

# Perceptions of Disorder, Violence, and Safety Amid the Transformation of Assisted Housing

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## Abstract

*This article examines how changes in assisted housing shape residents' perceptions of disorder, violence, and safety in their neighborhoods. Past research suggests that contextual features of neighborhoods beyond crime shape perceptions, and the demolition and redevelopment of public housing or the presence of voucher users in a neighborhood may be such features. Results suggest that the demolition of public housing in Chicago neighborhoods reduced residents' perceptions of disorder and violence. Residents did not perceive disorder or safety differently in Boston's HOPE VI neighborhoods than in neighborhoods with or without traditional public housing, although data limitations exist. Neighborhoods with increasing numbers of voucher users did not experience rising perceptions of disorder or violence in Chicago. Boston residents perceived their neighborhoods to be less safe if more voucher users lived there, perhaps because voucher users tend to move to higher crime areas. Overall, the transformation of assisted housing appears to shape residents' perceptions of neighborhood disorder, violence, and safety in positive or neutral ways.*

## Introduction

The public housing program in the United States has been transformed during the past several decades. At the program's peak in 1994, 1.4 million public housing units existed in the United States (Schwartz, 2010). Since then, more than 250,000 public housing units have been demolished, and many public housing developments have been renovated and redeveloped, some through the HOPE VI program, which provided federal funding to demolish and redevelop distressed public housing. Often, HOPE VI redevelopment involved creating mixed-income communities, with

market-rate units alongside public housing units. Assisted housing programs were also created as alternatives to public housing; housing vouchers that provide rental assistance on the private market now house more tenants than public housing.

Past research suggests that the presence of assisted housing influences neighborhoods in many ways, including the built environments, population composition, housing values, crime rates, and property values (see Freeman and Botein, 2002, for a review). In addition to influencing these physical, demographic, economic, and social traits, assisted housing likely influences how residents *perceive* their neighborhood, particularly in terms of its level of disorder, violence, and safety. (By perceptions of disorder, I mean residents' impressions of physical and social cues of crime and incivilities.) The presence of assisted housing conjures negative racially and economically tinged stereotypes about tenant behavior (Freeman and Botein, 2002; Ellen, 2007), which could reduce residents' feelings of safety and order in their community. The demolition or redevelopment of public housing may remove the buildings and residents on which negative perceptions are based, but it also disrupts a neighborhood's social fabric, potentially altering how residents perceive their neighborhood in complex ways. With regard to voucher users, residents often hold negative stereotypes about their behaviors and traits (Galster, Tatian, and Smith, 1999), so residents may perceive more disorder and feel less safe in neighborhoods with many voucher holders.

Although past research has examined how the demolition and redevelopment of public housing and the presence of voucher users affect neighborhood crime, I examine how those conditions shape residents' *perceptions* of disorder, violence, and safety in their neighborhood. I explore this relationship in two cities: (1) Chicago, where a massive overhaul of public housing has occurred since 1999, and (2) Boston, where public housing redevelopment has occurred on a smaller scale during the past 20 years. In Chicago, I examine how public housing demolition affects residents' perceptions of neighborhood disorder and violence. In Boston, I examine how perceptions of neighborhood disorder and safety vary between neighborhoods with and without public housing redeveloped through HOPE VI. In both cities, I examine how perceptions of disorder, violence, and safety vary by the presence of voucher users in a neighborhood. Perceptions of disorder, violence, and safety have consequences for neighborhood and individual well-being, so identifying how perceptions vary by the presence and type of assisted housing is critical in understanding how assisted housing shapes neighborhoods.

## **Assisted Housing and Disorder, Violence, and Safety**

Past research on how assisted housing affects neighborhood disorder, violence, and safety focuses on the effect of assisted housing on crime rates, rather than on the perceptions of neighborhood characteristics. Research finds that voucher users live in neighborhoods with higher than average crime rates (Lens, Ellen, and O'Regan, 2011), but little evidence exists to show that crime increases when voucher users move into a neighborhood (Ellen, Lens, and O'Regan, 2012). Focusing only on former public housing residents rather than the whole voucher population, some evidence shows the crime rate may increase when many former public housing residents relocate to a neighborhood (Popkin et al., 2012; Suresh and Vito, 2007). Past research also finds that crime rates dropped in neighborhoods where public housing was redeveloped through HOPE VI, although perhaps only temporarily (Goetz, 2010; Holin et al., 2003; Zielenbach and Voith, 2010).

Examining *perceptions* of disorder, violence, and safety is important, because perceptions, independent of actual crime, have consequences for neighborhood well-being. Residents' perceptions of disorder in their neighborhood may lead to disinvestment in the neighborhood, depopulation, and crime (Sampson and Raudenbush, 2004; Wilson and Kelling, 1982). The "broken windows" theory of crime (Wilson and Kelling, 1982) contends that physical and social cues of disorder can lead to crime through two channels: (1) when residents observe disorder in their neighborhood, they may feel that neighbors are not willing to act to prevent petty crime, which may reduce their own likelihood to prevent crime in the neighborhood; and (2) when would-be criminals see disorder, they take it as a sign that neighbors no longer maintain social control over the neighborhood and that their crimes will also go unchecked. Perceptions of disorder and safety also have consequences for individual well-being, including mental health (Geis and Ross, 1998; Ross, Reynolds, and Geis, 2000) and physical health, particularly obesity (Burdette, Wadden, and Whitaker, 2006).

Research on public housing redevelopment and voucher mobility programs has documented assisted residents' perceptions of reduced disorder and improved safety. Burby and Rohe (1989), in their study of eight developments, found that residents of public housing developments outside the inner-city report less fear of crime than residents of public housing developments in inner-city ghetto neighborhoods, suggesting that deconcentrating public housing may reduce residents' perceptions of crime. Using data from the HOPE VI Panel Study, Popkin and Cove (2007) found that, at baseline, residents of five developments slated for HOPE VI redevelopment reported high levels of social disorder and perceived violent crime to be a big problem. In followup surveys during 6 years, residents living in new HOPE VI developments or renting on the private market with vouchers or without rental assistance reported perceiving much less disorder and violent crime in their neighborhoods. Survey data also suggest that residents displaced from Chicago public housing projects because of demolition reported feeling safer and perceiving less disorder and violence in their new communities, where many rent using housing vouchers, compared with their perceptions of their former home in public housing (Popkin and Price, 2010). Evaluations of the Moving to Opportunity experiment found that participants in the experimental group, who received housing vouchers to rent in low-poverty neighborhoods, reported feeling safer and feeling that their children were safer compared with the reports of control families, which led to improvements in mental health and reductions in stress, particularly among women and girls (Briggs, Popkin, and Goering, 2010; Goering and Feins, 2003; Popkin, Leventhal, and Weismann, 2008).

This article builds on this past research by examining how assisted housing shapes perceptions of disorder, violence, and safety among *all* residents in a neighborhood, rather than among only assisted residents. Rather than evaluating the effects of public housing redevelopment and voucher use on individuals, I investigate how assisted housing shapes neighborhood-level perceived safety and disorder.

## **Neighborhood Predictors of Perceived Disorder and Safety**

Neighborhood characteristics like concentrated disadvantage and racial composition, collective efficacy, mixed residential and commercial land use, and real crime and cues of disorder shape residents' perceptions of disorder, violence, and safety (Sampson, 2012). Past research shows that residents perceive greater physical and social disorder in neighborhoods with more African-American, immigrant, and poor residents, independent of actual levels of crime and disorder (Krivo, Peterson, and Karafin,

2006; Quillian and Pager, 2001; Sampson and Raudenbush, 2004). In fact, racial or ethnic composition better predicts perceived disorder than do actual cues of disorder (Sampson, 2012). African Americans were no less likely than Whites to perceive more disorder when a neighborhood had more minority residents, independent of physical cues of disorder (Sampson and Raudenbush, 2004).

