CRIMINOLOGY

DELINQUENCY AND GENDER MODERATION IN THE MOVING TO OPPORTUNITY INTERVENTION: THE ROLE OF EXTENDED NEIGHBORHOODS*

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A long history of research has indicated that neighborhood poverty increases youth's risk taking and delinquency. This literature predominantly has treated neighborhoods as independent of their surroundings despite rapidly growing ecological evidence on the geographic clustering of crime that suggests otherwise. This study proposes that to understand neighborhood effects, investigating youth's wider surroundings holds theoretical and empirical value. By revisiting longitudinal data on more than 1500 low-income youth who participated in the Moving to Opportunity (MTO) randomized intervention, this article explores the importance of extended neighborhoods (neighborhoods and surroundings) and different concentrated disadvantage configurations in shaping gender differences in risk taking and delinquency. The results from two-stage, least-squares analyses suggest that the extended neighborhoods matter and they matter differently by gender. Among girls, extended neighborhoods without concentrated disadvantage were associated with lower risk-taking prevalence than extended neighborhoods with concentrated disadvantage. In contrast, among boys, localized concentration of disadvantage was associated with the highest prevalence of risk taking and delinquency. Interactions between the immediate and surrounding neighborhoods were similarly associated with differential opportunity and social disorganization mediators. Among the more critical potential mediators of the link between localized

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disadvantage and boys' risk taking were delinquent network ties, strain, and perceived absence of legitimate opportunities for success.

A century-old body of scholarship has indicated that neighborhood poverty contributes significantly to increases in neighborhood crime (Graif and Sampson, 2009; Peterson and Krivo, 2010) and to risky behavior and delinquency among youth (Browning et al., 2008; Hirschi, 1969; Sampson, 2012; Sharkey and Sampson, 2010; Shaw and McKay, 1942; Zimmerman and Messner, 2010). Additionally, important recent studies of the spatial ecology of crime have suggested that concentrated poverty affects not only neighborhood crime but also surrounding crime (Morenoff, Sampson, and Raudenbush, 2001; Sampson, 2012; Sampson, Morenoff, and Earls, 1999). Studies in multiple cities have shown that geographically proximate neighborhoods tend to be associated in poverty and crime levels (e.g., Peterson and Krivo, 2010) perhaps because of interneighborhood rivalries (Harding, 2010); boundary crossing by offenders, victims, or bullets (Anselin et al., 2000; Bernasco et al., 2013; Tita and Cohen, 2004); or the geographic diffusion of protective factors (Graif, Gladfelter, and Matthews, 2014). Proximity to concentrated disadvantage and disorder, like gangs and drug users, affects social interactions (Papachristos, Hureau, and Braga, 2013; Pattillo-McCoy, 1999). Additionally, the link between neighborhood disorganization and crime has been shown to vary significantly from one broader spatial context to another (Graif and Sampson, 2009). Moreover, the income level of the surrounding area has been shown to be associated with rates of certain types of crime more than the income of a focal census tract (Hipp and Boessen, 2013).

Despite the rapidly growing ecological-level evidence indicating geographic spillover effects on crime, research on neighborhood effects on *individual-level* offending predominantly has treated neighborhoods as if they were isolated islands, independent of their surroundings. The current study addresses this gap in the neighborhood effects scholarship and highlights the importance of understanding individuals' extended neighborhood environments (the immediate neighborhood of residence together with surrounding areas). It revisits the Moving to Opportunity (MTO) data (Ludwig et al., 2012) on gender differences in youth risk taking and delinquency, and it advances the case that to understand neighborhood effects on behavior, theoretical and empirical value exists in considering the broader neighborhood environment within which individuals are embedded. Through a geographically extended analytical lens, this study seeks to bring new light on 1) some puzzling gender differences in neighborhood effects on youth risk taking and offending and 2) several key mediating factors underlying these effects.

MOVING TO OPPORTUNITY AND GENDER

In the early 1990s, the U.S. Congress funded the MTO program, a randomized intervention spanning five U.S. cities, with the goal of spatially deconcentrating risk factors among public housing residents of poor inner-city neighborhoods. The program assisted hundreds of families to move to low-poverty neighborhoods. Several years after the intervention, researchers found that female youth assigned to the low-poverty experimental group were engaged in less risky behavior than their control counterparts who stayed behind or moved at will. However, male youth in the experimental group were engaged in *more* risky behavior and other problematic behavior, and they were more likely to be arrested for property crimes (Kling, Liebman, and Katz, 2007; Kling, Ludwig, and Katz,

2005; Sciandra et al., 2013). Other studies also similarly found that decreased neighborhood disadvantage increased the gender gap in violence (Zimmerman and Messner, 2010) and increased boys' problem behavior (Clampet-Lundquist et al., 2011; Hagan, Gillis, and Simpson, 1985; Jensen and Eve, 1976; Ludwig et al., 2008).

To make sense of the puzzling effects on boys, ideas of relative deprivation and competitive advantage have been proposed. For instance, after finding themselves performing worse in schools than their new peers, boys may seek to boost their status in alternative ways, such as risk taking and delinquency (Kling, Ludwig, and Katz, 2005; Orr et al., 2003). Although these ideas are important, they have not been tested against a more fundamental question: Have we perhaps missed something critical about the broader geographic picture of neighborhood effects? This article addresses this question by exploring the extent to which the environment surrounding boys' and girls' neighborhood of residence may modify the effect of the immediate neighborhood and explain the puzzling gender differences in the MTO.

Understanding gender difference in delinquency and risky behavior is an important task for researchers and policy makers. Although juvenile arrests are declining, juvenile courts handled approximately 1.4 million delinquency cases in 2010 (Puzanchera and Robson, 2014) and the male juvenile arrest rate remained consistently more than double the female rate. Yet, the gender gap in neighborhood effects remains little understood (Zahn and Browne, 2009). Differential patterns of time and space use, adult control, social support, and delinquent peers (discussed later in this article) may protect girls more than boys against street risks and support them in accessing resources when they move to improved neighborhoods (Broidy, 2001; Gager, Cooney, and Call, 1999; Hagan, Gillis, and Simpson, 1985; Heimer and DeCoster, 1999; Kroneman, Loeber, and Hipwell, 2004; McCarthy, Felmlee, and Hagan, 2004). Such patterns may be magnified when the surrounding neighborhood context is consistent with the residential neighborhood.

The current article, therefore, explores how gender moderates extended neighborhood effects on youth behavior and delves deeper into key *mediators* of such effects related to two major conceptual perspectives: social disorganization (Sampson, Morenoff, and Gannon-Rowley, 2002; Shaw and McKay, 1942) and differential opportunity (Cloward and Ohlin, 1960). By making the case that protective factors and criminogenic risk in nearby areas (e.g., collective efficacy or illegitimate opportunities) may affect offending even if absent in the immediate neighborhood (Graif, Gladfelter, and Matthews, 2014), the current study examines neighborhood mediators through an extended spatial perspective.

In brief, this article contributes to the neighborhood effects literature by exploring for the first time the *extended neighborhood environment* of risk-taking behavior and revisits the MTO youth data to understand gender moderation of extended neighborhood effects on risk taking and delinquency. The analytical approach focuses on a similar age group and follow-up period as previous analyses of the MTO. It builds on established strategies in this research with respect to measuring the dependent variables and analytic modeling (e.g., Kling, Leibman, and Katz, 2007; Kling, Ludwig, and Katz, 2005; Ludwig and Kling, 2007). However, in contrast to previous work (also Ludwig et al., 2012; Sciandra et al., 2013), this study applies a spatially explicit approach to explore the role that the surrounding neighborhood environments may play in modifying the immediate neighborhood effects. Also, this article contributes to the literature by investigating how gender

moderates extended neighborhoods' association with different possible underlying *mediators*. This extended spatial approach seeks to contribute new insights on the relevance of neighborhoods and spatial interactions for youth development and crime-control policies.

SPATIAL EMBEDDEDNESS OF NEIGHBORHOOD EFFECTS CONCENTRATION EFFECTS AND SOCIAL DISORGANIZATION

Since the early twentieth century and Shaw and McKay's (1942) classic work during the Chicago school years, *Juvenile Delinquency and Urban Areas*, scholars have noted the role of high neighborhood poverty in increasing crime rates and youth's prevalence of risky and delinquent behavior. The predominant framework explaining the connection between concentrated poverty and crime is social disorganization (Reiss, 1951; Sampson and Groves, 1989). The MTO program was motivated by this important line of work, including William Julius Wilson's (1987) influential ideas on the "truly disadvantaged." The concentration of extreme poverty (Briggs, Popkin, and Goering, 2010; Jargowsky, 1997; Wilson, 1987) leads to "social isolation" (Wilson, 1987: 61)—residents' disconnectedness from stable and well-paying, conventional jobs; institutions, services, and resources; and conventional role models—contributing to "concentration effects" (Wilson, 1987: 58). Studies also have shown that assimilation into disadvantaged rather than into nondisadvantaged neighborhoods increases immigrants' involvement in risky behavior, gangs, and violence (e.g., Morenoff and Astor, 2006).

Work under the social disorganization tradition has highlighted several types of *mediators* of neighborhood poverty effects. C*ollective efficacy* refers to social cohesion and expectations of social control within a neighborhood and is significantly weaker in disadvantaged neighborhoods. Low collective efficacy in turn contributes to increases in risky sexual behavior by adolescents (Browning et al., 2008), victimization, and neighborhood violence (Sampson, Raudenbush, and Earls, 1997). *Institutional ties* and support systems are reflected in a neighborhood's density of organizations, jobs, and access to, and quality of, services. Weak institutional support such as ineffective police response can increase distrust in the police and, ultimately, crime (Putnam, 1993; Sampson and Graif, 2009a). *Informal social ties* refer to local friendships and kin and are presumed to protect against crime. However, work on differential association and differential social organization (Sutherland, 1947) has underscored the dual role of informal ties—they can both impede and foster crime. If delinquency is higher in disadvantaged neighborhoods, then youth's prevalence of associations with delinquent peers and level of exposure to definitions favorable to crime may be higher than in other neighborhoods. Delinquent ties and definitions, in turn, will increase delinquent behavior through social pressure and normative reinforcements (Elliott, Ageton, and Canter, 1979).

