates were then added to the model. A series of models were fit including a random intercept term, a level 2 covariate (i.e. police crime report), and one or more level 1 covariate (s). Models were evaluated based on scientific meaning and fit to the data.

## Results

Table 1 shows the socio-demographic characteristics of this sample. The age ranged from 18 to 65, with a mean of 39. The majority were male (61%), most had a current main partner (61%) and approximately half had completed a high school education (52%). A substantial percentage had lived in the same place for at least three years (20%), and many were currently employed at least part-time (21%). Most reported use of heroin, cocaine or crack in the past six months (95%). Approximately half had injected drugs in the past six months (57%) and a slightly higher proportion had ever injected drugs (58%). The mean CES-D score was 20 and mean number of arrests in the past six months was 0.91. On average, respondents had approximately one role in the drug economy, approximately four active drug users in their social networks, and spent almost seven hours on the street. The mean score on the neighborhood perception scale was 7.40. As seen in table 1, each of the neighborhood disorder items was considered a big problem by a substantial proportion of respondents. The selling of drugs and groups of teenagers hanging out were seen as a big problem by the majority of participants.

Table 2 presents the results of the random intercept regression models. All of the continuous predictor variables were centered on their grand mean and can be interpreted as the effect of the predictor on the outcome when all other variables are at their mean value. Model 1 is a two-level model with a random intercept term which is allowed to vary across block-groups, showing the variation in neighborhood perceptions across communities and providing a basis for comparisons as explanatory variables are added. Model 1 also includes the Level 2 variable of neighborhood level of violent crime to evaluate the extent to which objective levels of crime in the area explain the neighborhood variation in perceptions of neighborhood disorder. Model 1 shows that higher levels of crime are significantly associated with more negative perceptions of neighborhood disorder.

Model 2 adds Level 1 individual demographic and mood state variables to the fixed part of Model 1. This model assesses the relationship between neighborhood perceptions and differing individual characteristics, after accounting for the effects of block-group crime level. This model shows that neighborhood perceptions are more negative among younger respondents, those who do not have a main partner, and those with higher levels of depression. Gender and current drug use status were not significantly associated with neighborhood perception. The effect of the Level 2 crime level on neighborhood perception did not change substantially with the inclusion of the Level 1 demographic and mood state variables.

Model 3 adds additional Level 1 variables to the fixed part of Model 2 in order to assess the hypothesized associations of neighborhood perceptions with social interaction with drug users and exposure to neighborhood disorder, while adjusting for the effects of block-group crime level. Thus, to assess the extent of one's contact with neighborhood disorder, Model 3 includes variables for number of active drug users in one's social network, number of roles in the drug economy, hours per day spent on the street, and number of times arrested in the past six months. Of these, only number of active drug users was significantly associated with neighborhood perceptions; those with more drug users in their social networks had more negative perceptions of their neighborhoods. Younger age, not having a main partner, and higher levels of depression remained associated with more negative neighborhood perceptions. Additionally, those who did not currently use drugs had significantly more negative neighborhood perceptions than current drug users in this model. Gender continued to have no significant association and the effect of crime rate remained consistent with the previous models.

In the final stage of analysis, the potential confounding effect among gender, roles in the drug economy, time on the street and recent arrest was evaluated through a series of models. With the exception of gender, each of these variables was significantly associated with neighborhood

perceptions of disorder in bivariate analysis (data not shown). The model that was scientifically meaningful and best fit the data was selected as the final model. The final model includes all of the variables included in Model 3, with the exception of gender, participation in the drug economy and frequency of arrest. When these variables are not included, more time on the street is significantly associated with more negative perceptions of neighborhood disorder. The effect of all of the other variables in the model remained stable, such that more negative neighborhood perceptions were significantly associated with higher rates of neighborhood crime, younger age, not having a main partner, not currently using drugs, higher levels of depression and having more active drug users in one's network.

## Discussion

In our multilevel analysis we found both level 1 and 2 factors were associated with perceptions of neighborhoods. The level two variable of police reports of crime was associated with perceptions of neighborhoods; such perceptions were more negative among those living in neighborhoods with higher crime reports. Several level one variables were statistically significant, including age, drug use, having an intimate partner, drug network size, and time spent on the streets. These results suggest that perceptions of neighborhoods are based on both objective factors, as measured by police crime reports; individual differences in experiences, as measured by time spent on the streets; and the experience of others, as measured by network members. As reported by Sampson and Raudenbush (2004), younger age was also associated with more negative perceptions. We do not know if age influences actual experiences of neighborhoods or if it only influences perceptions. It is likely that both dynamics occur. It is also probable that individuals' experiences and perceptions of neighborhood are influenced by their network members through social influence processes. It is possible, albeit unlikely, that individuals who report that their neighborhoods have greater disorder leads to affiliating with a greater number of drug users. More plausible interpretation of the results of this study is that residents' direct and indirect observations and experience of the neighborhood shapes their assessment.