Collective efficacy, or residents' social cohesion around shared expectations and willingness to exert social control to achieve those expectations, is associated with perception of less disorder (Sampson, 2012; Sampson and Raudenbush, 1999). Perceptions of violence and safety are similarly influenced by residents' social integration into the neighborhood (Hunter and Baumer, 1982).

Land use and architectural features also shape perceptions of disorder and safety. Jacobs' (1961) seminal research posited that, in city blocks with mixed residential and commercial land uses, actual and perceived disorder are low, because residents are aware of many "eyes on the street" and "public characters" that preserve order and safety. Subsequent research, however, showed that streets with more nonresidential land use have greater perceived crime and disorder (McCord et al., 2007; Taylor et al., 1995; Wilcox et al., 2004). On blocks with nonresidential land uses, there may be fewer territorial markers signaling social control over the space (Taylor, Gottfredson, and Brower, 1984). In terms of buildings, architectural features that encourage resident surveillance and clear delineation of public and private space, following the principles of defensible space (Newman, 1972), may reduce fear of crime and disorder.

Actual cues of physical and social disorder—such as broken windows, graffiti, loitering, and public drinking—shape perceptions of disorder (Sampson, 2012) and safety (Baba and Austin, 1989; Skogan and Maxfield, 1981). The research reviewed above, however, suggests that an individual's social position, social context, and implicit bias associated with neighborhood characteristics like racial composition may shape perceptions of disorder more strongly than actual disorder (Sampson, 2012). This finding emphasizes the importance of social contexts in shaping perceptions of neighborhood characteristics, and I explore whether the presence, demolition, and redevelopment of assisted housing are contextual elements that also shape perceptions of disorder, violence, and safety.

## **The Role of Assisted Housing in Residents' Perceptions of Disorder, Violence, and Safety**

By the late 1980s, many public housing projects, including those in Boston and Chicago, exhibited outward signs of real crime and cues of disorder (Bennett, Smith, and Wright, 2006; Hunt, 2009; Popkin et al., 2000; Tach, 2009; Vale, 2002) and of physical deterioration, influencing decisions to demolish these projects and redevelop them into mixed-income communities or offer the former residents vouchers. (Goetz, 2011; Kingsley, Johnson, and Pettit, 2003). The demolition or redevelopment of public housing altered many of the neighborhood characteristics theorized to shape perceptions of disorder, violence, and safety, described in the previous section, so perceptions of disorder, violence, and safety may also have been affected.

First, with regard to neighborhoods' economic and racial composition, if demolition or redevelopment reduces the number of poor and minority residents, one would expect perceptions of disorder to decline as public housing is demolished and to be lower in neighborhoods with redeveloped

public housing compared with neighborhoods with traditional public housing. Perceptions of disorder are influenced not only by racial composition but by racial stereotypes linked to criminal activities (Quillian and Pager, 2001). Stereotypes about minority public housing tenants' behavior and the large population of seemingly unsupervised children in single-parent homes in large public housing projects (Hunt, 2009) may mean that perceptions of disorder will decline after the demolition of the projects. Past research found that neighborhoods around many HOPE VI developments had higher resident income, education, and employment rate and increased racial diversity after redevelopment (Holin et al., 2003; Popkin et al., 2004; Zielenbach, 2003; Zielenbach and Voith, 2010), suggesting that residents may perceive less disorder and feel safer in HOPE VI neighborhoods.

In terms of collective efficacy, past research identified high levels of collective efficacy among Chicago public housing residents during the threat of public housing demolition (Venkatesh, 2000) and among Boston public housing residents before HOPE VI redevelopment (Curley, 2010). Therefore, if demolition or redevelopment broke up these community ties, perceptions of disorder and violence may increase and perceptions of safety may decrease. Indeed, research on redeveloped mixed-income communities in Boston found little evidence of strong social ties between old-timers and newcomers (Breitbart and Pader, 1995; Pader and Breitbart, 1993; Tach, 2009). Longtime residents may perceive less disorder in their community if they are comparing it with pre-redevelopment conditions, whereas new residents may perceive high levels of disorder, because their perceptions may draw on the neighborhood's previous reputation and their own lack of ties with neighbors. Past research provides little insight about the collective efficacy among residents living in neighborhoods with public housing developments who do not live in the developments, so it is unclear how redevelopment affects collective efficacy among this group.

Changes to land use and housing quality during public housing redevelopment and demolition may also influence perceptions of the neighborhood. Past research showed that positive ratings of housing quality decreased residents' fears of crime in their neighborhood, in part because it increased their physical and social satisfaction with the neighborhood (Austin, Furr, and Spine, 2002). HOPE VI developments had significantly improved quality of housing (Holin et al., 2003) and some HOPE VI sites led to new infrastructure in surrounding areas (Popkin et al., 2004), so perceptions of safety may be heightened and perceptions of disorder reduced in HOPE VI neighborhoods. Architectural features of public housing did not produce defensible space and limited neighbors' ability to exert social control and build social ties, leading to high levels of actual and perceived disorder (Jacobs, 1961; Popkin et al., 2000). HOPE VI developments in particular took a New Urbanism design approach to create common space to facilitate social ties and social control, which may lead to perception of less disorder. The process of demolition was often long, however, and led to uncertainty about the redevelopment of the cleared land. Demolition with no clear redevelopment plan can lead to vacancies and decline in neighborhood economic and social well-being, which may increase the fear of crime (Beauregard, 1990; Skogan, 1986). In Chicago, many new developments are built in different census tracts than demolished public housing, so neighbors around the demolished buildings may perceive increased disorder compared with pre-demolition levels as their neighborhood remains depopulated with vacant physical spaces.

Finally, the demolition or redevelopment of public housing may lead to changes in actual crime and cues of disorder. Popkin et al. (2012) found that crime rates fell substantially in neighborhoods

where public housing was demolished. Others have found lower levels of crime after redevelopment in some HOPE VI neighborhoods (Holin et al., 2003; Popkin et al., 2004; Zielenbach, 2003; Zielenbach and Voith, 2010).

The presence of voucher users does not alter the physical characteristics of a neighborhood but does potentially alter neighborhood composition and social cohesion. Owens (2012) found that voucher users live in neighborhoods with increasing poverty rates, so these neighborhoods may also have greater perceived disorder. Voucher users are less visible than public housing projects, so one might imagine that their effect on neighbors' perceptions is negligible. Galster, Tatian, and Smith (1999) provided mixed evidence. On the one hand, residents associate voucher units with racial minorities and negative tenant behaviors, which may be associated with increased levels of perceived disorder. On the other hand, residents often misidentify voucher units, so perceptions of disorder may be only loosely coupled with the presence of voucher users. With regard to actual crime, Popkin et al. (2012) found that crime increased in Chicago and Atlanta neighborhoods where many families used vouchers to relocate from demolished public housing. Examining all voucher users, rather than only relocatees, Ellen et al. (2012) found that crime rates are higher in neighborhoods with more voucher households, but they find no evidence of a causal relationship, instead finding that voucher users move to neighborhoods with increasing crime rates. Given these characteristics of the neighborhoods where voucher users live, one might expect increased perceptions of disorder and violence and reduced feelings of safety when many voucher units are present.

