Social Capital and Crime in New York City's Low-Income Housing

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Abstract

This article presents evidence that components of social capital can play a prospective role in preventing crime in low-income housing. It develops a conceptual approach to crime prevention involving social capital, alternative forms of ownership, and environmental design considerations. The study compares five programs that house New York City's poorest, mostly minority residents. The effectiveness of social capital in preventing crime is assessed using data from surveys of 487 buildings in Brooklyn, NY, and crime data from the New York City Police Department.

Results of the analysis indicate that three components of social capital—basic participation in tenant associations, tenant prosocial norms, and a building's formal organization—were all related to reducing various types of crime in the buildings under study 6 to 12 months after social capital was measured. The effectiveness of social capital was related to alternative ownership structures, building characteristics, and housing policy.

Keywords: Community; Crime; Low-income housing

Introduction

Poor minority residents of blighted inner-city neighborhoods often struggle to protect themselves from the high levels of crime in their neighborhoods by organizing tenant associations, block associations, and other community-based organizations. Yet evidence that they are able to succeed is sparse (Briggs and Mueller 1997; Halpern 1995). Indeed, crime prevention experts conclude that when informal processes of social control are lacking in a neighborhood, efforts to create them rarely succeed (Rosenbaum 1994). Nor do social science theories provide sharp analytic tools for assessing the nature and potential of such endeavors, since levels of social organization in a neighborhood or community are usually treated as historically and ecologically distributed properties of group life that create a climate of social relationships that deter criminal behavior in a particular locale (Sampson 1988, 1991, 1999). This approach does not really address resident organizations formed explicitly to control and improve housing and neighborhood conditions, including crime.

This study attempts to extend existing theoretical analyses of how social control is related to crime by investigating how effective various aspects of social organization among poor minority residents of New York City's most dilapidated housing stock are in reducing crime in their buildings. Social organization is analyzed in terms of the concept of social capital (Coleman 1988; Putnam 1993, 1994, 2000). Social capital goes beyond the notion of social control by regarding the social organization of a locale as not just a way of regulating residents' behavior but as a means of obtaining a variety of other positive outcomes. The general utility of social capital in achieving collective goals provides a framework for relating the same social processes that have previously been associated with improving building conditions in this housing stock (Saegert and Winkel 1998) and preventing crime.

However, social capital theory as articulated by Coleman (1988) and Putnam (1993, 1994, 2000) suffers from the same limitation as social disorganization theory: The examples they give explain why, historically, certain groups of people have been able to accomplish their goals more easily and effectively than others. By ignoring structural and historical social inequality, social capital theory naturalizes the continuing disadvantage of certain people and places. Poor minority communities often may not benefit from strong social networks because of lack of financial and human capital within these networks. Furthermore, closure, the very property that allows some groups to accumulate and use social capital, may serve to exclude those who would benefit the most from access: the poor. Thus, the idea of social capital used in this research draws on more recent formulations that view social capital within poor communities as a resource for developing leadership, group identity, shared goals, and collective efficacy (Warren, Thompson, and Saegert 2001). In this framework, it is crucial that informal ties and voluntary associations in poor communities link to institutional forms that expand their legitimate claims on resources.

Conceptual framework

Our conceptual approach draws on three different but related literatures: (a) ecological theories of social organization and crime, (b) environmental design research on the role of the physical environment in relation to criminal activity, and (c) the work of community psychologists who have focused on the role of community organizations and the fear of crime.

Social organization/disorganization and crime

Building on Kasarda and Janowitz's (1974) systemic model of community social organization, Sampson has developed an ecological model of the relationship between social disorganization and crime that offers a promising start (Sampson 1988, 1991, 1999; Sampson and Groves 1989; Sampson, Raudenbush, and Earls 1997). Within this model, community residents are empowered through their knowledge of and trust in each other to take action against threats and to join with formal organizations such as the police department to improve order in their communities. Factors such as nonresidential land uses, density, and population turnover affect residents' ability to know one another and to observe and intervene in disruptive activities. In this reformulation of social disorganization theory, people have the ability to overcome the disorganizing effects of these conditions. As Sampson and Raudenbush (1999) state: "A theory of collective efficacy...does not render structural constraints irrelevant; rather, it proposes mediating mechanisms while at the same time insisting on an independent role for agency in all corners of the social structure" (613). In moving from the term social organization to the notion of collective efficacy, Sampson acknowledges that his theoretical perspective shares many features of a theory of social capital (2001). The emphasis on agency within structural constraints certainly opens the door to a closer examination of the efficacy of voluntary organizations of the sort that are the topic of this research.

