

Subsidized Housing and Crime: Theory, Mechanisms, and Evidence

January 2013

Corresponding Author:

Michael C. Lens
Assistant Professor
Department of Urban Planning
UCLA Luskin School of Public Affairs
3250 Public Affairs Building
Box 951656
Los Angeles, CA 90095
mlens@ucla.edu
310-825-1005

Abstract

Subsidized housing controversies frequently involve the fear of crime, a connection that is not well-understood in policy and planning. This paper thus critically reviews the literature on subsidized housing and crime. Three key findings emerge. First, subsidized households have too frequently lived in violent housing developments and neighborhoods. Second, the spillover effects on crime in surrounding neighborhoods are typically very small. Finally, although the precise mechanisms through which subsidized housing may affect crime are less clear, it is most likely that concentrated disadvantage plays the biggest role when effects are observed, rather than the physical attributes of subsidized housing.

Introduction

In recent years, subsidized housing for low-income American households has undergone a transformation, in which cities are demolishing distressed public housing and attempting to deconcentrate subsidized households. During the mid-20th century, when the vast majority of public housing units were created, these developments were frequently sited in undesirable areas that offered few amenities and contained high proportions of low-income and minority households. The physical design of public housing developments was also frequently problematic, with entire city blocks being taken-up by large high-rises set back from the street, clashing with the surrounding urban fabric (Newman 1972).

One way in which the spatial location of subsidized housing has often failed not only those that live in such housing, but arguably cities as a whole, is the intense clustering of crime that was seen in many public housing projects throughout the country. There have been many chroniclers of the intense urban violence that has befallen public housing developments, ranging from journalists (Kotlowitz 1991) to housing researchers (Popkin et al 2002) and architects (Newman 1972). In recent years, the recent shifts in housing policy toward a more decentralized subsidized housing have placed new urgency on identifying whether and how crime and subsidized housing are linked. Now, understanding the links between crime and subsidized housing is critical not only to perhaps lessen the burden of crime on subsidized households, but to better inform households who may neighbor subsidized housing now or in the future. There are a number of controversies reflecting a not-in-my-backyard sentiment in opposition to the spatial diffusion of subsidized housing. Rosin (2008) explicitly linked the controversy in Memphis to crime, and the ongoing struggle of voucher tenants in the Los Angeles suburb of

Lancaster, CA has also been characterized by accusations that subsidized households increase crime in cities and neighborhoods (Medina 2010).

The purpose of this paper is to review the literature on the linkages between subsidized housing (chiefly public housing and voucher programs) and crime. Two questions are of particular interest: how much of the violence encountered by households in subsidized housing is dependent on the physical characteristics and design of subsidized housing rather than the socioeconomic features of subsidized communities and neighborhoods; and what is the effect of subsidized housing on crime in surrounding neighborhoods? While many aspects of the relationship between subsidized housing and crime are not well-understood, the literature provides several important insights, as this paper will show. To preview, first, we can conclude that traditional public housing – particularly large public housing developments – often concentrated crime to dangerously high levels. It is not likely, however, that the presence of these public housing developments led to measurable crime spillovers to the surrounding neighborhood. Second, smaller-scale, scattered-site subsidized housing projects appear to have little or no effect on neighborhood crime. Third, the link between vouchers and crime is rather unclear – there exist both rigorous studies that find that clusters of voucher households increase neighborhood crime and rigorous studies that find there is no effect. Furthermore, any potential effects on neighborhood crime by vouchers need to be weighed against their effectiveness at reducing exposure to neighborhood crime among subsidized households. Finally, in terms of mechanisms, a consistent theme in the literature is that social characteristics such as concentrated disadvantage and social disorganization have more to do with elevated crime in and around subsidized housing than physical characteristics of the built environment that have previously

received some attention in the planning literature. This provides additional motivation for planners and policymakers to enact policies that reduce concentrated poverty.

The paper begins with theoretical explanations from the planning and criminology traditions on how and why crime and subsidized housing may be linked in U.S. cities. I then discuss the empirical evidence evaluating the strength of these links. I conclude with a summary on the relevant mechanisms, matching the theory to the empirical conclusions, and some directions for future research.

Planning Theories on Crime and the Built Environment

Perhaps the most influential theories on crime and the built environment were developed separately by Oscar Newman (defensible space) and C. Ray Jeffery (crime prevention through environmental design – CPTED) in the early 1970s, each of which were influenced by pioneering work in the 1960s by urban theorists such as Jane Jacobs and Shlomo Angel. Newman’s defensible space theory (Newman 1972) drew not only on architectural design concepts but also on empirical relationships between housing development features and crime rates. He took aim squarely at LeCorbusier-style developments that paired high-rise towers with open spaces intended to provide recreation for children and families. So many of these developments were besieged by crime, Newman claimed, because they lacked defensible space. Defensible space is achieved both through “target hardening,” design features that repel criminal activity such as fences, gates, and locks, and through design elements that encourage residents to assert control over their public spaces and neighborhood environments (Newman 1972, p.4). Newman offered four physical design elements to enhance security in this context: strict territorial definition, apartment windows that allow residents to easily survey public areas,

building forms that blend into the surrounding urban fabric and lack peculiarity, and siting in areas near safe functional activities. Readers of Jane Jacobs would find familiarity with the latter three elements, as Newman – in addition to attacking LeCorbusier’s “Radiant City” urban renewal projects – clearly advocated for structures that increase the number of “eyes on the street” and integrate a diversity of land uses within a cohesive urban area.

Newman came to advocate for defensible space design elements and defended his framework with empirical research on New York City public housing developments, and then meticulously documented examples of defensible space elements in public and private market housing across the country. The New York City Housing Authority (NYCHA) police maintained quality data on crime in public housing at that time, and Newman found strong associations between building height and crime rates among buildings greater than six stories. These analyses failed to account for myriad selection bias problems, but a comparative case study of two NYCHA developments conducted by Newman provides illustrative examples of how defensible space may work in practice. Located across the street from one another, the Van Dyke and Brownsville Houses contained virtually the same numbers of residents on similarly sized plots of land. The Brownsville Houses were six-story buildings and smaller walk-ups, and the Van Dyke buildings were virtually all 14-story elevator buildings. At Van Dyke, none of the building entrances were visible from the street, and each entrance served over one hundred families, which provided access to an elevator bank. Brownsville, by contrast, had smaller, more usable public spaces between buildings, with multiple entrances to buildings serving a smaller number of families. Newman noted that safety outcomes were quite different between these two developments, as a result. Through interviews, residents and police reported that that they were much less likely to encroach on public space such as hallways and stairwells at Brownsville than

at Van Dyke, suggesting that the former of these defined territory more clearly than the latter. There were fewer strangers and instances of deviant behavior in the public spaces at Brownsville, and children and families found these areas safe enough to use for play and allowed children to move freely from apartment to indoor and outdoor public spaces (Newman 1972, pp.39-42). Newman (p. 27) concluded the following regarding developments such as Van Dyke:

“...the only defensible space is the interior of the apartment itself; everything else is a ‘no-man’s land,’ neither public nor private. The lobby, stairs, elevators, and corridors are open and accessible to everyone...these interior areas are sparsely used and impossible to survey; they become a nether world of fear and crime.”