Disorder refers to minor social incivilities and physical signs of neighborhood deterioration. Markers of both social and physical disorder, such as people drinking and hanging out on the streets, graffiti, abandoned buildings, and "broken windows," are thought to attract predatory crime by signaling low neighborhood social control to potential offenders (Sampson and Raudenbush, 1999). Patterns like people drinking on the street also may contribute to youth substance use and other risky behavior by publicly normalizing it. Disadvantaged areas also may increase *victimization* or *exposures to crime*, which in turn may increase aggression and offending (Agnew, 1999). Overall, this body of work has strongly suggested that low-income youth in areas of higher disadvantage will engage in *more* risk taking than in socioeconomically mixed or lower disadvantaged neighborhoods.

DIFFERENTIAL OPPORTUNITIES

An alternative line of thought leads to expectations that moving poor, low-income teens from highly disadvantaged neighborhoods to lower disadvantaged neighborhoods leads to *more* rather than less risk-taking behavior and delinquency as a result of processes closely related to views on routine activities, differential opportunity, and relative deprivation. First, *opportunities* for illegitimate gains may increase in the improved neighborhoods. As Cohen and Felson's (1979) routine activity theory suggests, crime increases when motivated offenders meet desirable targets under conditions of low guardianship. Desirable targets, such as valuables to steal or customers to sell drugs to, will be more present in neighborhoods of lower disadvantage. Low initial crime rates may contribute to lower initial alertness, unlocked doors, and unguarded possessions.

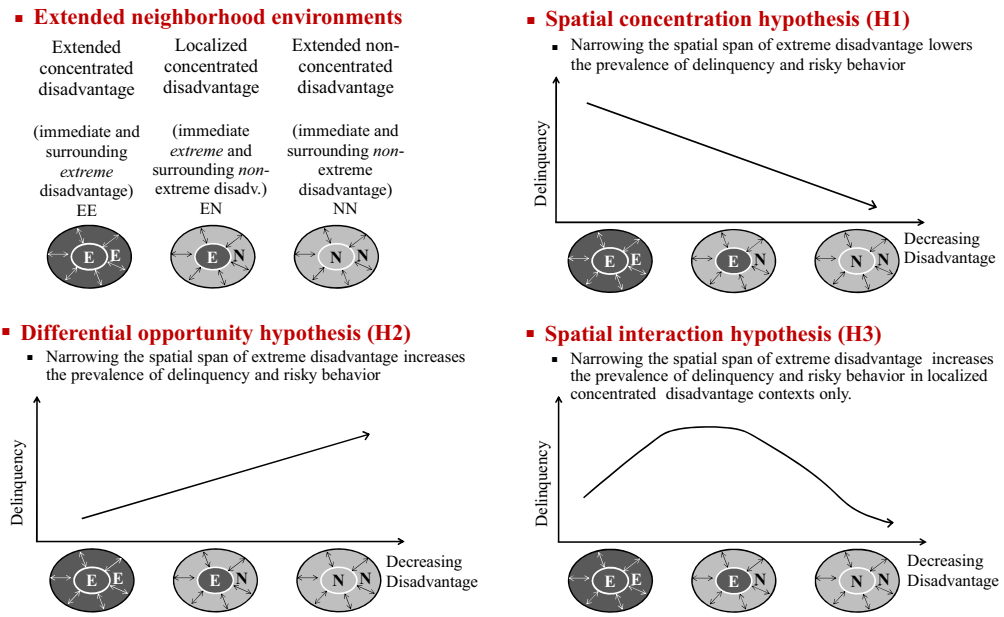
Second, when moving to low-disadvantage neighborhoods, offending motivation among poor low-income youth may be increased by *strain* as a result of relative deprivation. This effect can result from the frustration of falling to the bottom of the status hierarchy relative to their advantaged neighbors or from higher visibility of opportunities blocked, weakening youth's belief in their *legitimate opportunities* for success (Cloward and Ohlin, 1960; Merton, 1938). When youth move to improved neighborhoods, comparisons with more affluent neighbors may increase perceptions of goal blockage and strain (Agnew, 1999). Responding to strain with psychological distress, anxiety, and hopelessness has been linked to antisocial behavior, aggression, and delinquency (Hagan and Foster, 2003; Pals and Kaplan, 2012).

IMPORTANCE OF EXTENDED NEIGHBORHOODS

Research has shown that in many cities, neighborhoods of concentrated disadvantage are not scattered randomly across space but instead tend to cluster geographically next to each other (Jargowsky, 1997; Peterson and Krivo, 2010; Sampson, 2012). Housing values, rent costs, discrimination, and other forms of exclusion often are responsible for the geographically extended concentration patterns as they block the mobility of poor families into more affluent areas (Massey and Denton, 1993). The spatial clustering of disadvantage is important because research has indicated that disadvantages and advantages spill over between nearby neighborhoods influencing each other's crime (Morenoff, Sampson, and Raudenbush, 2001; Peterson and Krivo, 2010; Sampson and Graif, 2009b). Some patterns of interneighborhood spillovers may be reflected in the emerging evidence of crime rate effect variation at different neighborhood scales (Hipp, 2007; Hipp and Boessen, 2013; Sampson, Morenoff, and Gannon-Rowley, 2002).

To investigate the potential amplification and mitigation patterns between immediate neighborhoods and surrounding areas, this study distinguishes among three types of extended neighborhood environments: 1) immediate neighborhoods of extreme disadvantage surrounded by similar neighborhoods—in short, *extended concentrated disadvantage*; 2) immediate neighborhoods of extreme disadvantage surrounded by nonextreme neighborhoods (or the reverse)—*localized concentrated disadvantage*; and 3) immediate neighborhoods without extreme disadvantage surrounded by similar neighborhoods—*extended nonconcentrated disadvantage* (figure 1). This approach builds on previous work by applying a geographically extended scale to define neighborhood categories and moves the discussion further by exploring how such types of concentrated disadvantage differentially impact behavior.

Figure 1. Extended Neighborhood Categories and Simplified Graphical Representation of the Main Hypotheses



Within an extended neighborhood context, effects of concentrated disadvantage in one's immediate neighborhood may be amplified by concentrated disadvantage in nearby neighborhoods, through spillovers of nearby social disorganization mediators such as weakened collective efficacy and increased crime rate. Proximity to disadvantage, gangs, and drug users has been shown to affect social interactions in nearby neighborhoods, whether middle class (Pattillo-McCoy, 1999) or similarly disadvantaged, gang-ridden areas (Papachristos, Hureau, and Braga, 2013). Shooting incidents in one area can lead to retaliatory shootings in nearby neighborhoods (Tita and Cohen, 2004). Conversely, increased collective efficacy or institutional supports nearby may mitigate the effects of low collective efficacy and institutional absence in one's own neighborhood (Graif, Gladfelter, and Matthews, 2014). These ideas lead to expectations that narrowing the spatial span of concentrated disadvantage decreases the prevalence of risk taking and delinquency—which can be called, in short, the spatial concentration hypothesis.

Hypothesis 1: Compared with living in extended environments of concentrated disadvantage, low-income youth living in localized concentrated disadvantage or extended nondisadvantage are expected to exhibit a lower prevalence of risk taking and delinquency and lower scores on social disorganization mediators.

Alternatively, low disadvantage in nearby areas may increase individuals' opportunities to engage in crime in two ways. First, nondisadvantaged residents in the nearby areas may constitute "desirable targets." Second, increasing the socioeconomic gap between a *low-income individual* and his or her extended neighborhood may increase the former's

strain and motivation to offend. These theoretical links meet routine activities conditions and predict that narrowing the spatial span of concentrated disadvantage increases the prevalence of risk taking and delinquency—which may be called, in short, the differential opportunity hypothesis.

Hypothesis 2: Compared with living in extended environments of concentrated disadvantage, low-income youth living in localized concentrated disadvantage and extended nondisadvantage are expected to exhibit a higher prevalence of risk taking and delinquency and higher scores on differential opportunity mediators.

LOCALIZED CONCENTRATION OF DISADVANTAGE

The relationship among disadvantage, strain, and deviance, however, might not be as linear as the first two hypotheses suggest. A third possibility is that extended neighborhoods with localized concentrated disadvantage increase low-income youth's risk taking more than the other types of neighborhoods because of a dangerous mixture. First, compared with extended concentrated disadvantage, it may present higher scores on *differential opportunity mediators.* Increased opportunities for illegitimate gains and relative deprivation strain from comparisons with affluent neighbors or perceptions of blocked legitimate opportunities may in turn amplify the effects of delinquent peers and social disorganization.

Second, compared with extended concentration, localized concentration of disadvantage may exhibit perhaps lower social disorganization (Carroll and Jackson, 1983; Cohen and Felson, 1979). Yet, disorder in the disadvantaged part of the extended neighborhood may be sufficient to affect the experiences of the young newcomers substantially. Residents in the nondisadvantaged side of the extended neighborhood may be excluding newcomers in the name of protecting collective efficacy and social order. Research on mixed-income housing has shown how tensions can accrue between residents of different income levels living close to each other (Chaskin, 2013). Exposing youth to disorder, crime, and delinquent peers on the disadvantaged side of the extended neighborhood could increase risk taking and validate feelings of resentment, distrust (e.g., Brehm and Rahn, 1997), and perceptions of injustice (Blau and Blau, 1982: 119), increasing the odds of acting on illegitimate opportunities. Peer moderation of strain effects has been empirically supported (Agnew and White, 1992; Baron, 2004; Broidy, 2001). The combined effects of social disorganization and differential opportunity mediators, thus, may be more influential on behavior than any one type without the other—contributing to what can be summarized as the spatial interaction hypothesis.