Past research suggests mixed hypotheses for how the transformation of assisted housing shapes perceptions of disorder, violence, and safety. On the one hand, the demolition of troubled public housing projects likely reduces perceptions of disorder and violence and increases perceptions of safety in a neighborhood because concentrations of poor and minority residents may break up and because real crime and cues of disorder are reduced. On the other hand, demolition may increase perceptions of disorder and violence because it breaks up existing social ties that foster collective efficacy. Comparing traditional public housing with HOPE VI redevelopment, new physical structures more suited to social control and social cohesion may lead to reduced perceptions of disorder and violence and may increase feelings of safety throughout the neighborhood, but social ties that facilitate collective efficacy may be scarce within new developments where neighbors are wary of one another, which could spill over to residents outside the development. With regard to the presence of voucher users, past research suggests that a concentration of voucher users may be associated with heightened levels of perceived disorder and violence and reduced feelings of safety.

## **Data and Analysis**

This study addresses three questions: (1) Does the demolition of public housing influence perceptions of disorder and violence? (2) Do perceptions of disorder and safety vary between neighborhoods with traditional public housing and those with HOPE VI developments? (3) Do perceptions of disorder, violence, and safety vary according to the presence of voucher users? I answer the first question with data from Chicago, the second question with data from Boston, and the third question with data from both cities. I examine Chicago and Boston primarily because data on neighborhood social processes like perceptions of disorder, violence, and safety have been collected in these cities through the Project on Human Development in Chicago Neighborhoods (PHDCN) and the Boston Neighborhood Survey (BNS). Each city has a particular approach to and history with the public

housing and voucher programs, and results may not be generalizable to cities with very different assisted housing, social, or demographic contexts. Public housing demolition, HOPE VI, and vouchers are common features in cities across the United States, however, and therefore these analyses provide some insight into how assisted housing may shape perceptions of disorder, violence, and safety.

Chicago operates one of the largest assisted housing programs in the country, and historically its public housing projects, primarily large developments with high-rise towers, were troubled by crime and poverty concentration (Hirsch, 1983; Hunt, 2009; Popkin et al., 2000). I examine data on residents' perceptions of disorder and violence from 1995 and 2002, which captures the final decline of Chicago's public housing and the beginning of large-scale demolition and redevelopment. By the late 1980s, Chicago's public housing developments were home to the city's most disadvantaged residents, many of them single mothers who had never worked, and 11 of the 15 poorest census tracts in the nation in 1990 contained Chicago Housing Authority (CHA) developments (Hunt, 2009). CHA was also plagued by mismanagement, maintenance backlogs, and budget shortfalls, and it was eventually taken under federal receivership in 1995 after having been on the troubled housing authority list since 1979 (Hunt, 2009). CHA began to experiment with redeveloping high-rise buildings as mixed-income communities, most notably with Lake Parc Place in 1988 (described by Pattillo, 2007) before adopting the Plan for Transformation (the Plan).

In 1999, Chicago implemented the Plan, which aimed to demolish 25,000 family public housing units, "voucher out" many residents, and overhaul the public housing program, with end goals of physical redevelopment of public housing, increased income mix in public housing, and 13,000 fewer public housing units (Bennett, Smith, and Wright, 2006; CHA, 2000a). Even before the Plan's implementation, demolition of public housing was underway in Chicago, with at least partial demolition of several large developments and scattered-site units. Much of this demolition occurred through HOPE VI grants, of which CHA received 40 before 2002, many more grants than any other city, for the planning, demolition, or revitalization of public housing (HUD, 2011, 2004, n.d.). Although not typical of cities with public housing across the country, Chicago can be viewed as a strong case of public housing demolition and redevelopment and is often looked to by housing authorities across the country (Popkin, 2013). I assess how public housing demolition influences perceptions of disorder and violence, comparing neighborhoods that never had public housing projects, neighborhoods with public housing where no demolition occurred, and neighborhoods where the demolition of public housing occurred between 1995 and 2002. I also assess how changes in the number of voucher units shaped neighborhood perceptions of disorder and violence during this time.

Boston's public housing program is smaller than Chicago's but larger than that of most cities, with most units built before 1960 (Vale, 2002). Boston's public housing population, like those in Chicago and many other cities, experienced economic decline starting in the 1960s, but Boston public housing also underwent a racial transition from mainly White (22 of the 25 largest family public housing developments were built in initially White neighborhoods for White residents) to African American (Vale, 2002). Racial tensions heightened wariness and mistrust among neighbors and perceptions that public housing residents contributed to most neighborhood problems. The Boston Housing Authority (BHA) was plagued by mismanagement during the 1970s and 1980s amidst the economic and racial transformation of its clientele, and it was placed into receivership in 1980.

Boston undertook several public housing redevelopment initiatives before the HOPE VI program, starting with Harbor Point, which served as a model for mixed-income redevelopment after it was completed in 1990. (Pader and Breitbart, 1993; Vale, 2002). Boston was awarded a HOPE VI planning grant for the Orchard Park development in 1995 (HUD, n.d.) and was awarded revitalization grants for Mission Main (1993), Orchard Park (1995), and Maverick Gardens (2001) (HUD, 2011).<sup>1</sup> All three public housing developments initially had “superblock” architecture, with multiple buildings arranged around interior sidewalks, isolated from the larger neighborhood. The developments also had high crime and vacancy rates and were among the most dangerous areas in the city. The redevelopment of Orchard Gardens was completed in the mid-1990s, Mission Main in 2001, and Maverick Landing in 2006. HOPE VI developments typically have fewer public housing units than the original developments, meaning that many original residents cannot return. Available evidence suggests that, in Boston, more residents than is typical for HOPE VI were able to return after redevelopment because of many initial vacancies. For example, about 50 percent of the residents in Maverick Gardens returned to Maverick Landing after HOPE VI development (Curley, 2010). I examine data on residents’ perceptions of disorder and safety in 2008, when these three HOPE VI projects had reopened after demolition and redevelopment. I compare perceptions of disorder and safety among neighborhoods that do not have public housing, neighborhoods with traditional public housing, and neighborhoods with HOPE VI developments. I also examine how perceptions of disorder and safety vary by the number of voucher units in a neighborhood in 2008.

### **Measuring Perceptions of Disorder, Violence, and Safety**

The dependent variables in this study are neighborhood-level aggregations of residents’ perceptions of disorder, violence, and safety in their neighborhood. In Chicago, data come from the PHDCN, an ongoing longitudinal study of Chicago residents that includes many data collection components (see Sampson, 2012, for a complete description of the PHDCN). In this study, I focus on the Community Survey (CS). The CS was administered to residents of Chicago neighborhoods twice, in 1995 and from 2001 through 2002 (I refer to this wave as 2002). The CS was designed to uncover residents’ attitudes and assessments of structural and cultural aspects of their neighborhoods. The multistage sampling frame led to random selection of respondents by first selecting block groups within Chicago’s 343 neighborhood clusters (NCs, which comprise 2 to 3 geographically adjacent and socially similar census tracts), then households within block groups, and finally one adult respondent within each household. The 1995 CS included more than 8,500 respondents interviewed in person, with an average of 25 respondents per NC. The 2002 CS, smaller by design, included more than 3,100 respondents representing the 343 NCs. My analyses are at the NC level, to which I refer as neighborhoods. Data on the outcome variables of interest are not available for 2 NCs, so the analytic sample N is 341.

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<sup>1</sup> BHA also received HOPE VI revitalization grants for Washington Beech (2007) and Old Colony (2010) (HUD, 2011), but these redevelopments were not complete by 2008, so I exclude them from my study.



The CS asks about perceptions of both disorder and violence. To capture residents' perceptions of social and physical disorder, the CS asked the following questions—

1. How much broken glass or trash on sidewalks and streets do you see in your neighborhood?
2. How much graffiti do you see on buildings and walls in your neighborhood?
3. How many vacant or deserted houses or storefronts do you see in your neighborhood?
4. How often do you see people drinking in public places in your neighborhood?
5. How often do you see unsupervised children hanging out on the street in your neighborhood?