Newman’s work has been quite influential. In 1993, the U.S. Department of Housing and Urban Development (HUD) acted on the National Commission on Severely Distressed Public Housing’s recommendations to demolish up to 86,000 severely distressed public housing units. Many of these units were located in the types of crime-infested towers that Newman documented two decades prior. In 1995, HUD Secretary Henry Cisneros penned an essay describing the ways that better physical design can work to reduce crime. In *Defensible Space: Deterring Crime and Building Community*, Secretary Cisneros promoted the application of Newman’s principles in renovating public housing to enhance safety. Further, he provided a case study of a development that Newman was commissioned to redesign – the Clason Point project in Bronx, NY – which saw substantial decreases in crime after Newman’s redesign. Secretary Cisneros noted specifically that defensible space techniques were a part of HUD’s ongoing crime control efforts in the 1990s.

Newman’s work has also been critically examined, and there have been some empirical tests of his work. Taylor, Gottfredson, and Brower (1984) summarized his theory as emphasizing

the segmentation of public spaces into smaller, controllable areas. Based on empirical work that occurred in the years after Newman's initial publications,¹ they proposed a "second generation" defensible space conceptual framework, which incorporated local social ties – that can be influenced by defensible space and mediate the space/crime relationship or affect crime more directly. This alteration and update formed a bridge to more sociological-based theories of neighborhood and urban crime, which were drawn from theories of social disorganization and disorder. Taylor et al intentionally downplayed the importance of physical design features, as they found in their work and others' that these features explained 20 percent or less of the variance in crime. Newman himself found in subsequent work that the building size matters mostly as an indirect effect, with residents' use of space and control of space as mediating factors.

Jeffery's CPTED shares similarities with defensible space, but goes further to incorporate issues of physical deterioration and disorder. Additionally, CPTED focuses not just on public housing but on many forms of land use, including commercial and private residential property (Schneider and Kitchen 2002, p. 101). In formulating CPTED, Jeffery (a criminologist) was dissatisfied with the classic Chicago School sociological emphases on culture and social norms at the ignorance of physical environment (Jeffery 1971; Schneider and Kitchen 2002; see Shaw and McKay 1942 for the most cited example of the Chicago School). CPTED outlines four areas to address in reducing a location's crime presence – housing design or block layout; land use and circulation patterns; territorial features; and physical deterioration (Taylor and Harrell 1996). The first three features generally correspond to defensible space theory, with some modifications based on empirical work – some directly testing defensible space theory. The addition of

¹ This includes the authors' own work, in addition to studies by Brill and Associates, and what are commonly referred to as the Westinghouse Studies (Goldberg and Michelson 1978; Rau 1975; and Sommer 1978).

physical disorder as a crime mechanism serves as a bridge between planning theory and criminological theorists such as Wesley Skogan and James Q. Wilson, the latter who paired with George Kelling to popularize the “broken windows” theory of policing (Wilson and Kelling 1982), discussed in more detail in the following section. Ultimately, CPTED did not have the same influence in policy and planning circles as Newman’s defensible space work. While Newman’s research led to a moratorium on high-rise public housing construction, CPTED was essentially ignored by federal government (Davies 2006, p. 19).

Criminological Theories on the Spatial Concentration of Crime

The chief criminological theories regarding crime and place are social disorganization theory and routine activity theory. Social disorganization theory was pioneered by Shaw and McKay (1942), and posits that the social characteristics of neighborhoods – low socioeconomic status and family functioning, racial composition, and residential mobility – can lead to breakdowns in community organization and delinquency, particularly among youth. Community breakdown can also ignite a feedback loop, in which the breakdown of social order creates further residential instability and again increases social disorganization and crime. Sampson, Raudenbush, and Earls (1997) advanced this theory by concluding that neighborhoods that exhibit collective efficacy – cohesion and trust among neighbors and a willingness to intervene on behalf of one another – can combat crime and delinquency even in neighborhoods with low socioeconomic status.

Routine activity theory has its roots in a paper by Cohen and Felson (1979), where they attempted to explain the continued rise of criminal activity in the face of improving socioeconomic trends. They described the criminal as working through routines – similar to the

rest of us – who conduct predatory criminal activity when they are motivated, there are suitable targets, and there is a lack of “capable guardians” of those targets (or of the offender) (Cohen and Felson 1979). Routine activity theorists – and subsequent empirical studies – suggest that land use and physical environment features can be altered to reduce the likelihood that offender and target routines cultivate those three necessary conditions and lead to predatory crime.

A very influential practical application of both planning and criminology-based theories of crime and space is Wilson and Kelling’s “broken windows” model of policing and crime prevention. There are two central facets of broken windows theory, each having to do with the establishment and appearance of order. On the policing side, this consists of the policing of minor crimes and a clear signal to the community that these activities are not to be tolerated. For physical environment, the maintenance of properties and repair of broken windows and other signs of physical disorder may reduce the likelihood that individuals will consider this area appropriate to engage in crime (Wilson and Kelling 1982). Wilson and Kelling further echo Newman and Jeffery in their emphasis on the importance of clearly established territory and property. The proliferation of abandoned vehicles and property in a neighborhood will lead to vandalism and theft, they argued, because there are few potential consequences from private property owners and/or police. They further contended that, without order maintenance, more serious crimes are likely to be much more frequent. In this, they echoed social disorganization theorists when they suggested that in neighborhoods where disorder is rampant, the community either turns a blind eye to even serious crimes such as assaults and robberies, and ceases to walk the streets due to fear for their safety (Wilson and Kelling 1982), further reducing the ability of the community to defend itself from crime.

Crime Exposure of Subsidized Households

From the policy and planning perspectives, crime affects decisions on how to subsidize tenants and where to site subsidized housing in two fundamental ways. First, there is concern for the level of exposure to crime and violence for subsidized households. Second, there is the effect that subsidized housing may have on crime rates in the neighborhoods that surround them.

Regarding crime exposure for subsidized households, although there has long been great heterogeneity in the prevalence of crime and violence in different types of subsidized housing, there can be no question that a number of public housing developments have been among the most dangerous places to live in the country. About Pruitt-Igoe, the St. Louis public housing project whose demise and demolition helped to inspire his work on defensible space, Oscar Newman wrote that “women had to get together in groups to take their children to school or go shopping” (Newman 1995). Crime and violence levels in Chicago public housing projects have received a great deal of attention over the years, eventually resulting in widespread demolition of troubled developments.

To some extent, the limited availability of neighborhood crime data limits the existing evidence on crime exposure for voucher households. However, studies on residents that participated in the three major mobility programs – Gautreaux, Moving to Opportunity (MTO), and HOPE VI – provide some evidence on the neighborhood safety of public housing residents, voucher households, and displaced HOPE VI households. As the areas under study were chosen for their high levels of distress, the reported numbers are not generalizable to all subsidized households, but they are illuminating as a snapshot of a subset of these neighborhoods. What becomes clear is that these groups were located in very high crime areas when entering the program and moved to lower crime (yet still relatively unsafe) areas.