Hypothesis 3: Compared with living in extended environments of concentrated disadvantage, low-income youth living under localized concentrated disadvantage are expected to exhibit a higher prevalence of risk taking and delinquency and higher scores on both social disorganization and differential opportunity mediators. Yet, extended nonconcentrated disadvantage should not predict higher risk-taking prevalence.

GENDER MODERATION

Consistent with social disorganization research, scholars and policy makers expected that both boys and girls in the MTO program who moved out of concentrated disadvantage into less disadvantaged neighborhoods would engage less in risky behavior and delinquency. Teenage girls met these expectations; yet boys' behavior was more consistent with differential opportunity views. Puzzling links between improved neighborhoods and increased problem behavior among boys have been found by others (Clampet-Lundquist et al., 2011; Hagan, Gillis, and Simpson, 1985; Jensen and Eve, 1976; Ludwig et al., 2008).

Differences in neighborhood effects are likely to result from gender gaps in degree of exposure to, type of, and responses to neighborhood risk and protective factors (Mears, Ploeger, and Warr, 1998; Steffensmeier and Haynie, 2000; Zahn and Browne, 2009). Gender differences in *degrees of exposure* to neighborhood risk and opportunities may be related to girls experiencing more parental monitoring than boys (McCarthy, Felmlee, and Hagan, 2004), higher prevalence of playing in the home rather than in the neighborhood (Kroneman, Loeber and Hipwell, 2004), and fewer ties to delinquent peers on the street (Heimer and De Coster, 1999; Morash, 1986). These differences can buffer girls more effectively against the workings of social disorganization or differential opportunity mediators of risk.

Moreover, compared with boys, girls' stronger social bonds with their family, other protective relationships with adults and peers (Hagan, Gillis, and Simpson, 1985), and more conventional activities in the home, school, and neighborhood (Gager, Cooney, and Call, 1999) may enable them to navigate access to conventional opportunities, resources, and prosocial relationships more effectively in the improved neighborhoods. Independent of differences in social ties, as neighborhoods improve, females' prosocial ties have been shown to be more effective in controlling crime (Rountree and Warner, 1999; Zimmerman and Messner, 2010). Overall, the evidence indicates that neighborhood disadvantage increases exposure to crime and delinquent peers for boys *and* girls, although it does so to a different degree for each. As a result, lowering disadvantage may decrease violence among girls more than among boys (Zimmerman and Messner, 2010).

Research on gender differences in the types of strains has suggested that males may experience more competitive interactions and status struggles and that males are victimized more by aggression than are females (Broidy and Agnew, 1997). However, overall, the findings on the relevance of differences in strain types for the gender gap in offending are mixed. Better supported is the idea that males *respond to strain* with externalized anger and illegal behaviors more than females partly because of gender role socialization (Heimer and DeCoster, 1999).

Overall, ideas on gender moderation contribute two important refinements to the three hypotheses on extended neighborhood effects presented previously. First, related to the *spatial concentration hypothesis* (hypothesis 1), if girls have stronger social support than boys to take advantage of new opportunities, then living in extended nonconcentrated disadvantage may benefit their behavior more than that of boys. Second, if female youth are more shielded than boys from risks factors such as relative deprivation and routine opportunity effects, then moving to localized concentrated disadvantage will be less detrimental for their behavior than that of boys. If this is the case, then the *differential opportunity* (hypothesis 2) and the *spatial interaction* (hypothesis 3) expectations will apply to boys more than girls.

DATA AND MEASURES

"MOVING TO OPPORTUNITY" PROGRAM

This study revisits data on youth who participated in the *Moving to Opportunity for Fair Housing Demonstration* program (MTO), which is an intervention study supported by Congress and administered by the U.S. Department of Housing and Urban Development in five cities: Boston, Chicago, New York, Los Angeles, and Baltimore. Low-income families with children younger than 18 years of age volunteered for the study while living in public or private-assisted housing in neighborhoods with more than 40 percent poverty rates. The 4,608 participating families at baseline were randomly assigned to one of three groups. The low-poverty voucher group received a housing voucher to use only in neighborhoods with poverty rates below 10 percent. The traditional voucher group received a voucher without any geographic restriction. The control group continued to receive project-based assistance but could move if they so chose.

The current analyses include two waves of interviews with youth and adults, the first in 1994–1997 and the second in 2002 (Orr, 2011). Families' residential locations at multiple time points between baseline and follow-up also are included. Two children per household were eligible to be interviewed, and 2829 (12–19 years of age) completed the 2002 youth questionnaire (89 percent response rate) (Orr et al., 2003). Included in the current analyses are all respondents to the youth survey who were 15 years of age or older as of May 2001, approximately 12 years of age on average at baseline ($N = 1591$). This age range was chosen for consistency with published studies on MTO youth (Kling, Leibman, and Katz, 2007; Kling, Ludwig, and Katz, 2005; Ludwig and Kling, 2007).[1] Respondents were thus in their young teens or teenage years at the time of the intervention and for most of the duration of the study. Interviews with youth's caregivers are included for measures of family background and adults' perceptions of their neighborhoods. Of all respondents, 731 are male and 811 are female. Approximately 63 percent are African American, 41 percent are in the low-poverty voucher group, 29 percent are in the traditional voucher group, and 31 percent are in the control group.

Additional measures of context were created specifically for the current study based on outside data sources: the Decennial Census, the Neighborhood Change Data Base (NCDB), the National Neighborhood Crime Study (NNCS), and the Longitudinal Employer-Household Dynamics (LEHD). All were matched to the residential history of the MTO youth during the duration of the study. Police records of crime events from the National NNCS (Krivo, Peterson, and Kuhl, 2009) are aggregated between 1999 and 2001 for tracts in Boston, Chicago, and Los Angeles. LEHD is a U.S. Census Bureau project that matches state-level administrative data on employers' and employees' locations with business and economic censuses. These data are aggregated to the tract level for 2002 and merged to MTO youth's locations in New York, Chicago, Los Angeles, and Baltimore. These measures are calculated for the immediate and surrounding neighborhoods as duration-weighted averages.

1. The youth are selected based on more restricted age data (full years as of May 2001) than in a previous study (days, months, and years as of December 2001) by Kling, Ludwig, and Katz (2005). This restriction was introduced in the data available to researchers to better protect respondents' confidentiality and contributed to 216 cases fewer cases. However, preliminary analyses on the unrestricted 1,807 youth sample led to the same substantive results as reported here.

Dependent Variables

The two main dependent variables are summary scales. The delinquency scale is the fraction of a youth's positive responses to nine questions about 1) carrying a hand gun such as a firearm other than a rifle or shotgun; 2) belonging to a gang; 3) purposefully damaging or destroying property; 4) stealing something worth less than $50; 5) stealing something worth $50 or more; 6) committing other property crimes such as fencing, receiving, possessing, or selling stolen property or cheating someone by selling them something that was worthless or worth much less than what the youth said it was; 7) attacking someone with the intention of hurting him or her or having a situation end up in serious fight or assault; 8) selling or helping sell marijuana, hashish, or other drugs such as heroin, cocaine, or LSD; and 9) being arrested by the police or taken into custody for an illegal or delinquent offense, not including minor traffic violations. Each item of the composite scale takes a value of "1" if the youth reported at least one occurrence in the past 12 months and "0" for none. Of all youth, 28 percent reported at least one delinquent activity in the past year.[2] The prevalence of each of these activities for girls varies from less than 1 percent for gang membership to almost 11 percent for assault. For boys, it varies from 3 percent for gang membership or theft to 21 percent for arrest (see table S.1 in the online supporting information).[3,4]

The risky behavior scale is a fraction of a youth's positive responses to four questions about 1) alcohol use, 2) cigarette smoking, and 3) marijuana use, all in the past 30 days, as well as 4) ever having given birth or fathered a child. Of all youth, 43 percent reported at least one risky behavior. Of all female youth, 10 percent smoked marijuana, 17 percent drank alcohol, 17 percent smoked cigarettes in the past 30 days, and 32 percent had given birth to a child. Of all male youth, 18 percent smoked marijuana, 21 percent drank alcohol, 22 percent smoked cigarettes, and 15 percent ever fathered a child. The gender differences are significant or marginal on all items except alcohol use.

The "variety" measurement strategy allows direct replication and extension of previously published findings (e.g., Kling, Leibman, and Katz, 2007). In a review of offending measurement strategies, Sweeten (2012) concluded that variety scales have "high reliability and validity and are not compromised by high frequency nonserious items" (2012: 554). Normalized versions of each scale are produced by subtracting the gender-specific control mean from each observation before dividing by the standard deviation of the control group. The index scales are calculated as an equally weighted average of the normalized components. The resulting standardized units are useful in interpreting the estimates as mean effect sizes relative to the control group (Kling, Liebman, and Katz, 2007).

Control Variables

Demographic background characteristics (such as age, race, ethnicity, program site, and family status), employment and education status, household characteristics,

2. To account for skewness, alternative measures were calculated with natural logarithm transformations. Analyses based on these measures led to similar results.
3. Estimations of delinquency before and after including arrests (section IX in the online supporting information) led to similar results.
4. Additional supporting information can be found in the listing for this article in the Wiley Online Library at http://onlinelibrary.wiley.com/doi/10.1111/crim.2015.53.issue-3/issuetoc.

motivation to move, and neighborhood perceptions at baseline (table S.2 in the online supporting information) are included in the analyses as controls. These control measures have been used in previous MTO analyses (e.g., Kling, Liebman, and Katz, 2007; Orr et al., 2003). The results also were tested with controls for the number of moves and for urban/suburban location.