Responses were coded from 1 to 4, with 1 meaning none or never and 4 indicating a lot or very often. In 1995, the wording was slightly different—rather than being asked how much something happened, respondents were asked how much of a problem certain types of disorder were, and responses were coded from 1 (not a problem) to 3 (a big problem). Neighborhood-level scales were rescaled to be comparable across years.

To capture perceived violence, respondents were asked, “During the past 6 months, how often was there...”

1. A fight in this neighborhood in which a weapon was used?
2. A violent argument between neighbors?
3. Gang fights?
4. A sexual assault or rape?
5. A robbery or mugging?

Responses were coded from 1 (never) to 4 (often). To create neighborhood-level scales of perceptions of disorder and perceptions of violence, a hierarchical linear modeling procedure was used to nest scale items at level 1, taking missing items into account, the respondent at level 2, and the neighborhood at level 3.

In Boston, data on residents' neighborhood perceptions come from the BNS, a biennial telephone survey of adults in Boston neighborhoods, one component of the Boston Data Project. The BNS sampling frame was stratified over 38 neighborhoods, and more than 4,000 total respondents were surveyed about a host of neighborhood characteristics in 2006, 2008, and 2010. I use the 2008 wave because the 2006 questionnaire does not include questions on social disorder. The BNS offers three neighborhood definitions: census tracts and two sets of NCs that combine geographically contiguous tracts to create socially meaningful NCs, one with 90 NCs and one with 38. To maintain statistical power, I use the 90 NCs (results are similar regardless of NC definition used).

The BNS asks residents about perceptions of disorder and about how safe they feel in their neighborhoods. I created a resident disorder scale by calculating residents' mean responses to the same questions the PHDCN asks, and I created a neighborhood disorder scale by calculating the mean of the resident disorder scale in each of the 90 NCs, following Rothman et al. (2011). I measured feelings of safety from three questions.

1. Do you consider your neighborhood... (a) very safe, (b) somewhat safe, or (c) not safe?
2. How comfortable do you feel walking alone in your neighborhood during the day?
3. How comfortable do you feel walking alone in your neighborhood at night?

The responses for questions 2 and 3 are very comfortable, somewhat comfortable, or not comfortable. I recoded these items so a higher value means feeling safer in one's neighborhood and calculate neighborhood-level scales as I did for perceptions of disorder.

Neighborhoods can be measured in many ways. Here, NCs map onto locally known neighborhoods. That said, respondents are not prompted to consider any particular geographic space when answering questions about their neighborhood. By averaging across residents, the PHDCN and BNS attempt to measure neighborhood-level social processes. I do not account for potential spillover effects or spatial dependencies. In both cities, public housing developments are locally associated with particular neighborhoods that correspond well with NC boundaries, so the effect of assisted housing is most likely associated with the surrounding NC. Future research could consider spillover effects to adjacent NCs or could measure neighborhoods of various radii around demolition and redevelopment sites and define neighborhoods in this way.

### **Assisted Housing Data**

The main independent variables of interest measure characteristics of public housing and vouchers in neighborhoods. For Chicago, I examine the effect of public housing demolition. The U.S. Department of Housing and Urban Development's (HUD's) *A Picture of Subsidized Households 2000* provides geocoded location data for public housing projects that existed as of 2000. I used the geocoded data to identify NCs with family housing projects from 1995 to 2002.<sup>2</sup> I consider only family public housing, not public housing developments exclusively for elderly residents, because public housing for elderly people likely does not exhibit the same cues of disorder and violence as family public housing (as evidenced by the fact that the Plan involved primarily renovating, not demolishing, public housing for elderly people). I obtained data on the addresses of buildings that were demolished before 2002 from CHA documentation (CHA, 2002, 2001, 2000b), newspaper reports, and internet searches.<sup>3</sup> Therefore, I compare three types of neighborhoods: (1) neighborhoods that never had family public housing, (2) neighborhoods with family public housing where demolition had not occurred as of 2002, and (3) neighborhoods where public housing demolition occurred before 2002. Neighborhoods in which demolition had occurred may still have had some family public housing in 2002—for example, demolition of the Robert Taylor Homes started in 1998 but did not end until 2007. Chicago used HOPE VI grants to redevelop several of its public housing developments, but these new projects had not opened as of 2002, so my analyses focus on demolition, not redevelopment.

In Boston, I compare perceptions of disorder and safety in three types of neighborhoods: (1) neighborhoods that never had family public housing, (2) neighborhoods with family public housing where HOPE VI redevelopment has not occurred, and (3) neighborhoods where HOPE VI redevelopment

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<sup>2</sup> I cross-referenced these data with data collected by RW Ventures, LLC, from HUD on public housing in Chicago from 1990 to 2004 (RW Ventures, 2010), annual reports of CHA, and data collected by the Illinois Assisted Housing Action Research Project and maintained by the Voorhees Center at the University of Illinois-Chicago (Voorhees Center, 2010) to account for all family public housing projects in existence from 1995 to 2002.

<sup>3</sup> I cross-referenced these data with data received via a Freedom of Information Act request made by Edward Goetz to HUD on demolition activity after 1995.

has occurred. Data on the location of family public housing come from HUD's *A Picture of Subsidized Housing 2008*, and I cross-reference these addresses with the BHA website to code NCs as having family public housing projects. I created an indicator of the NCs in which the Mission Main, Orchard Gardens, and Mavericks HOPE VI developments are located based on BHA reports.

In addition to public housing demolition and redevelopment, I explore how perceptions of disorder, violence, and safety vary by the presence of vouchers in a neighborhood. In Chicago, I examine changes in the number of vouchers from 1997 to 2000. To match the PHDCN data, I would like data from 1995 and 2002, but these data are not available.<sup>4</sup> Data on the number of vouchers in each neighborhood in 1997 and 2000 come from HUD's *A Picture of Subsidized Households* in each year. In Boston, I compare perceptions of disorder and safety in neighborhoods with varying number of voucher users. Data on the number of voucher users in 2008 come from HUD's *A Picture of Subsidized Households 2008*.

### **Control Variables**

I control for socioeconomic and demographic variables that have been shown to predict perceptions of disorder. In Chicago, I use data from the 1990 and 2000 census, normalized to 2000 tract boundaries (GeoLytics, Inc., 2003) on neighborhood racial or ethnic and immigrant composition and on poverty, unemployment, and female-headed household rates to account for concentrated disadvantage and minority composition. I aggregate the tract-level data to the NC level and use linear interpolation between the 1990 and 2000 censuses to estimate conditions in 1995 and 2002. In Boston, I control for the same variables from the 2005–09 American Community Survey, which provides a 5-year aggregation of data at the tract level, which I aggregate to the NC level. I also control for collective efficacy in 1995 and 2002 in Chicago from the PHDCN and in 2008 in Boston from the BNS. The PHDCN and BNS ask nearly identical questions capturing both the social cohesion and social control aspects of collective efficacy.<sup>5</sup>

I control for crime rates in each city to isolate the relationship between assisted housing and *perceptions* of disorder, violence, and safety independent of actual crime levels. In Chicago, yearly crime data at the census tract level come from the Chicago Police Department. I create two indices, violent crime rates (homicide and robbery) and property crime rates (burglary and vandalism), by aggregating tract counts to the NC level and then calculating rates per 100,000 people in 1995 and 2002. In Boston, crime data at the census tract level in 2008 come from the Boston Police Department. I again create crime rates for violent (homicide, rape, robbery, aggravated assault) and property (burglary, larceny, motor vehicle theft, arson) crime by aggregating tract counts to the NC level and scaling the counts for each crime type per 100,000 people.

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<sup>4</sup> HUD does provide 1996 data, but fewer than one-half of units are reported, and the number of vouchers it reports in Chicago is much less than the number reported in CHA documentation, so I use 1997 data, which appear more accurate. I also run analyses with the change in vouchers from 1997 through 2003, using data from 2003 from the Illinois HUD office, obtained from the Voorhees Center at the University of Illinois-Chicago. The results are substantively identical to those presented here.