These findings confirm our hypothesis that neighborhood perceptions are more negative among those who spend more time on the street and who have drug users in their social networks. However, number of roles in the drug economy was not a significant factor. The difference between Model 4 and the final model is interesting. In bivariate analyses, spending more time on the street was significantly correlated with being male, having more roles in the drug economy and higher arrest frequency (data not shown). Inclusion of these variables in Model 4 likely diluted the association between time on the street and neighborhood perceptions.

Interestingly, individuals who used drugs reported more positive assessments of their neighborhood. It may be that they do not see drug selling and kids hanging out, who may be involved in the drug trade, as a problem due to their need to acquire drugs on a regular basis. Some studies have shown that neighborhood perceptions are associated with fear and mistrust within a neighborhood and that the association may be moderated by social connections (Ross et al., 2000). It may be that the socialization involved in drug use and acquisition helps to alleviate some of the fear and mistrust. Carvalho and Lewis (2003) discussed a process of delimitation, in which a sense of community safety is constructed by the distinction of two spheres: one that includes crime, disorder and its perpetrators and one for the 'regular citizens'. As long as the two spheres remain parallel and interaction is minimized, a sense of safety is maintained. Among non-drug users, greater contact with drug users may indirectly remind residents of neighborhood disorder, prompting more negative attitudes. Alternatively, the information conveyed by drug users in one's social network may highlight problems in their neighborhoods.

Neighborhoods may have differential impact on individuals depending both on their experiences in the neighborhoods and reaction to these experiences. For example, placing individuals recovering from substance abuse in neighborhoods with high availability of drugs may lead to relapse. Longevity within a neighborhood may also play a role. This study indicated that neighborhood perceptions were more negative among younger residents. It is possible that younger people have higher expectations for their surroundings than those with longer tenure and thus experience greater frustration. Neighborhood racial dynamics may also feed into one's experience of their community (Quillian & Pager, 2001). Although community collective efficacy and informal socialization may help to mitigate experiences of disorder (Ford & Beveridge, 2004), such socialization may be perceived as negative and exclusionary for excluded or stigmatized groups, such as drug users or racial and ethnic minorities.

Even within the same geographic area residents' experience of social disorder may be exceedingly different. Individuals with sufficient economic and social resources may develop routines to avoid noxious, stressful, and potentially dangerous settings. Access to transportation can facilitate movement outside of one's immediate environment. Employment is one reason many people regularly leave their neighborhood of residence. Those who are lacking such resources may be less able to avoid negative aspects of their immediate environment. Feeling trapped in a community with characteristics that produce fear and lacking social connections that might help to moderate distrust may exacerbate the relationship between negative neighborhood perceptions and health.

These data suggest that individuals of different characteristics have different experiences in their neighborhoods and different perceptions of these experiences. Consequently these differences should be considered in analyzing the influence of neighborhoods on health. It is possible that personal perception of disorder introduces bias in the survey assessment of neighborhood disorder. One way of addressing this in neighborhood measurement would be to utilize natural raters who may have consistent exposure to the neighborhood such as mail carriers. Although not feasible in many circumstances, trained observer methods of neighborhood rating may allow for consistency in rater characteristics and have been used in some studies. However, a recent study highlighted the assessment challenges associated with this methodology, having found substantial variability in inter-rater reliability despite extensive observer training (Zenk et al., 2007).

Limitations of this study include the cross-sectional nature of the study design, the use of targeted snowball sampling and recruitment procedures, and potential self-report bias. However, adjusting for CES-D scores may have helped to reduce social desirable response bias. The measure of social disorder may have missed key neighborhood factors, such as collective efficacy, and other positive community factors which may mediate perceptions. Additionally, it is possible that personal experiences such as criminal victimization may also influence perceptions.