NEIGHBORHOOD PREDICTORS IN SPACE AND TIME

For comparability with previous studies, neighborhood poverty is first included in the analyses as the spatial context attribute of interest, based on Decennial Census data and NCDB over time. Consistent with Wilson's (1987) insights on concentration effects, neighborhood concentrated disadvantage is next included in models otherwise equivalent with the poverty models. Disadvantage is a composite function of Decennial Census measures of poverty rate, unemployment rate, proportion of female-headed households with children, and proportion of households that receive public assistance. It is based on a regression factor score by weighing each item according to its loadings in a Varimax rotated solution of a principal component analysis (Sampson, Raudenbush, and Earls, 1997).

Several problems emerge when using decennial census data in calculating composite scales. First, the factor loads may not be uniform enough to produce comparable results across time. To address this issue, the disadvantage scores were calculated for each tract year after pooling the 1990 and 2000 data together. Second, census years may not properly represent the characteristics of the tracts during noncensus years. To address this issue, for each intercensal or postcensal year, scores were calculated with linear interpolation or extrapolation. NCDB normalizations of the census measures were used for comparability of neighborhood boundaries across time. Third, accounting for snapshots of neighborhood disadvantage only at the time of the two survey waves may not accurately represent the spatial exposure to disadvantage by youth given that families move on average three times during the study and the duration of residence in each neighborhood varies. This issue was addressed in two stages: First, the residential location of the youth and their families at multiple points during the study period was included in constructing the measures; second, neighborhood disadvantage and poverty were calculated to account for each and all known neighborhoods that youth lived in during this period, weighted by the duration of residence at each address.

Immediate neighborhoods are based on the census tract of residence. The extended neighborhoods are the immediate tract *and* the s number of closest tracts surrounding it. The main analyses are based on $s = 4$, but spatial scales between 2 and 8 also are explored. TIGER/Line shape data were used to map the neighborhoods and to calculate geographic distances between neighborhoods. Distances are calculated based on the geographic coordinates of the tract centroids. Moreover, for each census tract of residence during each year of the study, distance to the nearest disadvantaged neighborhood is calculated in miles at the same time point as the time of residence.

The extreme disadvantage threshold used to define the three extended neighborhood types described earlier (see figure 1) is based on the 95th percentile of the disadvantage distribution across all U.S. census tracts. This cutoff was chosen to separate tracts with roughly 40 percent poverty and more from the rest, as done in previous research (e.g., Jargowsky, 1997) while using a more comprehensive measure of neighborhood disadvantage (Sampson, Raudenbush, and Earls, 1997). Other thresholds also were explored in supplementary analyses.

MEDIATORS

Multiple potential mediators of neighborhood effects on delinquency and risk taking are assessed. Several indicators are used to convey different dimensions of social disorganization, including ties to old neighborhood, prosocial friends (involved in school activities), or delinquent friends (who carry a weapon or use drugs or are associated with gangs). Moreover, key dimensions of collective efficacy are assessed from caregivers' reports that neighbors would intervene when kids skip school, hang out at the street corner, or spray graffiti on a local building (Ludwig and Kling, 2007; Sampson, Raudenbush, and Earls, 1997). Measures of police responsiveness and both social and physical disorder are included. Other mediators convey differential opportunities. Opportunities for illegitimate gains are measured through neighborhood concentration of medium-to-high–wage jobs derived from LEHD data. Job occupants may constitute the "desirable targets" of routine activities. Potential offenders also may be "motivated" by blocked legitimate opportunities, measured as the absence of low-to-medium–wage jobs in the neighborhood. Two scales are used to assess anomie and strain. Youth's reports of low chances to find a good job or attend college may indicate anomie, a disconnect between the means and conventional goals of success. The psychological distress index (Kessler et al., 2002) assesses how often youth felt depressed, nervous, restless or fidgety, hopeless, worthless, or everything as requiring effort.

Exposure to neighborhood crime is based on youth's reports of having witnessed shootings or stabbings, drugs, or gangs in the neighborhood. Such exposures may constitute a context of socialization, social disorder, and sources of strain. Victimization is based on youth reports of having been shot, cut, or stabbed in the past year. Neighborhood safety and crime is in part assessed from adults' reports. Rates of violent and property crime and distance to crime hotspots are based on police records from the NNCS (Krivo, Peterson, and Kuhl, 2009). The natural log of rates per tract population is used to reduce skewness. Exposures to crime may signal social disorder but also feed strain and motivate offending under routine activities. Table S.3 presents more details on these indices.

ANALYTICAL APPROACH

The following analyses assess the predictive role of living in concentrated disadvantage on youth's risky and delinquent behavior primarily through a two-stage, least-squares (TSLS) approach. To improve the precision of the estimation and account for any chance differences between groups before the random assignment, the models include as controls a wide set of individual, household, and neighborhood covariates reported by adults and youth, as listed in table S.2 (Orr et al., 2003). Rather than simply compare effects across the treatment and control groups, the TSLS approach follows the practice in the published MTO analyses to use 10 site-by-treatment instrumental variables to capitalize on variation in treatment intensity across voucher types and cities while controlling for site (Kling, Liebman, and Katz 2007; Kling, Ludwig, and Katz, 2005; Ludwig et al., 2012; Orr et al., 2003). The first-stage equation is as follows:

$$\mathrm{NC} = Z \times S\pi_1 + X\beta_1 + \varepsilon_1 \quad (1)$$

where NC represents the index of neighborhood context of interest, such as poverty rate or extended types of concentrated disadvantage; Z represents the treatment group

assignments; *S* represents the site indicators; and *X* represents the baseline controls. The resulting NC estimates are used in the second stage to estimate the effects of the specific neighborhood attributes on risk taking and delinquency, *Y*:

$$Y = \mathrm{NC}\gamma_2 + X\beta_2 + \varepsilon_2 \quad (2)$$

where γ_2 represents the association between the outcome and the neighborhood context (NC). In contrast to the regular regression approach, the TSLS method helps to adjust for neighborhood selection.[5] This approach assumes that the only source of variation across sites in treatment effects on youth behavior is the variation across sites in how treatment shapes postrandomization features of the neighborhoods. The standard errors are adjusted for household clustering.

Causal interpretations of neighborhood effect estimates are a function of the validity of the instruments based on two main criteria: relevance (identifiability) and exogeneity (Angrist and Pischke, 2008). Most valid instruments are derived from random assignment or natural, quasi-experiments. Identifiability depends on the strength of the correlations between the site-by-treatment group instruments and the endogeneous neighborhood attributes (after controlling for the exogenous covariates). Meeting this criterion requires, among other things, that the excluded instruments and endogenous regressors are correlated. If the surrounding neighborhood disadvantage is in part affected by families' choices rather than by the treatment assignment, then the strength of the instruments in predicting the extended disadvantage may weaken.

To gauge the validity of the instruments and the model specification, several first-stage estimates were assessed. In models using duration-weighted poverty, the first-stage equation yielded an *F* statistic for the instruments excluded in the second-stage equation of 18.49 when predicting risky behavior and 18.30 for delinquency. The partial *R*-squared was .112 for risky behavior and .111 for delinquency. In models using the extended indices of concentrated disadvantage, the first-stage equation yielded an *F* statistic for the excluded instruments in predicting risky behavior of 5.1 and 16.2, with partial *R*-squared values of .034 and .100. These numbers were similar to Ludwig and Kling's reports of *F* statistics between 6 and 29 and *R*-squared values between .028 and .118 (2007: 499). Given the use of multiple endogenous regressors, the instruments indicate reasonable explanatory power on the neighborhood attributes. Still, to address possible remaining concerns, limited information maximum-likelihood information estimations (Ludwig and Kling, 2007; Ludwig et al., 2012) were conducted. The results were similar to TSLS, except girls' extended nonconcentration coefficient, which lost some precision at $c = 95$.

The test statistics for exclusion of over-identifying restrictions, when the first-stage equation (1) is estimated using the extended indices of concentrated disadvantage, are as follows: Sargan' chi-squared = 4.736 ($p = .785$), Basman chi-squared = 4.561 ($p = .803$), and Woolridge's chi-squared (robust to heterosckedasticity) = 4.450 ($p = .814$). In the alternative limited information maximum-likelihood estimation, the Anderson–Rubin chi-squared = 4.747 ($p = .784$) and Basman $F = .570$ ($p = .804$). These

5. Selection bias occurs when unobserved factors that shape youth outcomes also influence the types of neighborhoods to which they move, confounding the estimates of the relationship between neighborhood characteristics and outcomes. Experimental studies like the MTO aim to eliminate selection by randomly assigning respondents to treatment or control conditions.

tests are nonsignificant, indicating that one cannot reject the null hypothesis that the instruments are valid. The results increase the confidence in the validity of the instruments and in the correct specification of the model. These results are consistent with prior studies (Ludwig and Kling, 2007).

Exogeneity depends on satisfying the exclusion restriction that the site-by-treatment group instruments are uncorrelated with the error term, which means that random assignment does not affect youth risk taking directly (after controlling for the endogenous regressors) or through omitted variables. In other words, the offer of a voucher is assumed not to affect youth behavior if it does not change exposure to neighborhood poverty. The MTO's design was focused on decreasing neighborhood poverty in the *immediate* tracts of residence. Although the extended neighborhood disadvantage includes by definition information on immediate neighborhood poverty, new uncertainty may be introduced with respect to the exclusion restriction when the endogenous regressors rely also on *variation* in disadvantage in surrounding neighborhoods.[6] The current analyses are thus intended to be exploratory and associational rather than causal.

Analytical Steps

In the following discussion, descriptive statistics are first used to compare different features of youth's immediate and surrounding neighborhood environments by gender and random assignment group and by extended categories of concentrated disadvantage (tables 1 and 2). Second, a series of TSLS analyses by gender are conducted to estimate risky behavior and delinquency while using the 10 site-by-treatment instruments and controlling for baseline covariates. Table 3 models assess the role of neighborhood poverty and disadvantage on youth behavior. The spatial scale of the neighborhood starts with the immediate census tract of residence and is next extended to include four surrounding tracts. Table 4 models estimate youth behavior by gender as a function of the three types of extended neighborhoods, as distinguished previously (figure 1), using extended concentration of disadvantage as reference. Table 5 models investigate the role of the same neighborhood categories in predicting social disorganization and differential opportunity mediators.