The first of the housing mobility programs – the Gautreaux program – was created in Chicago in 1976 as a result of a series of lawsuits against the Chicago Housing Authority (CHA) and HUD. Gautreaux offered black families in CHA housing the opportunity to move to desegregated areas around the Chicago area, including the suburbs. The program moved more than 7,000 families between 1976 and 1998 (Keels et al 2005). Rubinowitz and Rosenbaum (2000) in their extensive research on the Gautreaux program, reported a number of statistics highlighting the extreme violence in some of Chicago’s public housing projects. In 1980, the Robert Taylor Homes – the largest public housing development in the country at the time – comprised only one percent of Chicago’s population yet 10 percent of the city’s murders, aggravated assaults, and rapes.²

Unfortunately, Gautreaux participants that moved from these dangerous complexes to other points within Chicago and the surrounding suburbs (typically using vouchers) continued to face higher crime rates than those in their surrounding areas. Suburban movers had a violent crime rate about five times as high as the overall crime rate in the Chicago suburbs at that time, and those that moved within the city faced violent crime rates about 1.5 times as high as the city’s overall crime rate. More promisingly, many years after their initial move, the Gautreaux households tracked by Keels et al (2005) lived in neighborhoods with very comparable violent and property crime rates to Cook County (where Chicago is located) as a whole.

² Other authors have documented the extreme violence in some Chicago public housing developments. Popkin et al (1999), described the attempts by the Chicago Housing Authority (CHA) to rid three public housing projects of gangs and drug dealers – Henry Horner Homes, Rockwell Gardens, and Harold Ickes Homes. In 1988, the CHA declared a war on gangs, citing an inability to provide basic janitorial and maintenance services, in projects whose plumbing, heating, and graffiti situations were catastrophic. The scale of disorder and violence in these projects was astounding – in 1994, a gang war erupted in the Robert Taylor Homes in which 300 shooting incidents were reported over a 5 day period. Alex Kotlowitz, in *There Are No Children Here*, documented astounding levels of violence among rival gangs, frequently involving youth, and the dominance of the drug trade in Chicago’s Henry Horner Homes.

MTO was launched by HUD in 1993 as an experimental demonstration in five cities – Baltimore, Boston, Chicago, Los Angeles, and New York City – to move subsidized households into low poverty neighborhoods. The neighborhoods where MTO participants resided at baseline were described by participants as particularly crime-ridden. Goering et al (2002) reported that more than half of MTO participants identified crime, gangs, and drugs as the principal motivation for wanting to move out of their neighborhoods. Hanratty, Pettit, and McLanahan (1998) reported that almost 60 percent of the Los Angeles participants cited getting away from drugs or gangs as the primary reason for wanting to move. Astounding proportions of these respondents reported criminal victimization of one or more of their household members in the past six months. These descriptions were supported by administrative data. Kingsley and Pettit (2008) reported that violent crime rates for the baseline MTO census tracts in Boston, Chicago, and Los Angeles were three times higher than in the metropolitan areas as a whole.

Researchers have also studied MTO participants' post-move neighborhood crime characteristics. Kling, Ludwig, and Katz (2005) found that four years after random assignment, the Section 8 mover group (those randomly assigned a voucher that could be used anywhere) neighborhoods' violent and property crime rates were virtually identical to the control group neighborhoods. For this subset of voucher holders, neighborhood safety was no better than in the public housing neighborhoods they left behind. However, Kingsley and Pettit (2008) reported that violent crime rates in Boston, Chicago, and Los Angeles were almost twice as high in the origin neighborhood than in the Section 8 movers' initial post-move neighborhood. Additionally, Feins and Shroder (2005) reported results of pre- and post-move surveys for the treatment and comparison groups. Both the total and intent-to-treat difference in difference estimates were significant for every question asked on neighborhood safety for both the treatment and

comparison groups. Thus, there is evidence that MTO participants moved to safer neighborhoods, but it is not entirely clear from administrative data that they were in safer neighborhoods than if they not participated in the program.

HOPE VI was a federal program that began providing funding 1993 to demolish distressed public housing developments to be replaced with vouchers and smaller-scale public housing. Popkin et al (2002) conducted intensive assessments of the baseline characteristics of HOPE VI redevelopment sites in five metropolitan areas. Seventy-five percent of survey respondents reported that there were serious problems in their neighborhoods with drug trafficking and gang activity, and 67 percent reported major problems with shootings and violence. Although the revitalization projects and voucher mobility spawned by HOPE VI are still in progress, there is some evidence that the program is moving participants to safer and more affluent neighborhoods. Buron et al (2002) provided a snapshot of post-revitalization neighborhood conditions in eight cities and found that post-revitalization households still occupied relatively unsafe neighborhoods. Overall, about 40 percent of the respondents reported “big problems” with drug trafficking and gang activity in their current neighborhood, and fewer than 20 percent reported big problems with violent crime. Households in the sample that were no longer receiving a housing subsidy were the least likely to report big problems with drug trafficking and gang activity. Returning HOPE VI residents were the most likely to report big problems, although the researchers attribute this surprising finding to two particularly high-crime HOPE VI sites.

As recently as 1996, HUD criminologist Harold Holzman claimed that criminologists’ focus on large public housing developments in large cities left them “woefully uninformed” about the nature of crime in public housing, as 90 percent of public housing developments in the

U.S. had fewer than 500 units. Thus, he argued that the external validity of findings of very high crime in large towers in Chicago, St. Louis, and New York City was questionable.

More recently, Blokland (2008) provided evidence that public housing residents need not be located in large towers or large cities to have experienced particularly violent living conditions. The author conducted an ethnographic study examining residents' experiences with crime and violence in a high-crime public housing complex in New Haven, CT, focusing on how residents manage risk. She reported that every person she interviewed was a victim of violence or a perpetrator of it. Over 20 percent of interviewees reported being robbed, almost 20 percent had been a victim of rape or sexual assault, and over 80 percent had a friend or relative killed. The author came to a number of conclusions regarding violence and these residents, including residents did not feel they had the power to reduce violence; residents decided to either go about their daily business, facing the risk, or to withdraw into their homes as a result of crime fear; and residents frequently talked about moving to "quieter" and safer places.

Bloom (2012) provided a counterweight to the conventional wisdom on large public housing towers in a thorough examination of public housing in New York City. New York City public housing projects have not been without assorted problems, including crime, but for much of its history, Bloom argued, crime was not a central feature of New York's public housing communities. Bloom suggested that two factors have had a role in the comparatively low levels of crime and social disorder that have plagued other cities' large public housing developments – tenant selectivity and rigorous maintenance. Through the 1960s, New York's tenant selection process was skewed toward working-class households rather than the very low-income. In the 1970s, this was largely repealed and during the 1970s and 1980s the typical public housing household was much lower-income and more likely to be on public assistance than in the 1960s

and before. In the 1990s, however, New York revised the tenant selection process to target more working households. By 2012, Bloom reported, only 11 percent of New York's public housing tenants were welfare recipients, and 47 percent of households included at least one working adult. Although no study has attempted to causally link crime trends in New York's public housing projects to these changes in tenant characteristics, there is a clear correlation over time.