<sup>5</sup> See Sampson (2012) for more information on the construction of the collective efficacy scale.

## Analysis Plan

I examine how the demolition or redevelopment of public housing and the presence of voucher users influence perceptions of disorder, violence, and safety in Chicago and Boston. In Chicago, I take advantage of longitudinal data to examine how demolition and changes in the number or rate of voucher users shape changes in perceptions of disorder and violence. In Boston, I use data only from 2008 and thus am limited to describing associations between public housing redevelopment or vouchers and perceptions of disorder and safety.

### Chicago

In Chicago, the data allow for an examination of longitudinal changes in perceptions of disorder and violence from 1995 through 2002 using analysis of covariance (ANCOVA) models. ANCOVA models control for the initial level of the dependent variable, allowing for better estimates of causal effects. Following Morgan and Winship (2007), ANCOVA models are appropriate to identify longitudinal effects in panel data when selection on the dependent variable is likely. Here, particularly troubled public housing developments in terms of crime and violence were among those identified for demolition, so it is likely that these developments had greater initial perceived disorder and crime. The ANCOVA model adjusts for this selection. The equation for the model is (Kessler and Greenberg, 1981)—

$$y_{it+1} = \alpha + \beta_1 y_{it} + \beta_2 d_i + \beta X_{it} + \beta X_{it+1} + \varepsilon, \quad (1)$$

where  $y_{it+1}$  is the level of perceived disorder or violence in neighborhood  $i$  at time  $t + 1$  (2002);  $y_{it}$  is the level of perceived disorder or violence in neighborhood  $i$  at time  $t$  (1995);  $d_i$  indicates assisted housing type or presence;  $X_{it}$  is the vector of control variables (socioeconomic and demographic characteristics, collective efficacy, and crime) in 1995 and  $X_{it+1}$  is the vector of control variables in 2002. In the first set of models,  $d_i$  is a categorical variable classifying neighborhoods as (1) never having had public housing; (2) having public housing but no demolition from 1995 through 2002; or (3) experiencing public housing demolition between 1995 and 2002. In the second set of models,  $d_i$  is the change in the number of vouchers from 1997 through 2000. I interpret results as providing evidence that public housing demolition caused changes in perceptions, but causal estimates may be biased if I have omitted variables from the model.

### Boston

In Boston, I examine perceptions of disorder and safety in 2008 using cross-sectional regression analyses. The model is represented by the equation—

$$y = \alpha + \beta_1 H + \beta X + \varepsilon, \quad (2)$$

where  $y$  represents perceptions of either disorder or safety in 2008 and  $H$  represents variation in assisted housing. In the first set of models,  $H$  is an indicator variable comparing neighborhoods with (1) no public housing, (2) traditional public housing, and (3) HOPE VI developments. Only three NCs in Boston contain HOPE VI developments, so the models should be interpreted with caution because of lack of statistical power. In the second set of models,  $H$  is a variable indicating the voucher rate in 2008.  $X$  is a vector of control variables that may predict perceptions of disorder and safety: collective efficacy, socioeconomic or demographic traits, and crime rates.

## Descriptive Results

Before reporting results from multivariate analyses, I describe how perceptions of disorder, violence, and safety vary among neighborhoods with different types of assisted housing. I also show how neighborhoods with different types of assisted housing differ from one another in terms of demographic characteristics and crime.

### Demolition in Chicago

Exhibit 1 presents descriptive statistics for the independent and control variables, comparing Chicago NCs that never had family public housing, NCs with family public housing where demolition did not occur before 2002, and NCs where family public housing demolition had occurred

#### Exhibit 1

Descriptive Statistics, by Public Housing Status (Chicago)

	No PH		PH, No Demolition		PH, Demolition	
	Mean	SD	Mean	SD	Mean	SD
Perceptions of disorder, 1995	2.270 <sup>^</sup>	0.459	2.450 <sup>^</sup>	0.444	2.990	0.343
Perceptions of disorder, 2002	2.524 <sup>^</sup>	0.407	2.728	0.363	2.932	0.285
Perceptions of violence, 1995	2.024 <sup>^</sup>	0.321	2.147 <sup>^</sup>	0.323	2.505	0.252
Perceptions of violence, 2002	1.838 <sup>^</sup>	0.249	1.991	0.259	2.088	0.265
Collective efficacy, 1995	3.020 <sup>^</sup>	0.171	2.942	0.154	2.822	0.130
Collective efficacy, 2002	3.138 <sup>^</sup>	0.124	3.056	0.126	3.027	0.120
Proportion NH White, 1995	0.338 <sup>^</sup>	0.328	0.279 <sup>^</sup>	0.255	0.019	0.025
Proportion NH White, 2002	0.283 <sup>^</sup>	0.310	0.229	0.254	0.032	0.042
Proportion NH African American, 1995	0.407 <sup>^</sup>	0.429	0.353 <sup>^</sup>	0.404	0.962	0.034
Proportion NH African American, 2002	0.422 <sup>^</sup>	0.431	0.369 <sup>^</sup>	0.395	0.935	0.055
Proportion Hispanic, 1995	0.208 <sup>^</sup>	0.253	0.347 <sup>^</sup>	0.310	0.014	0.019
Proportion Hispanic, 2002	0.243 <sup>^</sup>	0.287	0.374 <sup>^</sup>	0.338	0.024	0.026
Proportion foreign born, 1995	0.170 <sup>^</sup>	0.157	0.185 <sup>^</sup>	0.150	0.006	0.007
Proportion foreign born, 2002	0.200 <sup>^</sup>	0.180	0.221 <sup>^</sup>	0.173	0.017	0.010
Poverty rate, 1995	0.197 <sup>^</sup>	0.125	0.262 <sup>^</sup>	0.149	0.644	0.105
Poverty rate, 2002	0.195 <sup>^</sup>	0.118	0.244 <sup>^</sup>	0.143	0.549	0.127
Unemployment rate, 1995	0.122 <sup>^</sup>	0.074	0.136 <sup>^</sup>	0.087	0.353	0.083
Unemployment rate, 2002	0.118 <sup>^</sup>	0.080	0.125 <sup>^</sup>	0.094	0.284	0.086
Proportion female-headed HH, 1995	0.370 <sup>^</sup>	0.202	0.405 <sup>^</sup>	0.212	0.824	0.051
Proportion female-headed HH, 2002	0.367 <sup>^</sup>	0.205	0.387 <sup>^</sup>	0.209	0.777	0.082
Violent crime rate, 1995	1174.490 <sup>^</sup>	955.925	1067.977 <sup>^</sup>	639.039	2748.004	1276.000
Violent crime rate, 2002	711.695 <sup>^</sup>	556.649	724.746	393.482	1307.711	523.100
Property crime rate, 1995	3937.576 <sup>^</sup>	1401.176	4334.012 <sup>^</sup>	1297.421	8423.312	1869.800
Property crime rate, 2002	3325.455 <sup>^</sup>	1503.621	3952.047 <sup>^</sup>	1860.591	7182.445	1856.400
N (NCs)	275		53		13	

HH = households. NCs = neighborhood clusters. NH = non-Hispanic. PH = public housing. SD = standard deviation.

<sup>\*</sup> Significantly different from PH, no demolition ( $p \leq 0.05$ ).

<sup>^</sup> Significantly different from PH, demolition ( $p \leq 0.05$ ).

by 2002. As the bottom row indicates, 275 of Chicago's 341 NCs never had public housing (of the 2 NCs excluded from analyses, neither had public housing). Of those NCs that did have public housing, demolition had occurred in 13.