FINDINGS

As a result of the MTO intervention, male and female youth lost between 9 and 13 percentage points on average in immediate neighborhood poverty and about 6 percentage points in extended neighborhood poverty during the duration of the study. They shed on average between .61 and 1.01 standard deviations in immediate concentrated disadvantage and between .43 and .45 standard deviations in surrounding disadvantage. The differences between those in the intervention and the control groups also are

6. The exclusion restriction assumption, in general, relies on theoretical justification more than statistical tests. Theoretically, researchers have long recognized that together with poverty, other environmental features changed as a result of the MTO (Ludwig et al., 2012). If the treatment influenced extended environmental exposures differently than immediate poverty and changed youth's behavior through them, as suggested in this study, then satisfying the exclusion restriction assumption may rely on including (rather than omitting) information on the extended environment.

Table 1. Descriptive Statistics of MTO Youth's Spatial Context

Variable	Youth Means (SD)		Female Youth Means			Male Youth Means		
	All Groups		Control	Low-Poverty Voucher	Traditional Voucher	Control	Low-Poverty Voucher	Traditional Voucher
Immediate Neighborhood								
Poverty	.376	(.160)	.456	.330*	.349*	.436	.347*	.371*
Disadvantage	2.604	(1.572)	3.220	2.210*	2.390*	3.050	2.440*	2.630*
Unemployment	.188	(.096)	.218	.171*	.176*	.210	.184*	.188*
Vacant housing	.114	(.112)	.132	.115	.105*	.121	.110	.116
Surrounding Neighborhood								
Poverty	.310	(.114)	.348	.289*	.306*	.350	.288*	.313*
Disadvantage	1.996	(1.137)	2.260	1.830*	1.930*	2.300	1.850*	2.070
Unemployment	.154	(.063)	.165	.148*	.149*	.169	.149*	.160
Vacant housing	.100	(.062)	.110	.095*	.099	.110	.094*	.105
Immediate Distance to Nearest Disadvantage								
Ln distance	.363	(.658)	.214	.462*	.310	.225	.459*	.413*
>.5 mile	.254	(.436)	.142	.337*	.275*	.136	.328*	.225†
>1 mile	.176	(.381)	.097	.236*	.147	.073	.270*	.156†
>2 miles	.117	(.322)	.061	.159*	.076	.047	.185*	.117†
Extended Neighborhood								
Concentrated disadvantage	.445	(.497)	.538	.354*	.412*	.577	.407*	.472†
Localized concentrated disadvantage	.219	(.414)	.290	.181*	.185*	.216	.189	.247
Nonconcentrated disadvantage	.336	(.473)	.172	.465*	.403*	.207	.404*	.281

(*Continued*)

Table 1. Continued

Variable	Youth Means (SD)		Female Youth Means			Male Youth Means		
	All Groups		Control	Low-Poverty Voucher	Traditional Voucher	Control	Low-Poverty Voucher	Traditional Voucher
Distance to Disadvantage, Given Extended Nonconcentrated Disadvantage								
≤.5 mile to nearest disadvantage	.120	(.326)	.067	.144*	.145*	.125	.119	.138
>.5 mile to nearest disadvantage	.216	(.412)	.105	.321*	.258*	.082	.285*	.144
≤1 mile to nearest disadvantage	.184	(.387)	.102	.236*	.256*	.178	.157	.181
>1 mile to nearest disadvantage	.153	(.360)	.069	.229*	.147†	.029	.247*	.101†
n (unweighted)	1,591		329	230	252	312	210	201

NOTES: Standard deviations are in parentheses. Spatial context characteristics are weighted by the duration of residence at each location and averaged across all locations during the duration of the study. Means are survey weighted and adjusted for clustering, unless otherwise noted. Youth are from all five U.S. cities.
ABBREVIATION: SD = standard deviation.
†$p < .10$ (two-tailed); *$p < .05$ (two-tailed test on difference between the treatment and the control group).
Sources: Data are derived from the MTO study, Decennial Census, NCDB, and TIGER/Line shape files.

Table 2. Descriptive Statistics of Youth's Neighborhood Exposures by Spatial Context Category

	Extended Concentrated Disadvantage		Localized Concentrated Disadvantage		Extended Nonconcentrated Disadvantage	
Variable	**Mean**	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**
Immediate Neighborhood						
Poverty[a]	.485	(.116)	.397	(.114)*	.219	(.093)*
Concentrated disadvantage[a]	3.835	(1.122)	2.581	(1.002)*	.991	(.630)*
Unemployment[a]	.257	(.079)	.177	(.076)*	.104	(.042)*
Female-headed households with kids[a]	.687	(.118)	.552	(.121)*	.408	(.135)*
Families on public assistance[a]	.402	(.109)	.299	(.100)*	.162	(.057)*
Vacant housing units[a]	.162	(.133)	.093	(.089)*	.065	(.048)*
Racial and ethnic diversity[a]	.257	(.203)	.427	(.205)*	.453	(.171)*
Exposure to poverty <20%[a]	.023	(.089)	.074	(.159)*	.391	(.284)*
Exposure to poverty ≥40%[a]	.532	(.245)	.341	(.300)*	.091	(.154)*
Violent crime rate[b]	41.758	(20.243)	23.839	(14.460)*	14.723	(15.155)*
Property crime rate[b]	53.767	(18.796)	43.476	(23.983)*	40.972	(46.937)*
Local job density[c]	.211	(.976)	.607	(1.438)*	.506	(2.197)*
Surrounding Neighborhood						
Poverty[a]	.402	(.073)	.286	(.071)*	.205	(.076)*
Concentrated disadvantage[a]	3.023	(.617)	1.602	(.649)*	.894	(.598)*
Unemployment[a]	.208	(.040)	.129	(.041)*	.099	(.033)*
Vacant housing units[a]	.136	(.069)	.085	(.039)*	.062	(.030)*
Racial and ethnic diversity[a]	.266	(.189)	.388	(.156)*	.430	(.160)*
Exposure to poverty <20%[a]	.047	(.111)	.192	(.287)*	.521	(.375)*
Exposure to poverty ≥40%[a]	.504	(.356)	.123	(.224)*	.042	(.099)*
Violent crime rate[b]	34.814	(11.835)	20.274	(8.877)*	12.144	(8.162)*
Property crime rate[b]	62.239	(18.611)	46.972	(23.643)†	32.894	(22.273)*
Local job density[c]	.494	(.829)	.470	(.957)	.310	(.476)*

NOTES: Standard deviations are in parentheses. Spatial context characteristics are weighted by the duration of residence at each location and averaged across all locations during the duration of the study. Means are survey weighted and adjusted for clustering.

ABBREVIATION: SD = standard deviation.

[a] $N = 1{,}591$, measures are based on Decennial Census matched to the MTO study youth in all five cities.

[b] $N = 948$, measures are based on NNCS matched to the MTO study youth in Boston, Chicago, and Los Angeles.

[c] $N = 1{,}271$, measures are based on LEHD matched to the MTO youth in Baltimore, Chicago, Los Angeles, and New York.

†$p < .10$ (two-tailed); *$p < .05$ (two-tailed test on difference from Extended Concentrated Disadvantage mean).

Sources: Data are derived from the MTO study, Decennial Census, NCDB, TIGER/Line Shapefiles, NNCS study, and LEHD.

statistically significant in the average distance to the nearest disadvantage hotspot and exposures to extended concentrated and nonconcentrated disadvantage (table 1).

On average, the MTO youth reside in extended neighborhoods of concentrated disadvantage that exhibit poverty levels of 49 percent and 40 percent in the immediate and surrounding tracts, respectively. Their extended nonconcentrated environments and localized concentrated areas have about 22 and 40 percent poor residents in the immediate neighborhood, respectively, and 20 and 29 percent poor residents, respectively, in the surrounding neighborhood. This ordered pattern, where localized disadvantage ranks about midway between the other categories, is repeated with respect to other neighborhood features such as unemployment and concentrated disadvantage (table 2). Moreover, on vacant housing, racial/ethnic diversity, local jobs, and violent crime rates, youth's

Table 3. Estimating Risky Behavior and Delinquency as a Function of Neighborhood Poverty and Disadvantage at Immediate and Extended Scales

	Female Youth		Male Youth	
Variable	Risky Behavior *b* (SE)	Delinquency *b* (SE)	Risky Behavior *b* (SE)	Delinquency *b* (SE)
Neighborhood Poverty Models				
Immediate neighborhood	1.182*	−.409	−1.292*	.141
	(.386)	(.302)	(.614)	(.482)
Surrounding neighborhoods	2.169*	−.283	−1.887*	.008
	(.739)	(.543)	(.926)	(.662)
Extended neighborhood	1.607*	−.435	−1.572*	.105
(immediate and surrounding)	(.515)	(.395)	(.744)	(.568)
Neighborhood Disadvantage Models				
Immediate neighborhood	.135*	−.046	−.148†	.000
	(.045)	(.036)	(.076)	(.063)
Surrounding neighborhoods	.245*	−.016	−.220†	−.014
	(.090)	(.068)	(.117)	(.083)
Extended neighborhood	.187*	−.046	−.186*	−.004
(immediate and surrounding)	(.062)	(.048)	(.094)	(.074)

NOTES: The TSLS models include 10 site-by-treatment interactions as excluded instruments and baseline covariates for adults and youth, as listed in table S.2. Male ($n = 723$) and female ($n = 800$) youth are from all five cities. Standard errors adjusted for clustering are in parentheses. The units of the summary indices are standard deviations from the control group's outcome.
ABBREVIATION: SE = standard error.
†$p < .10$ (two-tailed test); *$p < .05$ (two-tailed test).
Sources: Data are derived from the MTO study, Decennial Census, NCDB, and TIGER/Line Shapefiles.

localized concentration area scores look more like their extended nonconcentration scores.