Bloom also reported that as a result of New York's strong property management record, surveys of public housing residents concluded that New York's public housing stock was more attractive to tenants than the market-rate housing available to them. This contrasts markedly with the experience in Chicago, where Popkin et al (2000) reported that the basements in the Henry Horner Homes were "filled with pools of fetid water, scurrying rats and dead cats and dogs, human and animal excrement, and drug paraphernalia." Although there is no empirical work that can allow for definitive statements about the role of maintenance in the comparably lower crime conditions in New York relative to Chicago, extreme levels of physical disorder may have contributed to a general sense of social order in Chicago public housing. Interestingly, the New York experience suggests that both environmental-based (property management) and people-based (tenant selection) explanations for the public housing and crime link may be relevant.

Lens, Ellen, and O'Regan (2011) was the first study to systematically examine the neighborhood crime exposure of subsidized households across the U.S. They used crime data and data on voucher, public housing, and Low Income Housing Tax Credit (LIHTC) households in over 9,500 neighborhoods in 91 cities. The authors found that voucher households tend to live in neighborhoods with lower crime rates than the average LIHTC or public housing household, and that their neighborhood crime rates were slightly lower than those faced by the greater population of renters below the poverty line. Given voucher households have more location

choice than either comparable low-income households without vouchers or public housing and LIHTC households, these findings suggest that voucher households were using that added choice to locate in lower crime neighborhoods.

Taken together, the literature suggests that public housing households live in particularly dangerous neighborhoods with alarming frequency. Much of what scholars know about the crime exposure of public housing and voucher households comes from Gautreaux, MTO, and HOPE VI, and thus represents a very particular subset of voucher (and in some cases non-voucher) movers out of public housing. This body of research provides tentative evidence that voucher households have been successful in moving to safer neighborhoods. In the sole work that looks takes a national scope – Lens et al (2011) – voucher households lived in safer neighborhoods than traditional public housing and LIHTC households, but not less safe neighborhoods than the non-subsidized population.

Empirical evidence on the impact of subsidized housing on crime

I now turn to research on the impact that subsidized housing has on neighborhood crime. Roncek, Bell, and Francik (1981) examined block level crime rates in areas within varying proximities to public housing in Cleveland, OH. The authors analyzed 17 housing projects and used address-level data provided by the Cleveland Police Department. They found that project blocks had significantly higher crime rates than other blocks, and that the size of the housing project was related to the block-level crime rate. Additionally, proximity to housing projects increased a block's violent crime rate. However, when they controlled for other socioeconomic variables, they found that proximity to housing projects was one of the least important factors contributing to a block's crime rate.

Farley (1982) attempted to address not only whether crime rates were higher in and around housing projects, but whether housing projects of a different type or design had different effects on crime rates. He obtained crime data in St. Louis from 1971 to 1977 in the areas that contained the city's ten largest public housing developments, which were of a diverse size, density, and design. Perhaps surprisingly, Farley found that the blocks in and around public housing had crime rates that differed very little from the city as a whole. There were slight differences based on size – small housing development blocks had higher crime rates.

McNulty and Holloway (2000) examined the relationships between race, public housing, and crime in Atlanta, GA. Their primary goal was to see whether the high correlation between race and crime was mediated by proximity to public housing. The authors found that public housing proximity and racial composition had little effect on surrounding crime rates on their own, but in areas with public housing and high black populations, violent crime rates were significantly higher, suggesting an interactive effect between race and public housing. An advantage to this study is the fact that they estimated models at a small level of geography – the authors used crime data from 1990-1992 and 1990 census and public housing data on 435 Atlanta block groups. However, given they did not have time series data, they may have failed to control for a number of unobserved characteristics that could affect the relationships between public housing and crime, such as neighborhood poverty and unemployment rates.

Despite the decline of public housing as a subsidy, there are new and innovative studies investigating crime in public housing. Delone (2008) interviewed 426 public housing tenants in four of Omaha, NE's public housing towers, testing a number of hypotheses, including whether social disorganization or the type of tower affected fear of crime. The two tower types were elderly-only or mixed age, so these were population-based differences rather than differences of

physical design. The author found that social disorganization and tower type were strongly associated with fear of crime, and the gender of the respondent, social integration, and employment status were also potential factors leading to crime fears.

Griffiths and Tita (2009) also attempted to identify the key mechanisms that may be responsible for making public housing complexes and neighborhoods more crime-ridden than others, using a more quantitative approach. They examined whether public housing concentrates crime offenders, attracts violent offenders from outside, and/or generates violence in the surrounding neighborhood. Using homicide data, the authors tested hypotheses from the literature on social isolation and environmental criminology. The authors theorized that social isolation constrains the activities and interactions of public housing residents to a small geographic space and among a more constrained social network. If this is true, homicides where public housing tenants were either victims or offenders would involve other individuals that lived nearby. The authors indeed found that homicides that occurred in public housing were much more likely to involve local victims and offenders, supporting the theory that public housing tenants experience greater levels of social isolation, and this isolation impacts how they experience crime and violence. The authors found no evidence that public housing attracts crime, and also no evidence for crime spillovers into adjacent neighborhoods. These findings provide much more support for social mechanisms in contrast to built environment factors, unless the design of public housing is leading to greater levels of social isolation.

As subsidized housing policy has moved away from the public housing model toward housing vouchers, scattered-site public housing, and the Low-Income Housing Tax Credit program, the research has focused more directly on these subsidies. The physical design and density of housing built or utilized by these subsidies is quite different than traditional public

housing, therefore the research relating to crime and these newer housing subsidies tests different mechanisms. For vouchers, any link to crime is almost entirely population-based, and for LIHTC and scattered-site public housing, the physical design is intentionally quite different from the large public housing towers that inspired defensible space theory.

Goetz, Lam, and Heitlinger (1996) analyzed the effect of converting and creating subsidized multi-family housing at 14 sites on crime in the surrounding neighborhoods of Minneapolis, MN. This is a rare example of a study that examined the effect of scattered-site public housing, rather than large public housing developments. Using an interrupted time-series design, examining police calls before and after the development of these housing units, the authors found that police calls from the developments' locations decreased after the community development corporations created subsidized housing. However, there was evidence that as the developments aged, crime increased over time, though crime remained well-below the pre-subsidized levels. One limitation to the study is that the researchers did not control for unobserved characteristics that change over time in the neighborhoods with scattered sites.

Galster, Tatian, Santiago, Pettit, and Smith (2003) also examined scattered-site public housing's effect on crime, focusing on Denver's dispersed public housing program. Using a time-series of neighborhood-level crime data, they established a time trend in neighborhood crime rates in Denver neighborhoods, then used a difference-in-difference approach to compare predicted and actual crime rates in neighborhoods with and without one of the city's 38 dispersed public housing and/or supportive housing sites. Additionally, they controlled for spatial patterns in the data that have confounded past attempts to determine these linkages. Galster et al found no discernible impacts from dispersed public housing or supportive housing on crime rates in Denver. The authors also conducted focus groups in neighborhoods that received these

developments. Unsurprisingly, the consensus among these participants was that their new neighbors would bring down property values and increase crime. The quantitative analyses found either the opposite effect (increased property values) or no effect (crime). One limitation was that Galster et al used a fixed crime rate denominator – population in 1990, which fails to account for neighborhood population change.