Perceived disorder and violence in 1995 were lowest in neighborhoods that never had public housing and highest in neighborhoods where public housing was demolished, confirming selection on the dependent variable: demolition occurred in places where perceptions of disorder and violence were highest. In 2002, perceived disorder and violence was significantly lower in neighborhoods that never had public housing, with no significant difference between neighborhoods where demolition did and did not occur.

Collective efficacy in 1995 and in 2002 is greatest in neighborhoods that never had public housing but does not vary between NCs with public housing where demolition did or did not occur. NCs where demolition occurred had a significantly lower proportion of White, Hispanic, and foreign-born residents and significantly greater proportions of African-American residents compared with the proportions in neighborhoods where public housing was never built or where demolition did not occur. The poverty, unemployment, female-headed household, and crime rates were all lowest in neighborhoods that never had public housing and highest in neighborhoods where demolition occurred. Neighborhoods where demolition occurred appear to be markedly different than other neighborhoods, emphasizing the extreme disadvantage and decay associated with large public housing projects slated for demolition, even after demolition has begun.

### **Public Housing Redevelopment in Boston**

Exhibit 2 presents descriptive statistics for Boston neighborhoods with no public housing (N = 76), with family public housing (N = 10), and with HOPE VI developments (N = 3) (one NC without data on perceptions of disorder and safety is excluded; it had no public housing). Neighborhoods with public housing are significantly different from neighborhoods without public housing on nearly all characteristics, whereas HOPE VI neighborhoods do not differ significantly from either neighborhood type on any indicator except for having higher levels of violent crime than neighborhoods with no public housing. Although the differences among neighborhood types are not significant, HOPE VI neighborhoods appear more similar to neighborhoods with public housing than those without.

Neighborhoods with no public housing have the least perceived disorder and the greatest perceived safety, significantly different only from neighborhoods with public housing. HOPE VI neighborhoods fall in the middle on both scales but are not significantly different from neighborhoods either with or without public housing, perhaps because of the small N. Neighborhoods with HOPE VI developments have little collective efficacy (as Tach, 2009, suggests), as little as neighborhoods with public housing. Both public housing and HOPE VI neighborhoods have more minority and fewer White residents and higher poverty rates than neighborhoods without public housing. HOPE VI neighborhoods have high rates of foreign-born residents, reflecting the Mavericks development in East Boston, a neighborhood with a large Dominican population. HOPE VI neighborhoods have lower poverty, unemployment, and female-headed household rates than neighborhoods with public housing. HOPE VI neighborhoods, however, have crime rates nearly as high as neighborhoods with public housing, with violent crime rates significantly higher than among neighborhoods with no public housing.

**Exhibit 2**

Descriptive Statistics, by Public Housing Status (Boston)

	No PH		PH		HOPE VI	
	Mean	SD	Mean	SD	Mean	SD
Perceptions of disorder, 2008	1.563*	0.244	1.804	0.238	1.783	0.136
Perceptions of safety, 2008	2.470*	0.211	2.209	0.242	2.322	0.083
Collective efficacy, 2008	3.014*	0.201	2.788	0.260	2.792	0.186
Proportion NH White, 2005–09	0.541*	0.296	0.252	0.227	0.326	0.165
Proportion NH African American, 2005–09	0.210	0.243	0.376	0.239	0.280	0.302
Proportion Hispanic, 2005–09	0.138*	0.121	0.261	0.106	0.281	0.181
Proportion foreign-born, 2005–09	0.253	0.120	0.261	0.105	0.353	0.186
Poverty rate, 2005–09	0.168*	0.100	0.438	0.158	0.271	0.132
Unemployment rate, 2005–09	0.056*	0.032	0.105	0.023	0.087	0.035
Proportion female-headed HH, 2005–09	0.364*	0.221	0.664	0.113	0.501	0.211
Violent crime rate, 2005–09	839.881* <sup>^</sup>	680.102	1587.439	705.042	1432.624	666.837
Property crime rate, 2005–09	3,627.687	3,212.94	4,059.704	1,703.824	3,989.403	1,320.434
N (NCs)	76		10		3	

HH = households. NCs = neighborhood clusters. NH = non-Hispanic. PH = public housing. SD = standard deviation.

\* Significantly different from public housing ( $p \leq 0.05$ ).

<sup>^</sup> Significantly different from HOPE VI ( $p \leq 0.05$ ).

**Vouchers in Chicago and Boston**

Exhibit 3 presents the number of vouchers and voucher rates in Chicago and Boston and their relationship with perceptions of disorder and violence or safety over time. The top panel shows that, in Chicago, the raw number of vouchers in each NC increased, on average, from 1997 through 2000, as did the total number in the city. (During this time, CHA received several thousand additional housing vouchers to provide housing for residents displaced from public housing, but many residents moved to other public housing developments rather than using vouchers.) The voucher rate—the number of vouchers as a proportion of total households—increased as well so that, by 2000, vouchers made up, on average across NCs, 2.1 percent of housing units. Exhibit 3 also presents the correlation between number of vouchers or voucher rate and perceptions of disorder and violence in each year. In both years, a greater number or rate of vouchers is associated with greater perceived disorder and violence.

The lower panel of exhibit 3 shows the average neighborhood in Boston has about 176 voucher holders (although 50 percent of NCs have fewer than 100), comprising about 6 percent of households, on average. The correlations show that residents felt less safe in neighborhoods with a greater number or rate of voucher units, but the presence of vouchers in a neighborhood has no relationship with perceptions of disorder.

**Exhibit 3****Housing Vouchers and Perceptions of Disorder, Violence, and Safety (Chicago and Boston)**

<b>Chicago</b>		<b>Mean</b>	<b>SD</b>		
Change in vouchers, 1997 through 2000		24.035	37.305		
Change in voucher rate, 1997 through 2000		0.005	0.021		
Correlations		Vouchers 1997	Voucher rate 1997	Vouchers 2000	Voucher rate 2000
Perceptions of disorder, 1995		0.263***	0.324***	0.305***	0.422***
Perceptions of violence, 1995		0.348***	0.363***	0.374***	0.438***
Perceptions of disorder, 2002		0.332***	0.411***	0.364***	0.495***
Perceptions of violence, 2002		0.316***	0.348***	0.350***	0.429***
<b>Boston</b>		<b>Mean</b>	<b>SD</b>		
Vouchers, 2008		175.533	276.260		
Voucher rate, 2008		0.058	0.053		
Correlations		Vouchers 2008	Voucher rate 2008		
Perceptions of disorder, 2008		0.101	0.173		
Perceptions of safety, 2008		- 0.569***	- 0.692***		

*SD = standard deviation.*

\*\*\*  $p \leq .001$

## What Is the Effect of Demolition on Perceptions of Disorder and Violence in Chicago?

Exhibit 4 presents results from the ANCOVA model predicting perceptions of disorder and violence. Because the model controls for perceptions of disorder and violence in 1995, the coefficient for the public housing variables can be interpreted as the effect of public housing on the change in perceptions of disorder and violence. The public housing indicator is entered as two dummy variables, comparing (1) neighborhoods with public housing where no demolition occurred with neighborhoods that never had public housing, and (2) neighborhoods with public housing where demolition *did* occur with neighborhoods that never had public housing. Neighborhoods that ever had public housing vary demographically and in other ways from neighborhoods that never had public housing, so the best comparison to assess the effect of demolition is likely between neighborhoods with public housing where demolition did or did not occur. I present the coefficient for this comparison in the row “Difference between PH demolition and no demolition.”