The results from intent-to-treat analyses show that the program contributed to less risky behavior by girls than the control group but more risky behavior by boys. The gender differences in these effects are statistically significant (table S.4 and section IV in the online supporting information). The TSLS method is next applied to estimate the effects of neighborhood poverty on youth's risky and delinquent behavior by gender.

As summarized in table 3, the results show a significant positive effect of exposure to immediate neighborhood poverty or disadvantage during the duration of the study on girls' risky behavior. Interpreted in the context of the MTO moves, the coefficients indicate that female respondents in the treatment groups and sites that experience relatively larger reductions in exposure to neighborhood poverty between their origin and destination locations also experience a relatively lower prevalence of risky behavior. However, the results show a reverse effect of neighborhood poverty and disadvantage on boys' behavior. In the context of the MTO moves, the coefficients indicate that male respondents in the treatment groups and sites that experience relatively larger reductions in exposure to immediate neighborhood poverty between their origin and destination locations also experience a relatively higher prevalence of risky behavior. Neighborhood poverty seems to have little effect on delinquency. Previous studies reported similar findings in the effects of immediate neighborhood poverty (Kling, Liebman, and Katz, 2007).

EXTENDED NEIGHBORHOOD EFFECTS

The delinquency noneffects and especially the unexpected increase in boys' risky behavior have puzzled and troubled scholars and policy makers alike. Have these studies perhaps missed something about the larger spatial context of the respondents that may explain the observed effects? The analyses presented in table 3 begin to address this question by increasing the neighborhood scale to account for the four neighboring tracts. When averaging immediate tract poverty with the poverty level of the four nearest neighbors in the extended neighborhood models, the coefficient increases in absolute magnitude by approximately 36 percent (from 1.18 to 1.61) for girls and by approximately 22 percent (from –1.29 to –1.57) in predicting boys' risky behavior. Interestingly, when including only the surrounding neighborhood scores at different scales, 2, 4, 6, and 8, respectively, without immediate scores, the analyses yield coefficients of even larger magnitude than the immediate neighborhood (table S.5 and section VII in the online supporting information).

The next sets of analyses begin to dig deeper and explore the relevance of interactions between the immediate and surrounding neighborhoods of the MTO youth. Spatial Durbin models that include the immediate poverty or disadvantage levels together with the surrounding levels and the interaction between the two suffer from multicollinearity because of strong associations between immediate and surrounding neighborhood disadvantage (r between .72 and .79 for poverty and disadvantage, scales $s = 2$ through 8). For this reason, instead of three highly correlated continuous exposure variables, three mutually exclusive categories of neighborhood exposures were distinguished as a function of the immediate disadvantage, surrounding disadvantage, and their interaction, as described previously.

Table 4 presents the results from TSLS models estimating the predictive role of extended neighborhood categories on female and male youth's risky behavior and delinquency, respectively. Across all models, the reference category is extended concentrated disadvantage. Model 1 results show that among girls, extended nonconcentrated disadvantage predicts decreased risky behavior relative to extended concentration. This finding is robust to controlling for the number of moves since random assignment (model 2) and for the duration spent in urban or suburban neighborhoods (model 3), and it is consistent with the spatial concentration hypothesis (hypothesis 1). The coefficients are not significant in estimating girls' delinquency.

Columns 3 and 4 of table 4 present results for male youth from estimations otherwise equivalent to those for girls. Model 1 findings show that, compared with living in neighborhoods of extended concentrated disadvantage, living under localized concentration is related to significant increases in boy's risky behavior by 1.44 of a standard deviation ($p = .040$, two-tailed test) and to significant increases in their delinquency by approximately .78 of a standard deviation ($p = .048$). These patterns are consistent with the spatial interaction hypothesis (hypothesis 3). In contrast, living in extended nonconcentrated disadvantage (model 1) makes no significant difference on boys' risky behavior or delinquency, which is contrary to the differential opportunity hypothesis (hypothesis 2). Similar extended nonconcentration coefficients emerge when predicting opportunity-related delinquency items like selling drugs and stealing. The findings are similar when also controlling for the number of moves since random assignment (model 2) and for duration spent in urban or suburban neighborhoods (model 3).

Table 4. Youth Risky Behavior and Delinquency as a Function of Extended Types of Neighborhood Concentrated Disadvantage

	Female Youth		Male Youth	
Variable	Risky Behavior *b* (SE)	Delinquency *b* (SE)	Risky Behavior *b* (SE)	Delinquency *b* (SE)
Model 1				
Localized concentrated disadvantage	−.077	−.419	1.441*	.778*
	(.307)	(.346)	(.702)	(.394)
Extended nonconcentrated disadvantage	−.386†	−.004	.396	.042
	(.199)	(.194)	(.308)	(.209)
Model 2 (Controlling for Number of Moves)				
Localized concentrated disadvantage	−.039	−.418	1.404*	.758*
	(.304)	(.351)	(.679)	(.388)
Extended nonconcentrated disadvantage	−.356†	.016	.435	.097
	(.208)	(.214)	(.319)	(.223)
Model 3 (Controlling for Urban/Suburban)				
Localized concentrated disadvantage	−.128	−.388	1.528*	.756*
	(.318)	(.347)	(.645)	(.367)
Extended nonconcentrated disadvantage	−.461*	.032	.281	.034
	(.227)	(.204)	(.357)	(.238)

NOTES: Extended concentrated disadvantage is the reference category in all models. All TSLS models include 10 site-by-treatment interactions as excluded instruments and the baseline covariates for adults and youth listed in table S.2. Male ($n = 723$) and female ($n = 800$) youth are from all five cities. Standard errors adjusted for clustering are in parentheses. Units of the summary indices are standard deviations from the control group's outcome.

ABBREVIATION: SE = standard error.

†$p < .10$ (two-tailed test); *$p < .05$ (two-tailed test).

Sources: Data are derived from the MTO study, Decennial Census, and NCDB; TIGER/Line shape files.

SPATIAL PATTERNING OF MEDIATORS

What is it about the extended neighborhood that encourages risky and delinquent behavior differently among boys and girls? The analyses presented in table 5 address this question by estimating the extended neighborhoods' relationships with possible mediators. The models are equivalent in structure to table 4's model 1, except the dependent variables, which are now the mediators. As used previously, the extended concentrated disadvantage is the reference category. Girls' localized concentrated environments are not significantly different than extended concentration of disadvantage in predicting most mediators. However, girls' extended nonconcentrated areas are associated with significantly lower ties to old neighborhoods, marginally significantly more friends engaged in school activities, significantly lower levels of reported social disorder like public drinking and people hanging out on the streets, and lower levels of physical disorder. Additionally, girls' extended nonconcentrated neighborhoods are associated with more responsiveness by the police, more collective efficacy, stronger beliefs in their chances to get a job or attend college in the future, lower levels of psychological distress, higher perceptions of neighborhood safety, lower violent crime rates, marginally lower property crime, and larger distances to nearby crime hotspots.

These results are consistent with the links between girls' extended nonconcentrated areas and decreased risky behavior highlighted in table 4. Girls' extended nonconcentrated

Table 5. Spatial Patterning of Possible Social Disorganization and Differential Opportunity Mediators of Neighborhood Effects

	Female Youth			Male Youth		
Variable	***n***	***b***	**(SE)**	***n***	***b***	**(SE)**
Informal Ties[a]						
Prosocial peers	775			687		
Localized CD		.619	(.528)		.776	(.710)
Extended non-CD		.611	(.357)†		−.191	(.417)
Delinquent ties (gangs, drugs, and guns)	800			720		
Localized CD		.175	(.510)		1.640	(.718)*
Extended non-CD		.099	(.356)		.467	(.465)
Ties to old neighborhood	773			704		
Localized CD		.162	(.461)		−.747	(.625)
Extended non-CD		−.651	(.315)*		−1.013	(.391)*
Neighborhood Social Control[b]						
Collective efficacy	705			644		
Localized CD		.691	(.586)		−1.852	(.917)*
Extended non-CD		.963	(.382)*		.367	(.496)
Institutional Context[b]						
Police unresponsiveness	726			664		
Localized CD		.080	(.538)		−.417	(.619)
Extended non-CD		−.633	(.335)†		−.751	(.394)†
Neighborhood Disorder[b]						
Social disorder: public drinking and hangout	763			698		
Localized CD		.284	(.585)		1.637	(.801)*
Extended non-CD		−1.093	(.398)*		−.703	(.522)
Physical disorder: trash, graffiti, abandoned buildings	763			704		
Localized CD		.555	(.624)		.546	(.737)
Extended non-CD		−.424	(.402)		−.830	(.410)*
(Il)legitimate Opportunities[c]						
Medium-high wage jobs in surrounding neighborhood	629			606		
Localized CD		−1.213	(.868)		−.627	(.824)
Extended non-CD		−.551	(.374)		.043	(.371)
Low- to medium-wage jobs in surrounding neighborhood	629			606		
Localized CD		−1.262	(.915)		−1.080	(.647)†
Extended non-CD		−.641	(.345)†		−.195	(.355)
Anomie and Strain[a]						
Belief in chances for job or college in future	799			717		
Localized CD		.329	(.512)		−1.981	(.958)*
Extended non-CD		.682	(.328)*		−.001	(.500)
Psychological distress	796			719		
Localized CD		−.036	(.480)		1.723	(.935)†
Extended non-CD		−.641	(.327)*		.230	(.478)
Youth Exposure to Crime[a]						
Saw somebody get shot or stabbed	795			717		
Localized CD		−.762	(.503)		1.952	(.933)*
Extended non-CD		−.546	(.368)		−.097	(.479)
Saw shooting, drugs, gangs in the neighborhood	800			723		
Localized CD		−.581	(.516)		1.700	(.944)†
Extended non-CD		−.558	(.369)		−.445	(.480)
Victimization experience	799			721		
Localized CD		−.322	(.354)		−.248	(.743)
Extended non-CD		−.296	(.238)		−.898	(.436)*
Neighborhood Safety and Crime						
Neighborhood safety[b]	801			726		
Localized CD		.588	(.497)		1.259	(.753)†
Extended non-CD		1.138	(.334)*		1.577	(.454)*

(*Continued*)

Table 5. Continued

Variable	Female Youth			Male Youth		
	n	*b*	(SE)	*n*	*b*	(SE)
Violent crime rate[d]	481			416		
Localized CD		−2.527	(.941)*		−1.555	(1.302)
Extended non-CD		−2.629	(.753)*		−3.397	(1.127)*
Property crime rate[d]	481			416		
Localized CD		−1.309	(.814)		−.289	(.956)
Extended non-CD		−1.210	(.631)†		−2.183	(1.125)†
Distance to crime hotspot[d]	481			416		
Localized CD		1.888	(1.086)†		.207	(1.139)
Extended non-CD		2.411	(.840)*		1.620	(.896)†

NOTES: Standard errors adjusted for clustering are in parentheses. Extended CD is the context of reference in all models. The TSLS models include 10 site-by-treatment interactions as excluded instruments and baseline covariates, as listed in table S.2.