Cahill (2011) studied crime displacement as a result of HOPE VI redevelopment in Milwaukee and Washington, DC. Much of the difficulty in identifying the effect of HOPE VI on crime has to do with specifying the timeline in which the phases of redevelopment took place. The author addresses this by conducting interviews with housing authority staff members in each city to determine pre-, post-, and during intervention timelines. The study then uses address-level crime data over many years (2002 to 2010 in Milwaukee and 2000 to 2009 in Washington, DC) to analyze whether redevelopment had displaced crime to other areas. In both cities, Cahill concluded that crime declined in the target areas, even when compared to crime trends in relevant comparison areas. However, the author was careful to note that these should be interpreted largely as descriptive findings rather than causal – the use of comparison neighborhoods does not fully control for the differences between selected areas.

Leech (2012) examined the prevalence of substance use and violence among adolescents in subsidized and public housing. Using the National Longitudinal Survey of Youth (NLSY), the author examined a cohort of over 2,500 youth aged 14-19 who lived with their mothers in 2002 or 2004. Leech used a propensity score analysis to determine whether public housing occupants were more likely to engage in substance use or violence as compared to living in subsidized housing, and whether the two groups combined differed from non-subsidized households. The NLSY asks if households receive a housing subsidy, and if so, if it is through residence in public

housing. Leech assumed that the subsidized housing group was comprised of voucher households. In comparing the two subsidized housing groups (using the propensity score match), she found that there is essentially no difference in terms of risk behaviors (violence, alcohol use, or marijuana use). However, youth in subsidized households (not in public housing) were *less* likely than the control group to engage in violence or consume other drugs than alcohol or marijuana. The effect sizes were actually quite large, 9 percentage points lower for violence and 5 percentage points lower for other drugs. What this suggests is that there is perhaps not something about living in public or subsidized housing that leads to violence or substance use among adolescents other than the likelihood that these youth will be from disadvantaged backgrounds.

Lens (2012a) used address-level crime and small-scale subsidized housing construction and renovation data in New York City to run a set of fixed effects models to identify the effect of these subsidies on crime on the blocks where they are located. The models provided tentative evidence that affordable housing investments led to decreased felony crimes on New York City blocks, particularly property crimes. However, observed effects depended on the specification employed. We can conclude from this and other studies on smaller-scale supply-side housing subsidies that we should continue to be skeptical about the likelihood that subsidized housing results in higher crime rates in the surrounding area.

Two previous studies have examined how supply-side housing subsidies may affect entire cities and counties. Freedman and Owens (2011) studied whether the LIHTC activity within a county influences crime in that county. They exploited a discontinuity in the funding mechanism for these tax credits (developers receive larger subsidies in census tracts just above a set of poverty thresholds) to develop a model that allows them to better estimate a causal

relationship between the number of LIHTC developments in a county and crime. Their findings suggested that LIHTC developments reduce crime, potentially by acting as a source of investment in struggling neighborhoods.

Lens (2012b) used national data (12 years, 215 cities) on vouchers and crime to identify whether crime rates in cities and suburbs were related to subsidized housing policies. The findings suggested a rather complex relationship between voucher households and crime in metropolitan areas. First, voucher rates had a small, downward pull on city crime rates. Second, and to the contrary, models on a suburban sample suggested a more robust positive (yet small in magnitude) relationship between vouchers and crime in the suburbs. This relationship did not hold in all models, but the most fully specified model suggested that a one percent increase in the voucher rate led to about a 0.4% increase in violent crimes (and 0.1% increase in property crimes).

Some recent papers have suggested that housing vouchers are associated with rising neighborhood crime rates. Suresh and Vito (2007) examined the effects of public housing demolition and the concentration of Housing Choice Voucher holders on patterns of homicide in Louisville, KY. They found that homicides were initially clustered in and around public housing developments, and were then located near Section 8 apartments once public housing was demolished. However this work is purely correlational and relies on several cross-sections rather than longitudinal analyses. Van Zandt and Mhatre (2009) analyzed crime data within a quarter mile radius of apartment complexes containing 10 or more voucher households. The authors found that clusters of voucher households are associated with higher rates of crime, however, similar to Suresh and Vito, it is unclear if this relationship is causal. Popkin et al (2012) examined public housing transformation in Chicago and Atlanta and tracked the households that

use vouchers to leave housing slated for demolition. They found that an influx of voucher households into a neighborhood increases crimes in that neighborhood after a threshold of voucher households enters the neighborhood, providing the most reliable evidence to date that vouchers increase crime. However, it is unclear whether the high amount of neighborhood turnover that large influxes of voucher households portend can be to blame for crime in this case.

Ellen, Lens, and O'Regan (2012) used longitudinal data on 10 U.S. cities covering various years between 1997 and 2008 and estimated whether increased voucher numbers in census tracts lead to elevated crime. The authors concluded that the strong observed relationship between vouchers and crime was due to the fact that voucher households tend to move to neighborhoods that are experiencing increases in crime and/or have high crime rates to begin with.

Mechanisms – Connecting Theory to Evidence

The evidence presented on the relationships between subsidized housing and crime leads to some important conclusions. There is a legacy of extremely high crime public housing developments in a handful of cities, many of which have been demolished. However, it is unclear whether most public housing developments are substantially higher crime than other neighborhoods, although some work suggests that the neighborhoods where public housing is situated is (and has been) experiencing higher crime rates than the average neighborhood. This is likely due to two factors. First, public housing was often sited in particularly high-crime neighborhoods. Second, the higher crime levels occurring in public housing may drive observed crime totals at the neighborhood level. It is not commonly the case that public housing leads to higher crime rates in surrounding blocks and neighborhoods.

As housing policy has transitioned to other forms of subsidized housing, scholars are increasing understanding of the extent to which those subsidies are located in high-crime tracts and whether they affect crime in the surrounding neighborhood. LIHTC households are located in relatively high crime neighborhoods, whereas voucher households are in safer areas than LIHTC and public housing households (yet still in higher crime neighborhoods than the average American). The evidence on whether voucher households increase neighborhood crime is mixed. Of the two most rigorous studies examining the effect of vouchers on neighborhood crime (Ellen, Lens, and O'Regan 2012 and Popkin et al 2012), one finds some evidence that there is an increase in crime as a result of increased voucher presence, albeit only after a certain threshold of vouchers enters a neighborhood. Finally, smaller-scale investments in affordable housing construction appear not to increase crime at all, judging from four studies (Freedman and Owens 2010; Galster et al 2003; Goetz et al 1996; Lens 2012a).

What is less clear from this evidence is the contribution of specific mechanisms to any of the observed crime relationships between subsidized housing and crime. As noted in the discussion on the relevant theories on crime and place – defensible space, CPTED, social disorganization and routine activity – these mechanisms can be broadly divided among those that are social or socioeconomic and those that are physical and/or reflect the role of the built environment.

Social Mechanisms

The vast majority of research on urban crime focuses on social mechanisms. Research and discussion on links between subsidized housing and crime largely reflect that orientation, focusing on concentrated disadvantage, residential instability, social disorganization, and a lack of social service programs and supervision for youth.