The left half of exhibit 4 presents results predicting perceptions of disorder. Model 1 shows that perceptions of disorder declined in neighborhoods where demolition occurred compared with perceptions in neighborhoods that never had public housing and, more robustly, neighborhoods where public housing was not demolished, controlling for collective efficacy and neighborhood demographics. Model 2 adds controls for violent and property crime rates and shows that the magnitude is even greater: perceptions of disorder declined more in neighborhoods where demolition occurred. Exhibit 1 shows that, in neighborhoods that never had public housing and in those



**Exhibit 4**

**The Effect of Public Housing Demolition on Perceptions of Disorder and Violence (Chicago)**

	Perceptions of Disorder, 2002		Perceptions of Violence, 2002	
	Model 1	Model 2	Model 1	Model 2
PH, no demolition	0.003 (0.033)	0.000 (0.034)	0.012 (0.026)	0.014 (0.027)
PH, demolition	- 0.255*** (0.078)	- 0.267*** (0.083)	- 0.174** (0.062)	- 0.150* (0.066)
Difference between PH demolition and no demolition	- 0.258** (0.084)	- 0.267** (0.090)	- 0.186** (0.067)	- 0.164^ (0.071)
Perceptions of disorder, 1995	0.209*** (0.051)	0.212*** (0.051)		
Perceptions of violence, 1995			0.152*** (0.045)	0.158*** (0.045)
Crime rates, 1995	No	Yes	No	Yes
Crime rates, 2002	No	Yes	No	Yes
Constant	4.147	4.080	3.100	3.135
N	341	341	341	341
Adjusted R <sup>2</sup>	0.764	0.763	0.629	0.628

PH = public housing.

^p ≤ .10. \*p ≤ .05. \*\*p ≤ .01. \*\*\*p ≤ .001.

Notes: All models include collective efficacy and socioeconomic controls from both years. Numbers in parentheses indicate standard errors.

where demolition did not occur, perceptions of disorder *increased* from 1995 through 2002 compared with a slight decline in neighborhoods where demolition occurred. Although perceptions of disorder remain greater in these neighborhoods than in neighborhoods that never had public housing, the gap closed from 1995 through 2002, and neighborhoods where demolition occurred did not follow the upward trend of increasing perceptions of disorder.

The right half of exhibit 4 presents coefficients assessing the effect of public housing demolition on perceptions of violence. Perceptions of violence declined more in neighborhoods where public housing demolition occurred than in neighborhoods that never had public housing and those where public housing remains, controlling for collective efficacy and neighborhood demographics. The magnitude is about two-thirds of a standard deviation of the level of perceived violence in 2002. Controlling for actual crime, perceptions of violence are reduced more in neighborhoods where public housing demolition occurred, but the difference is statistically significant only between neighborhoods where demolition occurred and neighborhoods that never had public housing. Returning to exhibit 1, although perceptions of violence decreased most in neighborhoods where demolition occurred, it remained greatest in these neighborhoods (although not significantly greater than in neighborhoods where public housing remained). Although these neighborhoods remain disadvantaged, perceptions of violence have become more similar to those of other neighborhoods.

The models in exhibit 4 also include control variables in 1995 and 2002 (not shown). Not many of the control variables significantly predict changes in perceptions of disorder and violence when the

initial level is included. Those relationships that were significant are consistent with past research. Increased collective efficacy reduced perceptions of disorder and violence. Perceptions of violence declined in neighborhoods in which the Hispanic population increased (perhaps because of the increasing presence of immigrants, which Sampson, 2008, found was associated with lower crime rates). Perceptions of violence increased in neighborhoods where poverty rates were higher in 1995. Neither measure of actual crime, surprisingly, predicted the change in perceptions of disorder and violence when controlling for initial perceptions, emphasizing that perceptions capture a different neighborhood dimension than actual crime.

## **Do Perceptions of Disorder and Safety Vary by Public Housing Redevelopment in Boston?**

I conducted cross-sectional regression analyses examining associations between perceptions of disorder and safety in 2008 and the presence and type of public housing in Boston. I do not present them here because the results were not significant. Perceptions of disorder were not significantly different in neighborhoods with public housing or HOPE VI developments than in neighborhoods that never had public housing, and HOPE VI neighborhoods had similar levels of perceived disorder as neighborhoods with traditional public housing, controlling for collective efficacy, demographic characteristics, and real crime rates. The presence or type of public housing in a neighborhood was also not associated with perceived safety in 2008.

Data limitations hinder analyses and interpretation of the effect of HOPE VI redevelopment on perceptions of disorder and safety. The lack of longitudinal data obscures the difference in perceptions of disorder across neighborhoods with and without public housing and HOPE VI. First, neighborhoods with public housing and HOPE VI differ in many ways from neighborhoods that never had public housing, as exhibit 2 shows. Although I include control variables, the location and redevelopment of public housing is not random, so longitudinal data (as in Chicago) would better estimate the effect of public housing redevelopment on neighborhood perceptions. It could also be the case that Boston has too few cases to estimate such associations, because HOPE VI developments exist in only three Boston neighborhoods. It is unfortunate that data on neighborhood social processes exist in only a few cities and that the Chicago data were collected before HOPE VI redevelopment.

Second, it could be that perceptions of disorder did decline and perceptions of safety did increase from pre- to post-HOPE VI redevelopment but that the HOPE VI communities still do not have lower levels of perceived disorder and higher levels of perceived safety in 2008 than traditional public housing communities, because the HOPE VI neighborhoods started out as among the most dangerous in the city. It could also be the case, however, that even as crime declined dramatically as HOPE VI redevelopment occurred (Zielenbach and Voith, 2010, showed that crime rates declined by more than 50 percent in both Orchard Gardens and Mission Main), *perceptions* of disorder and danger remained high because of the lingering effects of the neighborhood's reputation on new residents' perceptions (Tach, 2009). Without longitudinal data, I cannot adjudicate between these explanations.

## What Is the Effect of Vouchers on Perceptions of Disorder, Violence, and Safety?

I now turn to the relationship between the presence of vouchers in a neighborhood and perceived disorder, violence, and safety. For Chicago, I estimated ANCOVA models predicting perceptions of disorder and violence in Chicago from changes in the neighborhood voucher rate from 1997 through 2000 (not shown). Although the relationship is positive, perceptions of disorder are not significantly greater in neighborhoods where the voucher rate increased over time, controlling for initial perceptions of disorder and violence, collective efficacy, demographic controls, and when crime rate controls were added. Perceptions of violence are also not significantly related to changes in neighborhood voucher rates. I also estimated the model with the change in raw number of vouchers, and results were substantively identical. Past work on the effect of vouchers on crime rates emphasized that crime is unaffected by voucher presence unless a large cluster of voucher users is present (Popkin et al., 2012). I tested various specifications to see if great increases in vouchers significantly predicted perceptions of disorder and violence, but none were statistically significant. This finding may suggest that, because they are less visible than public housing, voucher users are not a contextual neighborhood variable that influences perceptions of safety and disorder.

Exhibit 5 presents results from regression analyses predicting perceptions of disorder and safety in Boston from neighborhood voucher rates in 2008. The left panel shows no significant relationship between voucher rates and perceived disorder. The right panel of exhibit 5 reveals that residents feel less safe in neighborhoods with many voucher households. In neighborhoods where the voucher rate is 10 points higher than an otherwise similar neighborhood, controlling for socioeconomic controls and crime rate, residents' perceptions of safety are 0.15 points less on a 3-point scale, which is nearly 1 standard deviation. Although I control for crime rates in 2008, this result could reflect that voucher users live in neighborhoods where the crime rate is increasing (Ellen et al., 2012), so recent increases in crime could make residents feel less safe. I cannot isolate an effect of voucher users on perceptions of safety apart from actual crime rate.