ABBREVIATIONS: CD = concentrated disadvantage; SE = standard error.

[a]Measures are based on reports by MTO study youth in all five cities.

[b]Measures are based on youth's adult caregivers' reports in the MTO study in all five cities.

[c]Neighborhood measures are based on LEHD matched to the MTO youth in Baltimore, Chicago, Los Angeles, and New York.

[d]Neighborhood measures are based on NNCS matched to the MTO youth in Boston, Chicago, and Los Angeles.

†$p < .10$ (two-tailed test); *$p < .05$ (two-tailed test).

Sources: Data are derived from the MTO study, Decennial Census, NCDB, TIGER/Line shape files, NNCS study, and LEHD.

neighborhoods are not significantly associated with fewer delinquent networks; witnessing less drug activity, shootings, or other crime in the neighborhood; or with recent victimization experience. This result may be because of girls' low levels on these indices to begin with and is consistent with the nonsignificant effect of extended neighborhood on girls' delinquency. Overall, girls' results suggest support for the spatial concentration hypothesis (hypothesis 1), operating through decreased social disorganization and strain and increased prosocial associations. It is important to note that only improving the immediate or the surrounding area seems insufficient. Improvements in behavior and mediators necessitate that both the immediate and surrounding areas are without concentrated disadvantage.

Boys' exposure to localized concentrated disadvantage compared with extended concentration is associated with nonsignificant differences in ties to old neighborhoods, prosocial friends, peers and kin in gangs, neighborhood physical disorder, police responsiveness, immediate and extended density of middle-to-high–wage jobs, recent victimization experience, neighborhood crime rate, or distance to crime hotspots. At the same time, localized concentrated areas are significantly associated with the following:

- More delinquent peers, friends who use drugs, and social disorder such as public drinking and people hanging out on the street
- Weaker collective efficacy and beliefs in chances for a good job
- Higher psychological distress and odds of having witnessed shootings or stabbings, drugs, or gangs in the neighborhood
- Marginally lower density of middle-to-low–wage jobs

It is instructive that under localized concentration of disadvantage, boys' perceptions and experiences of crime are higher despite indications from police records of similar crime rates and parents' reports of marginally more safety than extended concentrated areas. If parents perceive higher neighborhood safety, then they may lower their guards and insist less on keeping their children out of the streets.

Boys' exposure to extended nonconcentrated disadvantage is associated with fewer ties to old neighborhoods, fewer peers and kin in gangs, lower physical disorder and neighborhood problems in general, more police responsiveness, lower chances of recent victimization, higher safety, lower violent and propriety crime rates, and larger distance to crime hotspots. Any expected benefits from these positive mediating patterns may be offset by extended nonconcentration's association—relative to extended concentration—with more friends who use drugs and nonsignificant decreases in perceived social disorder, collective efficacy, anomie and strain, and crime witnessing. Overall, the findings for boys support the spatial interaction perspective (hypothesis 3) through social disorganization and differential opportunity mediators.

Exploratory investigations were next conducted using each of the aforementioned possible mediators together with the extended neighborhood indices among the endogenous regressors in models otherwise similar to those in table 4. The positive estimate of localized concentrated disadvantage in predicting boys' risky behavior and delinquency dropped in magnitude and became nonsignificant when including delinquent peers, psychological distress, or belief in the future among the endogenous regressors, which suggests possible mediation. Indications of mediation are weaker for the other indices. Among girls, the negative coefficient of extended nonconcentrated disadvantage weakens in magnitude and loses its statistical significance when controlling for psychological distress and belief in the future. Because the mediators and the outcomes are measured at the same time, these mediation analyses are exploratory. Future tests using later outcome data will be valuable (e.g., Sciandra et al., 2013).

Sensitivity Analyses

Several types of sensitivity analyses were conducted. First, other concentrated disadvantage thresholds were applied. The results show that the 95th percentile threshold captured best the differences among the three categories of neighborhood interactions in their association with behavior best among males (figure S.1) and similar to other cutoffs among females (sections V and VI in the online supporting information). Second, comparisons between typical definitions of neighborhoods at the census tract level and less typical definitions based on gradually larger numbers of nearby tracts ($s = 2$ through 8) suggested that extended measures based on the four nearest neighbors yielded more consistent results among boys and girls (section VII in the online supporting information). Third, different variants of the extended neighborhood indices were calculated based on disadvantage exposure before the end of the fourth and fifth years after random assignment. The results show largely similar patterns as with the full duration indices (section VII in the online supporting information). Fourth, estimations were reiterated with alternative versions of the risky behavior and delinquency scales, excluding items one by one. The results show slight variations in precision but stable magnitude among the core estimates of interest, which suggests that no item predominantly shapes the main results (table S.7 and section IX in the online supporting information). These analyses are described in more detail in the in the online supporting information.

DISCUSSION

This study made the case that our collective understanding of neighborhood effects on crime will benefit from integrating the growing evidence on spatial spillovers of criminogenic risk and from taking into account the role of extended neighborhood environments in shaping individual behavior. The current analyses revisited the residential history of Moving to Opportunity youth and explored for the first time their extended neighborhood exposures in order to shed new light on the puzzle of gender differences in neighborhood effects.

EXTENDING THE PICTURE OF NEIGHBORHOOD EFFECTS

The results suggest that extended neighborhoods contribute to understanding gender differences in risk taking. The extended environment mattered for both boys and girls but in different ways. Specifically, extended concentrated disadvantage predicted the highest prevalence of girls' risk taking. Localization of concentrated disadvantage mattered little for girls' behavior, but when the immediate and surrounding neighborhoods both fell below the extreme concentration threshold, the benefits became clear. Broadly, these findings are consistent with social disorganization expectations (Shaw and McKay, 1942) and Wilson's (1987) insights on poverty ghettos, which connect neighborhood socioeconomic distress to a higher prevalence of risk taking (Browning et al., 2008). The significance of the surrounding environment is consistent with growing evidence that poverty clusters geographically and spills over to affect crime nearby (Peterson and Krivo, 2010).

Among girls, the analyses found a significant spatial organization of mediating social disorganization processes such as collective efficacy, lower social disorder, and neighborhood crime rates. Such neighborhood processes have been related to less crime in previous research (Bursik and Grasmik, 1999; Sampson and Groves, 1989; Sampson, Raudenbush, and Earls, 1997; Shaw and McKay, 1942). Moreover, the results show that girls report less strain, greater belief in legitimate opportunities for success, and more prosocial peers when the immediate and surrounding neighborhoods are both without concentrated disadvantage. These findings are consistent with previous work (Elliott, Ageton, and Canter, 1979) that linked social organization to stronger bonds with conventional group ties.

In contrast, boys' patterns indicated that localized extreme disadvantage worsened boys' behavior, which is consistent with the spatial interaction hypothesis. As with girls, the significance of the surrounding environment for boys is consistent with evidence on geographic spillovers of criminogenic risk (Peterson and Krivo, 2010). If the opportunity for crime or increased strain requires group reinforcements to be translated into risk taking and offending, and if delinquent male peers and definitions favorable to risk taking are more plentiful in more disadvantaged areas (Elliott, Ageton, and Canter, 1979), then localized concentrated disadvantage may provide an effective combination of factors that increase boys' misbehavior.

Indeed, the findings for boys show that, compared with extended concentrated disadvantage, localized concentration was associated with higher differential opportunity mediators like strain (greater psychological distress) and with fewer opportunities for success (lower density of middle-to-low–paying jobs and weaker beliefs in chances for a good job or college). Localized concentration also was strongly associated with indicators of differential association and social organization like delinquent peers. In addition,

these patterns are consistent with the idea that compared with extended concentrated disadvantage, localized concentration of disadvantage may flaunt to low-income youth the inaccessibility of legitimate opportunities that others in a nearby neighborhood enjoy (e.g., jobs and going to college), possibly igniting a sense of injustice (Cloward and Ohlin, 1960; Merton, 1938) and motivating risk taking. Delinquent peers may validate those feelings, shape deviant definitions, offer techniques of neutralization, and provide partnership in risk taking and delinquency (Elliott, Ageton, and Canter, 1979; Heimer and De Coster, 1999). They also may facilitate opportunities for risk taking and offending in the new neighborhoods and their surroundings.

Even in the absence of frustration and strain, the combination of local delinquent networks and increased access to desirable targets (because more nearby residents have incomes above the poverty threshold) may be sufficient to lead to an increased prevalence of deviance among boys. Moreover, that the localized concentrated disadvantage areas had significantly lower levels of collective efficacy and more social disorder than the extended concentrated areas meets the condition of low-guardianship of the routine activity perspective. Higher social disorder, such as people hanging out and drinking alcohol on the street, may result in cultural normalization of alcohol and substance use, which may increase the odds of risk taking and escalation of simple incivilities to serious offending.