At present, the link between vouchers and crime is in dispute, but this area has great potential for disentangling physical versus social mechanisms in the subsidized housing and crime connection, given voucher holders live in a diversity of neighborhoods and physical structures. The existing research suggests some preliminary conclusions. The most rigorous paper to find a positive relationship between vouchers and crime (Popkin et al 2012), finds that this relationship exists only after the number of voucher households in a neighborhood passes a certain threshold. This is strong evidence for a residential stability hypothesis given a large influx of voucher households into a neighborhood is both symptomatic of and generating substantial residential turnover, destabilizing neighborhoods. This also supports the concentrated disadvantage hypothesis, given a large cluster of voucher households is required to cause observed effects on crime. And the often-researched link between unemployment and crime is relevant here (Chiricos 1987 for a review of early work; Lin 2008; Raphael and Winter-Ebmer 2001). In contrast, there is highly regarded work in criminology that suggests that disadvantage is not a sufficient condition for high levels of neighborhood crime (Sampson, Raudenbush, and Earls 1997). According to Sampson, Raudenbush, and Earls, social disorganization combines with concentrated disadvantage to create conditions for high crime.

Kirk and Laub (2010), in an exhaustive review of the state of the research on neighborhood crime, concluded that the effect of public housing on neighborhood crime is minimal, and observed effects stem from “social disorganization and related factors.” The recent work on public housing demolitions suggest that social organization may increase as a result – both Suresh and Vito (2009) and Popkin et al (2012) found evidence that public housing demolitions improve crime conditions in those neighborhoods, but increased crime in the neighborhoods where former residents move. Suresh and Vito suggested that this is directly

related to social disorganization, although they did not have the ideal data to test whether social disorganization is the chief mechanism. The threshold effects found by Popkin et al suggest residential instability and concentrated disadvantage explain the voucher-crime connection, although each of these neighborhood processes may be leading to social disorganization. Given social disorganization rarely occurs without concentrated disadvantage, this research suggests that housing policy should limit such concentrations where possible.

For residential instability, it is quite likely that this is a temporary crime-inducing mechanism, unless the influx of subsidized housing (or households) into a neighborhood increases residential turnover on a long-term basis. There is evidence that crime displacement is often short-term. Kirk and Laub (2010) summarized research (Hagedorn and Rauch 2007; Popkin et al 1999) that found that some short-term crime displacement from public housing demolition may be due to rival gang members moving to contested territory, which increases violence until territorial order is re-established. Taking the long view, residential instability is not necessarily caused by subsidized housing. Public housing households actually remain in their housing units longer than renters, and voucher households also do not move frequently. Lubell et al (2003) estimated that public housing and voucher household median length of stay was about 5 and 3 years, respectively. During a similar time period, 2000 U.S. Census data showed that 39 percent of U.S. renters moved to their unit in the last year, and about 75 percent moved in the previous five years. Lubell et al reported that the 70th percentile for public housing length of stay was 9.6 years, and for vouchers that was 5.8 years (Lubell et al report deciles, while the Census reports quartiles). In other words, 70 percent of public housing and voucher households remained in their housing unit longer than 75 percent of all rental households. Thus, residential turnover

(and by extension residential instability) is not inherently a feature of neighborhoods with subsidized housing.

Regarding a lack of social service programming contributing to higher crime, there is no direct testing of this in the context of subsidized housing. There is a limited literature on the role of social services for youth in combating adolescent delinquency. Cross et al (2009) used random assignment to after school programs to estimate whether these programs reduce delinquency rates. The programs struggled to get children that frequently are unsupervised after school to participate in the study, and did not find any effect on delinquency rates.

Physical Mechanisms

The following physical mechanisms, although receiving less attention, have been examined in the literature: physical deterioration and blight; soft targets (lack of security, alarms, and surveillance) and loosely defined territory; and land use patterns. Studies on the first of these, the impact of physical disorder on crime, are inconclusive. Sampson and Raudenbush (2001) used data from the Project on Human Development in Chicago Neighborhoods (PHDCN) where observers engaged in “systematic social observation” to rigorously evaluate the presence of physical disorder (i.e. graffiti, broken windows, and abandoned cars). They concluded that although physical disorder and crime were related, it was not as simple as crime being caused by physical disorder. Rather, each factor likely stemmed from concentrated disadvantage. They also argued that collective efficacy – a community’s trust, cohesion and willingness to intervene for the common good – can limit both crime and disorder.

Another way in which the link between physical disorder and crime has been studied is through analyses regarding New York City’s use of broken windows policing. As mentioned previously, broken windows policing focuses more on creating an orderly environment where

small-level crimes will not be tolerated than on literally fixing broken windows, but much of this activity is also intended to limit signs of physical disorder such as vagrancy, loitering, and graffiti. Although New York City's crime declines have been relatively unprecedented in size and scope, and are concurrent with their adoption of broken windows policing, not all of New York's crime decline can be attributed to policing changes. Zimring (2012) points out that crime declined by about 40 percent throughout the United States, in jurisdictions that were largely policing in the same manner as they always had. However, New York's crime decline was twice as large and lasted twice as long as most jurisdictions across the country. However, New York's policing revolution was multi-faceted, and there is some debate on the extent to which broken windows policing was even a feature of New York's policing policy. Most scholars turn their attention instead to New York's stop and frisk strategy (Fagan et al 2009). New York is widely seen as the most aggressive police department when it comes to stopping citizens on the street and searching them for drug possession (Fagan et al 2009; Zimring 2012). Zimring (2012) concludes from in-depth study of the New York City crime decline that the breaking up of drug markets and hotspots worked, but stop and frisk and broken windows policing effects were unknown. A recent work by Messner et al (2007) concluded that misdemeanor arrests did help decrease the homicide rate, although it is unclear which types of arrests or mechanisms were most influential.

Regarding soft targets, the work on CPTED and defensible space theory in the 1970s and 1980s suggested that target hardening was not particularly effective. In most cases there was little evidence that it worked at all, and in others it appeared that crime was just displaced if CPTED was not accompanied with social interventions (Davies 2006). Further, Griffiths and Tita (2009) casted doubt on the idea of public housing as a crime magnet due to soft targets. Their

work found that crime in public housing is between residents, suggesting that social isolation explains more about crime than physical features of public housing attracting crime from elsewhere. Moreover, Popkin et al (2012) found that public housing households leaving their neighborhoods due to demolitions increased crime in receiver neighborhoods where they clustered, further suggesting that soft targets are not the cause.

However, work by Galster et al (2003) and Goetz et al (1996) on smaller-scale, scattered-site public housing suggests that the physical aspects of large public housing developments are important in explaining higher crime rates. Unfortunately, it is impossible to tease out whether the lower crime rates associated with scattered-site public housing has to do with less concentrated disadvantage or physical differences from traditional public housing. It is equally possible that these findings suggest a threshold of concentrated disadvantage that scattered-site public housing developments avoid, whereas larger-scale public housing has often been over that threshold. The positive legacy of public housing in New York chronicled by Bloom (2012) suggests this is true. New York's tenant selection process limited concentrated disadvantage and may explain the relatively low crime rates experienced by residents, although some credit could also go to a more rigorous property management system.