### Exhibit 5

Perceptions of Disorder and Safety, by Change in Voucher Rate (Boston)

	Perceptions of Disorder, 2008		Perceptions of Safety, 2008	
	Model 1	Model 2	Model 1	Model 2
Voucher rate, 2008	- 0.604 (0.936)	- 1.120 (0.937)	- 2.016*** (0.569)	- 1.501*** (0.542)
Crime rate, 2008	No	Yes	No	Yes
Constant	1.989	1.738	1.679	1.974
N	89	89	89	89
Adjusted R <sup>2</sup>	0.282	0.324	0.669	0.717

\*\*\* $p \leq .001$ .

Notes: All models include collective efficacy and socioeconomic controls. Numbers in parentheses indicate standard errors.

## Conclusion

The demolition and redevelopment of public housing and the use of vouchers that increased low-income residents' neighborhood mobility changed neighborhoods in many ways. Past research has focused on the effect of assisted housing on neighborhoods' property values, population composition, and crime rates. In this article, I focus on the effect of assisted housing on residents' *perceptions* of their neighborhood, particularly its levels of disorder, violence, and safety. Residents' perceptions can shape actual crime levels and residents' mobility into and out of a neighborhood. Further, perceptions may also shape residents' quality of life, mental health and stress, and social interactions. Therefore, it is important to understand how housing programs affect residents' perceptions of their neighborhood.

In addition to the *consequences*, the potential *causes* of perceptions of disorder, violence, and safety are important to understand because they reveal how residents experience their social contexts. Past sociological research shows that characteristics of neighborhoods shape perceptions of disorder in addition to—or more strongly than—actual crime or cues of disorder. This article builds on past research examining the changing perceptions of disorder, violence, and safety among assisted residents and assesses how assisted housing shapes the perceptions of residents of the larger neighborhood context. The results in this article provide evidence that the demolition of public housing is an important part of residents' social contexts that shape how they perceive their neighborhood. I find that the demolition of some of the most dangerous and deteriorated public housing developments in Chicago reduced perceptions of disorder and violence in those neighborhoods, accounting for real reductions in crime, while perceived disorder *increased* in other neighborhoods during this time. I find no significant differences, however, in levels of perceived disorder and safety between neighborhoods with no public housing, traditional public housing, and redeveloped HOPE VI projects in Boston, likely because of data limitations. Future research is needed to investigate whether residents experience neighborhoods with HOPE VI developments as a more positive social context than neighborhoods with other types of public housing.

Finally, I find mixed results regarding how the presence of voucher holders influences perceptions of disorder, violence, and safety. Evidence from Chicago suggests that an influx of voucher users does not lead to perceptions of increased disorder or violence. Evidence from Boston suggests that residents feel less safe in neighborhoods with more voucher users compared with residents in demographically and economically similar neighborhoods, although these analyses are associational and may capture the rising crime levels where voucher users live. The voucher results suggest that voucher users may not be a tangible element of neighborhood context that influences perceptions.

## Policy Implications for Demolition

Despite demolition's disruption of a neighborhood's physical structure and social fabric, this study finds that residents perceive less disorder and violence in neighborhoods where public housing has been demolished, which had very high levels of perceived disorder and violence before demolition. Perceptions of disorder, violence, and safety have important consequences for neighborhood and individual well-being. Improved perceptions of the neighborhood after public housing demolition may be a key factor in the eventual revitalization of these neighborhoods, given that residents may

be more invested in keeping their neighborhood safe and attractive if they view it more positively. Results from the Moving to Opportunity experiment link improved perceptions of safety to better mental health outcomes for residents, suggesting that demolition may positively affect health through reduced levels of perceived disorder and violence. Therefore, the continued demolition of distressed public housing, at least for the most crime-ridden and dysfunctional public housing communities, may provide neighborhood and individual benefits for all residents in the neighborhood.

The data capture residents' perceptions before and after demolition, but I cannot distinguish between changing perceptions between longtime residents and newcomers or between residents living in public housing and those living in private housing. My analyses could mask longtime public housing residents' reports of more disorder because their social networks were broken up, which would suggest that demolition could have undesirable effects. It seems unlikely that is the case, however. First, most residents displaced from public housing in Chicago by demolition moved to a new home within 3 miles (NORC, 2004), so they may live in the same NC over time, in which case the data capture their perceptions before and after demolition. Second, past research on assisted residents' perceptions of disorder and violence suggests that former public housing residents rate their new living conditions more positively than their former homes. Therefore, it seems that demolition of distressed public housing can positively shape residents' perceptions of their neighborhood even as they may be displaced. HOPE VI and other programs that fund the demolition of public housing should continue to identify the most distressed and dangerous developments and communicate their demolition plans with residents to reduce feelings of uncertainty and ensure that residents feel positively about their neighborhood after demolition.

### **Policy Implications for HOPE VI Redevelopment**

I find no evidence that perceptions of disorder and safety vary systematically among neighborhoods with no public housing, traditional public housing, and HOPE VI projects in Boston. Longtime neighborhood reputations may linger despite redevelopment so that residents of these neighborhoods still perceive their surroundings to be fairly unsafe, which could particularly be the case for newcomers (Tach, 2009). Programs aimed at fostering ties among residents may reduce perceptions of disorder to lower levels than in neighborhoods with traditional public housing, but past research finds little evidence that new social ties are easily made in HOPE VI developments, with planned public spaces left unused in part because of management surveillance (Curley, 2010; Tach, 2009). Following the thinking of Jacobs (1961), public spaces organically used by all residents for day-to-day activities (and not supervised by the HOPE VI development) may better foster social ties among HOPE VI residents and between all residents of the neighborhood. Future public housing redevelopment could also include commercial entities used by all residents of the neighborhood—public housing and market-rate residents of the development and residents of the neighborhood outside the development—to bolster a sense of collective efficacy and trust. Another strategy would be to architecturally integrate HOPE VI developments into the larger economic and institutional fabric of the community to minimize separation and distrust among HOPE VI residents and other neighbors.

Data limitations likely obscure changing neighborhood perceptions in HOPE VI neighborhoods. Longitudinal data on residents' perceptions of disorder and safety before and after HOPE VI

redevelopment in multiple cities are necessary to more thoroughly assess the effect of redevelopment on perceptions of disorder. Housing authorities and policy researchers who assess HOPE VI sites should collect data on the perceptions of all residents in HOPE VI developments and the perceptions of residents in surrounding neighborhoods.

### **Policy Implications for Housing Vouchers**

The presence of voucher users in neighborhoods is not systematically associated with heightened perceptions of disorder or violence, despite stereotypes held about voucher users. Residents do report feeling more unsafe when more voucher users live in their neighborhood. Coupled with past research that an influx of many voucher users can lead to increases in crime (Popkin et al., 2012) and that clusters of voucher users contribute to declining property values (Galster, Tatian, and Smith, 1999)—perhaps because of perceptions about tenants' behaviors—these analyses provide more evidence that enhancing mobility with housing vouchers is imperative, not only to provide voucher users the opportunity to live in safe and beneficial neighborhood contexts but to prevent the clustering of vouchers in only a few neighborhoods. Therefore, the Housing Choice Voucher Program (HCVP) should expand mobility counseling services to provide renters with information about the range of neighborhoods available to them. In addition, the HCVP should pursue more landlord outreach and consider ways to incentivize landlord participation in neighborhoods where few voucher users live. Finally, the HCVP should consider some of the programmatic features that act as barriers to residents leasing up in neighborhoods with fewer voucher users, like short unit search times (DeLuca, Garboden, and Rosenblatt, 2013).

The transformation of assisted housing during the past several decades has profoundly changed many urban neighborhoods. This article demonstrates that assisted housing may be a crucial part of neighborhood contexts that influence not only a neighborhood's demographic composition, built environment, and crime rates, but also residents' perceptions of their neighborhoods, which shape their day-to-day lives in important ways. Policymakers must consider the effects on neighborhoods, not only individuals, when designing assisted housing interventions.

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