The finding that boys in localized concentrated areas report weaker collective efficacy, increased disorder, and more crime than those in the extended areas of concentrated disadvantage seems to be inconsistent with previous findings of positive associations among poverty, disorganization, and crime (Sampson, Raudenbush, and Earls, 1997). This inconsistency may be because low-income adolescent boys' experiences do not represent all residents' experience. Indications of their divergence from the average experience emerge when comparing boys' reports of seeing shootings, drugs, and gangs in the neighborhood with their caregivers' reports of higher neighborhoods safety.[7] Further research on the gap in neighborhood perceptions between adolescents and adults will be invaluable.

GENDERED DIFFERENCES IN NEIGHBORHOOD EXPOSURES

The gender differences in extended neighborhood effects found in the current study are consistent with the notion that boys and girls are differentially exposed to risk and protective factors at the neighborhood level (Kroneman, Loeber, and Hipwell, 2004; Mears, Ploeger, and Warr, 1998; Steffensmeier and Haynie, 2000; Zahn and Browne, 2009). Indeed, deeper investigations into the MTO youth's time-use patterns in the current study showed that that girls in the control group were significantly more likely than boys in the control groups to 1) work soon after school, 2) participate in evening activities where their mother or an adult is present, 3) be at home in the evening, 4) spend more time reading, and 5) prefer to be alone. They were less likely to hang out with friends, generally, and had fewer friends they hang out with. In contrast, parents reported that they knew who male youth were with outside the home significantly less frequently than they reported about female youth (see also Kling, Ludwig, and Katz, 2005). Among the youth in the control group, girls disobeyed parents, acted out at school, and hung out with troublemakers significantly less than boys.

7. Analyses of parents' reports on drug selling in the neighborhood showed no significant relationship with youth's corresponding reports or youth outcomes.

The gendered patterns of time and space use and socializing found in this study are consistent with recent qualitative findings (Clampet-Lundquist et al., 2011), which similarly indicate that boys are less likely than girls to be supervised, to be involved in structured activities, or to be in the home. According to the current study, boys are more likely to hang out on the streets and with peers (Block, 1983). Unstructured socializing in turn has been shown to predict deviance and delinquency (Bernasco et al., 2013; Osgood and Anderson, 2004; Osgood et al., 1996). The observed gender differences also are consistent with research on gender gaps in adult bonding, family supervision, and differential association (Heimer and De Coster 1999; Morash, 1986; Zimmerman and Messner, 2010). More systematic work is needed to understand the extent to which low-income girls are more exposed than boys to neighborhood protections and less exposed to street-level risk, and how girls' stronger bonds with adults and institutions may better facilitate access to specific resources and opportunities in improved extended neighborhoods.

LIMITATIONS AND DIRECTIONS FOR THE FUTURE

This study makes several contributions related to motivating, conceptualizing, and measuring the extended neighborhood context of risk-taking behavior. It also has limitations. The initial focus in the MTO design was on improving the *immediate* neighborhood exposures without explicit consideration to the extended neighborhood environments. For this reason, the coefficient estimates for the extended neighborhood attributes should be interpreted as associations. Although preliminary, the findings in this study are an important first step in highlighting how the extended neighborhood context may matter for gender differences in behavior. It would be of great value for future research and policy to take into account the wider spatial contexts of neighborhoods as part of the initial design, which would permit testing the causal links directly.

Although sensitivity analyses were conducted using thresholds other than the 95th percentile presented in this study, it would be valuable for future research to continue to explore the relevant cutoffs in national samples of youth. To protect respondents' confidentiality, youth's location could not be revealed at geographic levels smaller than the tract. Comparisons with gradually larger geographic scales indicated that extended measures based on four nearest neighbors performed better than two nearest neighbors or the immediate tract only. Still, access to youth's residential location more detailed than the tract will be invaluable to gain a deeper understanding of the microlocal processes at the street level (Weisburd et al., 2004). Additionally, future research that assesses youth's nonresidential locations of routine activities (work, school, or friends' homes) will be important (Browning, Soller, and Jackson, 2014; Graif, Gladfelter, and Matthews, 2014).

Moreover, the research design does not permit a definitive assessment of the mediating processes or generalizations to other populations. Qualitative and mixed-method approaches (Briggs, Popkin, and Goering, 2010; Clampet-Lundquist et al., 2011; Popkin, Leventhal, and Weisman, 2010) are better suited for studying processes. Exploring mechanisms based on MTO data and independent data sets however, even if noncausally, is valuable for gaining theoretical traction in understanding observed behavioral differences. Still, these data sets have their own limitations and only partially match the MTO sites when combined. It would be greatly valuable for future research to investigate the extended neighborhoods and mechanisms affecting delinquency and risky behavior in

different cities and based on different samples. Moreover, to undo the effects of previous years of poverty exposure, interventions might be needed even earlier in childhood.[8]

CONTRIBUTIONS AND IMPLICATIONS FOR RESEARCH AND POLICY

The findings advance criminology and the scholarship of neighborhood effects and gender in three main ways. Broadly, they demonstrate the value of a conceptual reframing of neighborhood effects to include the extended spatial context within which neighborhoods are embedded and to account for differential spatial distributions of concentrated disadvantage within extended environments. Specifically, the study contributes empirically through first-time evidence that interactions between surrounding and immediate neighborhoods are associated with differences in youth behavior and social contexts. Moreover, the results push the field forward by indicating that gender differences in offending are related to variation in spatially organized experiences of criminogenic risk and opportunity, especially delinquent peers, strain, and perceived absence of legitimate opportunities for success.

The extended spatial perspective to understanding neighborhood dynamics proposed in this study contributes to recent debates on the MTO (Clampet-Lundquist and Massey, 2008; Sampson, 2008, 2012) and, more broadly, advance the neighborhood effects literature by incorporating insights on spatial interdependencies from recent advances in urban ecological research (Graif and Sampson, 2009; Hipp and Boessen, 2013; Morenoff, Sampson, and Raudenbush, 2001; Sampson, Morenoff, and Earls, 1999) and on cross-boundary interactions from ethnographic research (Harding, 2010; Pattillo-McCoy, 1999). The findings are in line with growing research demonstrating the interplay between neighborhoods and surroundings in shaping other types of outcomes like birth weight (Morenoff, 2003) and residential mobility (Crowder and South, 2008). The results suggest that our understanding of delinquency and crime will greatly advance if the extended neighborhoods are evaluated more systematically in future studies.

The findings in this study also have important implications for refining research and thinking on urban housing and mobility policies. In response to discouraging past findings that improved neighborhoods seemed to put low-income boys at higher risk than no intervention, this study suggests that such harmful implications disappear when *both* the immediate and the surrounding neighborhoods are improved. Housing mobility policies may, thus, benefit from paying as close attention to the surrounding neighborhoods as to the immediate ones.[9] Moreover, supplementary results indicate that going beyond poverty to focus on disadvantage more broadly, especially unemployment and female-headed households, may bring additional leverage in understanding youth risk taking (see table S.6 and section VIII in the online supporting information).

Moreover, this study's findings contribute to research and policy by suggesting that social processes like associations with delinquent peers, extended exposure to criminogenic

8. The interpretability of the findings with respect to the effects of growing up in a poor neighborhood is limited if the most relevant neighborhoods are those in which children live before their school years.

9. Although localized concentrated disadvantage seems to carry the most negative implications for boys, it is important to emphasize that long-term benefits of transitioning out of extended concentrated disadvantage on youth outcomes more broadly may make it worth investing in mitigating initial risks.

risk, or neighborhood social control may be more prevalent in certain spatial configurations than in others. Existing programs focused on social support networks, adult bonding, mentors, and prosocial peer associations, among others (see Farrington and Welsh, 2006, for a review) may need to be refined with a focus on offsetting the drawbacks of exposure to localized concentrated disadvantage.[10] Both genders will benefit from policies focused on the extended environments. However, the findings suggest that males may require more targeted attention and support programs to mitigate risk factors related to residential transitions. Improved knowledge of the spatial interactions that increase youth's exposure to criminogenic risk will be valuable not only in refining future programs like the MTO, which are focused on individuals on the move, but also in guiding place-based interventions, which are focused on improving whole neighborhoods.[11]

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10. Afterschool community programs like Boys and Girls Clubs of America and community-based mentoring programs like Big Brothers and Sisters of America show some promising but mixed evidence (Farrington and Welsh, 2005).

11. Programs like the Harlem Children's Zone (Whitehurst and Croft, 2010), which inspired President Obama's 2010 Promise Neighborhoods initiative, focus on nurturing protective neighborhood support networks, healthy parenting, and local social controls by increasing access to local resources and training.

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SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article at the publisher's web site:

Table S.1. Summary and Descriptive Statistics of the Core Dependent Variables and Itemized Components by Gender

Table S.2. Descriptive Statistics of the MTO Youth Sample and Their Adult Caregivers at Baseline

Table S.3. Summary of Mediators of Risky Behaviors and Delinquency

Table S.4. Intent-to-Treat Effects on Risky Behavior and Delinquency

Table S.5. Estimating Risky Behavior and Delinquency as a Function of Neighborhood Poverty and Disadvantage at Different Neighborhood Scales

Table S.6. Assessing the Role of Different Dimensions of Neighborhood Disadvantage in Estimating Risky Behavior and Delinquency

Table S.7. Estimating Risky Behavior and Delinquency, Sensitivity to Excluding Items

Figure S.1. Estimated Male Youth Risky Behavior and Delinquency as a Function of Living in Localized Concentrated Disadvantaged Environments by Different Concentration Cutoffs

Figure S.2. Frequency Distribution across Categories of Extended Neighborhoods at Different Concentrated Disadvantage Cutoffs by Gender and Random Assignment