As for land use and urban design, the hypothesis here is the Jane Jacobs-inspired notion that eyes on the street, brought about from a diversity of land uses, helps mitigate crime. This can also have a social dimension, in which increased street activity among neighbors increases socialization and raises social organization and collective efficacy. There is very little work that tests the role that land use and isolation patterns regarding public housing has in crime, but there is some work testing the street activity and crime relationship. Hunter and Baumer (1982) find that residents' fear of crime is actually positively related to their perceptions of higher street

activity. However, they find that for those residents that are socially integrated, there is no relationship between fear of crime and perception of street activity.

Concluding thoughts and directions for future research

From this review of the literature, three findings emerge as relatively robust in research on crime and subsidized housing. First, subsidized households have too frequently lived in violent housing developments and neighborhoods. Second, whether looking at larger public housing projects, vouchers, or scattered-site public housing, the effects on neighborhood crime are typically quite small, if they exist at all. Finally, although the precise mechanisms through which subsidized housing may affect crime are less clear, it is most likely that concentrated disadvantage is the chief culprit when subsidized housing affects crime. Physical design may play a role, but high-rise developments with middle and high income people do not tend to have crime problems. Social disorganization and residential instability may also play a role, but concentrated disadvantage is likely the first order cause of each of those neighborhood attributes.

But there is still plenty of uncertainty. Future research can do more to measure the magnitude of these effects and the contribution of different mechanisms to them. First, future work should utilize finer-grained data. Point-specific data is more commonly available than it used to be, and spatial analysis techniques abound to take advantage of these data. This will allow for better identification of spillover crime effects from subsidized housing onto surrounding blocks and neighborhoods. Finer grained analysis is necessary as Census tract-level research often makes it impossible to differentiate from crime occurring within and around subsidized housing.

Second, more longitudinal studies are urgently needed. Much of the early work in this field was cross-sectional, leading to questionable conclusions. Neighborhood change must be documented in comprehensive ways to determine the contribution of a number of aspects of the physical environment to crime. The body of work by Robert Sampson in Chicago is an ideal example.

Third, systematic surveys of residents in and around subsidized housing have been lacking. Studies have instead relied largely upon surveys of the particular cohorts participating in demonstration programs. Qualitative research using these surveys and other techniques can greatly improve our understanding of the mechanisms linking crime to subsidized housing.

Fourth, more national level studies are needed, or at least including multiple cities in their sample. Comparative or national level studies can be used to identify some of the contextual nuances that are likely to mediate (or exacerbate) relationships between subsidized housing and crime, and also identify policy and planning successes in reducing crime in and around subsidized housing.

Finally, and related to the prior recommendation for future research, given crime and housing policies are typically determined at the city level, scholars need to identify the effect of the spatial distribution of poverty and subsidized housing on crime across cities. This research could go further to identify the effect of different mixes of housing policies (i.e. place- and people-based housing subsidies) on crime. Too often, these policies are examined in isolation from one another, ignoring the fact that different policy levers and investments are commonly being used at the same time.

References

- Blokland, T.. 2008. "Facing Violence: Everyday Risks in an American Housing Project." *Sociology*, 42(4): 601–617.
- Bloom, N. D.. 2012. "Learning From New York." *Journal of the American Planning Association* 78(4): 418-431.
- Buron, L., S. J. Popkin, D. K. Levy, L. E. Harris, and J. Khadduri. 2002. *The HOPE VI Resident Tracking Study: A Snapshot of the Current Living Situation of Original Residents from Eight Sites*. Washington, D.C.: The Urban Institute.
- Cahill, M.. 2011. "Using the Weighted Displacement Quotient To Explore Crime Displacement From Public Housing Redevelopment Sites." *Cityscape* 13(3): 103–134.
- Chiricos, T. G.. 1987. "Rates of Crime and Unemployment: An Analysis of Aggregate Research Evidence." *Social Problems* 34(2): 187-212.
- Cisneros, H.. 1995. *Defensible Space: Deterring Crime and Building Community*. Washington, D.C.: U.S. Department of Housing and Human Development.
- Cohen, L. E. and M. Felson. 1979. "Social Change and Crime Rate Trends: A Routine Activity Approach." *American Sociological Review* 44(4): 588-608.
- Cross, A. B., D. C. Gottfredson, D. M. Wilson, M. Rorie, and N. Connell. 2009. "The Impact of After-School Programs on the Routine Activities of Middle-School Students: Results from a Randomized, Controlled Trial." *Criminology & Public Policy* 8(2): 391–412.

- Davies, G. 2006. *Crime, Neighborhood, and Public Housing*. New York: LFP Scholarly Publishing, LLC.
- DeLone, G. J.. 2008. "Public Housing and the Fear of Crime." *Journal of Criminal Justice* 36(2): 115–125.
- Ellen, I. G., M. C. Lens, and K. M. O'Regan. 2012. "American Murder Mystery Revisited: Do Housing Voucher Households Cause Crime?" *Housing Policy Debate*, 22(4): 551-572.
- Fagan, J., A. Geller, G. Davies, and V. West. 2009. "Street Stops and Broken Windows Revisited: The Demography and Logic of Proactive Policing in a Safe and Changing City" in *Race Ethnicity, and Policing: New and Essential Readings*, Stephen K. Rice and Michael D. White, eds. New York: New York University Press.
- Farley, J. E.. 1982. "Has Public Housing Gotten a Bum Rap?: The Incidence of Crime in St. Louis Public Housing Developments." *Environment and Behavior* 14(4): 443-477.
- Feins, J. D., and M. D. Shroder. 2005. "Moving to Opportunity: The Demonstration's Design and its Effects on Mobility." *Urban Studies* 42(8): 1275-1299.
- Freedman, M., and E. G. Owens. 2011. "Low-Income Housing Development and Crime." *Journal of Urban Economics* 70(2-3): 115-131.
- Galster, G. C., P. A. Tatian, A. M. Santiago, K. L. S. Pettit, and R. E. Smith. 2003. *Why Not in My Backyard?: Neighborhood Impacts of Deconcentrating Assisted Housing*. New Brunswick, N.J.: Center for Urban Policy Research.
- Goering, J., J. D. Feins, and T. M. Richardson. 2002. "A Cross-Site Analysis of Initial Moving to Opportunity Demonstration Results." *Journal of Housing Research* 13(1): 1-30.

Goetz, E. G., H. K. Lam, and A. Heitlinger, 1996. *There Goes the Neighborhood? : The Impact of Subsidized Multi-Family Housing on Urban Neighborhoods*. Minneapolis, MN: University of Minnesota Center for Urban and Regional Affairs.

Goldberg, F. and W. Michelson. 1978. "Defensible Space as a Factor in Combatting Fear Among the Elderly: Evidence from Sherbourne Lanes." Report prepared under contract to Westinghouse National Issues Centre, Arlington, Virginia.

Griffiths, E. and G. Tita. 2009. "Homicide In and Around Public Housing: Is Public Housing a Hotbed, a Magnet, or a Generator of Violence for the Surrounding Community?" *Social Problems* 56(3): 474-493.

Hagedorn, J., and B. Rauch. 2007. "Housing, Gangs, and Homicide: What We Can Learn from Chicago." *Urban Affairs Review* 42: 435-456.