These data point to the need to recognize that community perceptions are not uniform among neighborhood residents. Thus, it is important to include a variety of community member perspectives in urban planning and program implementation. Although it is unlikely that any single solution will meet the diverse community needs, approaches to community problems which have a broader appeal are likely to have a greater long-term impact. Multi-level modeling of neighborhood perceptions may also help to identify people who are more vulnerable to neighborhood problems. Accounting for individual and community-level factors associated with perceptions of neighborhood may help clarify neighborhood characteristics associated with physical and mental health.

Assessing neighborhood perceptions can help to insure that communities identify the attributes of neighborhoods that are most deleterious to well-being. However, it is also important to investigate the causes of negative neighborhood perceptions. Drug dealing and kids hanging out on the streets is often the result of a host of other social conditions including lack of suitable employment as an alternative to the drug economy, poor city social services, insufficient after school programs, and inadequate informal social controls from family and neighborhoods. In addition to structural intervention, approaches which seek to improve social connections may be one solution. Alternatively, activities which help to create more livable and socially engaged neighborhoods, such as community associations, block parties, neighborhood watch programs, and safe and accessible gathering spaces may in turn alleviate environmental stressors on mental health.

## Acknowledgments

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**Table 1**

Sociodemographic characteristics and neighborhood perceptions among SHIELD study participants, Baltimore, Maryland, N=1207

| | | Number | Percent |
|---|---|---|---|
| Sociodemographic characteristics | | | |
| Male | | 739 | 61.23 |
| Completed grade 12 or higher | | 626 | 51.86 |
| Employed at least part time | | 249 | 20.63 |
| Have main partner | | 734 | 60.81 |
| Lived at current place for 3 years or more | | 243 | 20.13 |
| Current drug use | | 1150 | 95.28 |
| Injected drugs in past six months | | 685 | 56.89 |
| Ever inject drugs | | 694 | 57.50 |
| Age | | Mean = 38.79 | SD = 7.16 |
| CES-D score | | Mean = 20.00 | SD = 11.36 |
| Hours per day spent on the street | | Mean = 6.59 | SD = 5.05 |
| # active drug users in network | | Mean = 3.85 | SD = 2.41 |
| # roles in drug economy | | Mean = 1.00 | SD = 1.49 |
| # times arrested past 6 months | | Mean = .91 | SD = 1.83 |
| Neighborhood perception scale items | | | |
| Total scale | | Mean = 7.40 | SD = 4.27 |
| Vandalism | | | |
| | Somewhat of a problem | 369 | 30.60 |
| | A big problem | 258 | 21.39 |
| Vacant housing | | | |
| | Somewhat of a problem | 279 | 23.12 |
| | A big problem | 493 | 40.85 |
| Litter or trash in the streets | | | |
| | Somewhat of a problem | 430 | 35.63 |
| | A big problem | 432 | 35.79 |
| Groups of teenagers hanging out | | | |
| | Somewhat of a problem | 313 | 25.93 |
| | A big problem | 663 | 54.93 |
| Burglary | | | |
| | Somewhat of a problem | 372 | 31.79 |
| | A big problem | 194 | 16.58 |
| Selling drugs | | | |
| | Somewhat of a problem | 187 | 15.54 |
| | A big problem | 824 | 68.50 |
| People getting robbed | | | |
| | Somewhat of a problem | 421 | 35.23 |
| | A big problem | 389 | 32.55 |

**Table 2**

Multi-level models of perceptions of neighborhood disorder (N=1207)

| | | Model 1 | Model 2 | Model 3 | Final |
|---|---|---|---|---|---|
| Intercept | | 0.0332 | 0.2534 | 0.3409 * | 0.3744 ** |
| Level 2 | Police crime report scale | 0.2178 *** | 0.2165 *** | 0.2180 *** | 0.2178 *** |
| Level 1 | Age | | −0.1237 *** | −0.1068 *** | −0.1100 *** |
| | Male | | 0.0734 | 0.0484 | |
| | Have main partner | | −0.1232 * | −0.1199 * | −0.1203 * |
| | Current drug use | | −0.2077 | −0.3089 * | −0.3078 * |
| | CES-D score | | 0.1291 *** | 0.1045 *** | 0.1026 *** |
| | # active drug users in network | | | 0.1420 *** | 0.1403 *** |
| | # roles in drug economy | | | 0.0128 | |
| | Hours per day spent on street | | | 0.0439 | 0.0637 * |
| | # times arrested past 6 months | | | 0.0431 | |

*
*p*<0.05

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*p*<0.001

***
*p*<0.0001