Hanratty, M., S. McLanahan, and B. Pettit. 1998. "The Impact of the Los Angeles Moving to Opportunity Program on Residential Mobility, Neighborhood Characteristics, and Early Child and Parent Outcomes." *Princeton University Center for Research on Child Wellbeing Working Papers* 98-18.

Hunter, A. and T. L. Baumer. 1982. "Street Traffic, Social Integration, and Fear of Crime." *Sociological Inquiry*, 52: 122-131.

Jeffery, C. R.. 1971. *Crime Prevention Through Environmental Design*. Beverly Hills: Sage.

Keels, M., G. J. Duncan, S. Deluca, R. Mendenhall, and J. Rosenbaum. 2005. "Fifteen Years Later: Can Residential Mobility Programs Provide a Long-Term Escape from Neighborhood Segregation, Crime, and Poverty?" *Demography* 42(1): 51-73.

Kingsley, G. Thomas and K. L. S. Pettit. 2008. *Have MTO Families Lost Access to Opportunity Neighborhoods Over Time?* Washington, D.C.: Urban Institute Press.

Kirk, D. S., and J. H. Laub. 2010. "Neighborhood Change and Crime in the Modern Metropolis." *Crime and Justice* 39(1): 441–502.

Kling, J. R., J. Ludwig, and L. F. Katz. 2005. "Neighborhood Effects on Crime for Female and Male Youth: Evidence from a Randomized Housing Voucher Experiment." *The Quarterly Journal of Economics* 120(1): 87-130.

Kotlowitz, A.. 1991. *There Are No Children Here: The Story of Two Boys Growing Up in the Other America*. New York: Bantam Doubleday Dell Publishing Group.

Leech, T. G. J.. 2012. "Subsidized Housing, Public Housing, and Adolescent Violence and Substance Use." *Youth and Society*, 44(2): 217–235.

Lens, M. C.. 2012a. "The Impact of Housing Vouchers on Crime in Cities and Suburbs." Unpublished manuscript.

Lens, M. C.. 2012b. "Affordable Housing Production and Neighborhood Crime." Unpublished manuscript.

Lens, M. C., I. G. Ellen, and K. M. O'Regan. 2011. "Do Vouchers Help Low-Income Households Live in Safer Neighborhoods? Evidence on the Housing Choice Voucher Program." *Cityscape* 13(3): 135-159.

Lin, M.. 2008. "Does Unemployment Increase Crime?: Evidence from U.S. Data 1974-2000." *The Journal of Human Resources* 43(2): 413-436.

Lubell, J. M., M. Shroder, and B. Steffen. 2003. "Work Participation and Length of Stay in HUD-Assisted Housing." *Cityscape* 6(2): 207-223.

McNulty, Thomas L., and S. R. Holloway. 2000. "Race, Crime, and Public Housing in Atlanta: Testing a Conditional Effect Hypothesis." *Social Forces* 79(2): 707-729.

J. Medina. "Subsidies and Suspicion." *The New York Times*, August 11, 2011, A13.

Messner, S. F., S. Galea, K. J. Tardiff, M. Tracy, A. Bucciarelli, T.M. Piper, V. Frye, and D. Vlahov. 2007. "Policing, Drugs, and the Homicide Decline in New York City in the 1990s." *Criminology*, 45: 385-414.

Newman, O.. 1972. *Defensible Space*. New York: Macmillan.

Newman O.. 1995. "Defensible Space: A New Physical Planning Tool for Urban Revitalization." *Journal of the American Planning Association*, 61(2): 149-155.

Popkin, S. J., V. E. Gwiasda, L. M. Olson, D. P. Rosenbaum, and L. Buron. 2000. *The Hidden War: Crime and the Tragedy of Public Housing in Chicago*. New Brunswick, NJ: Rutgers University Press.

Popkin, S. J., V. E. Gwiasda, D. P. Rosenbaum, J. M. Amendolia, W. A. Johnson, and L. M. Olson. 1999. "Combating Crime in Public Housing: A Qualitative and Quantitative Longitudinal Analysis of the Chicago Housing Authority's Anti-Drug Initiative." *Justice Quarterly*, 16(3): 519-557.

Popkin, S. J., D. K. Levy, L. E. Harris, J. Comey, M. K. Cunningham, and L. Buron. 2002. *Hope VI Panel Study: Baseline Report*. Washington, D.C.: The Urban Institute.

Popkin, S. J., M. J. Rich, L. Hendey, J. Parilla, G. Galster. 2012. "Public Housing Transformation and Crime: Making the Case for Responsible Relocation." *Cityscape* 14(3): 137-160.

Raphael, S., and R. Winter-Ebmer. 2001. "Identifying the Effect of Unemployment on Crime." *Journal of Law and Economics* 44(1): 259-283.

Rau, R. M.. 1975. "Westinghouse Consortium – Crime Prevention through Environmental Design," Proceedings of Policy Development Seminar on Architecture, Design and Criminal Justice, L.E.A.A., U.S. Department of Justice, Washington D.C., U.S. Government Printing Office.

Roncek, D. W., R. Bell, and J. M. A. Francik. 1981. "Housing Projects and Crime: Testing a Proximity Hypothesis." *Social Problems* 29(2): 151-166.

H. Rosin. "American Murder Mystery." *The Atlantic Monthly* July/August 2008.

Rubinowitz, L. S., and J. E. Rosenbaum. 2000. *Crossing the Class and Color Lines: From Public Housing to White Suburbia*. Chicago: University of Chicago Press.

Sampson, R. J. and S. W. Raudenbush. 2001. *Disorder in Urban Neighborhoods Does It Lead to Crime?* Washington, D.C.: National Institute of Justice.

Sampson, R. J., S. W. Raudenbush, and F. Earls. 1997. "Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy." *Science* 277(5328): 918-924.

Schneider, R. H., and T. Kitchen. 2000. *Planning for Crime Prevention: A TransAtlantic Perspective*. New York: Routledge.

Shaw, C. and H. McKay. 1942. *Juvenile Delinquency in Urban Areas*. Chicago: University of Chicago Press.

Sommer, R.. 1978. "Developing Proprietary Attitudes towards the Public Environment." Report prepared under contract to Westinghouse National Issues Centre, Arlington, Virginia.

Suresh, G. and Vito, G. 2009. Homicide Patterns and Public Housing: The Case of Louisville, KY (1989-2007), *Homicide Studies*, 13(4): 411-433.

Taylor, R. B., S. D. Gottfredson, and S. Brower. 1984. "Block Crime and Fear: Defensible Space, Local Social Ties, and Territorial Functioning." *Journal of Research in Crime and Delinquency* 21(4): 303-331.

Taylor, R. B., and A. V. Harrell. 1996. *Physical Environment and Crime*. Washington, D.C.: National Institute of Justice.

Van Zandt, S. and P. Mhatre. 2009. "The Effect of Housing Choice Voucher Households on Neighborhood Crime: Longitudinal Evidence from Dallas." Working Paper 09-01, Sustainable Housing Research Unit (SHRU), College of Architecture, Texas A&M University.

J. Q. Wilson and G. L. Kelling. "Broken Windows." *The Atlantic Monthly*, March 1982.

Zimring, F. E.. 2012. *The City that Became Safe: New York's Lessons for Urban Crime and Its Control*. New York: Oxford University Press.