Studies of the social and physical environmental processes associated with both crime and neighborhood disadvantage have begun to reveal that all poor neighborhoods, even those characterized by concentrations of single-parent families and racial minorities, are not equally plagued by high crime rates (Bursik 1988; Kornhauser 1978; Sampson 1988; Sampson and Groves 1989; Sampson, Raudenbush, and Earls 1997; Skogan 1990; Taylor 1996). In a large, sophisticated study of informal neighborhood social organization and violent crime, Sampson, Raudenbush, and Earls (1997) reported significantly lower crime levels and self-reports of victimization in neighborhoods characterized by what the authors called collective efficacy (social cohesion among neighbors, along with their willingness to intervene in neighborhood activities that lead to disorder). Bursik and Grasmick (1993) have identified different types of neighborhood resident control that might account both for crime and fear of crime. Taylor (1997) has linked physical qualities of neighborhood space with informal social control processes in an effort to understand differences in fear of crime. Although these studies are both intriguing and suggestive, their cross-sectional nature leaves open the possibility that higher levels of crime may undermine collective efficacy and promote both social and environmental disorder rather than the other way around.

Neighborhood is the unit of analysis taken as the container of social disorganization (or its opposite, social organization) in Sampson, Raudenbush, and Earls' (1997) theory. Social disorganization is treated as an existing condition that will promote or inhibit crime in a particular area. Social disorganization theory describes neighborhood relationships primarily in terms of the extent to which people monitor and interfere in cases of antisocial behavior. These relationships are viewed as grounded in familiarity with neighbors and shared norms. Sampson, Raudenbush, and Earls (1997) expanded this notion to include willingness to take collective action. However, the degree or type of formal organization involved in collective efficacy is not analyzed. In some of his writings, Sampson identifies participation in formal and voluntary organizations as an aspect of social organization related to social control, but he does not present the organizations themselves as vehicles for action.

Putnam (2000) has developed an index of social capital that includes measures of participation in community organizational life. In his chapter on neighborhood safety, he has shown that this index is related to murder rates at the state level. While the scale of this research cannot really address neighborhood associations formed explicitly to reduce crime and improve community conditions, Putnam (2000) uses the 10-Point Coalition formed in Boston by ministers in order to increase cooperation among police and local residents to reduce crime as an example of the deployment of social capital to obtain a collective goal.

Critics of ecological explanations of neighborhood processes have long pointed to the lack of attention to political and institutional processes. To remedy this problem, Bursik and Grasmick (1993) extended the ecological model to include engagement of neighborhood residents with local institutions, which they labeled the parochial level, and the ability of local organizations to make claims on government and other institutions outside the neighborhood (the public level). Although these authors did not consider building-level social organization, their theory comes quite close to the theoretical orientation underlying our research.

Defensible space, territoriality, and crime

While Sampson dealt with the broader social community of neighborhoods and community areas, other researchers have examined the designed environment as a contributor to opportunities for the development of social organization that could prevent criminal activity. For example, Jacobs (1961) and Newman (1972) both suggested that "defensible space" would serve as a deterrent to criminal activity. More

recently, Perkins, Meeks, and Taylor (1992) have found support for the importance of aspects of defensible neighborhood space in contributing to perceived crime problems.

In contrast to this research, which is usually conducted at the neighborhood scale, our study focused on social organization within multi-unit buildings (Saegert and Winkel 1996, 1997, 1998). As Brown (1987) suggested, within the enclosed spaces of a building, there may be multiple opportunities for the intensification of the social dynamics and social control possibilities that are implicit in Sampson's model of social organization at the neighborhood level. These possibilities may be especially important in poor, high-crime neighborhoods. Taylor (1997) found that personal responsibility for territory is focused especially close to home in more transient, renter-occupied neighborhoods. Using Coleman's (1988) version of social capital theory, shared territory and responsibility for one's home can be seen as two of the characteristics of relationships that promote social capital: closure and commitment. Our previous research (Saegert 1996a, 1996b; Saegert and Winkel 1998) has shown that in buildings owned by residents as limited-equity cooperatives, higher levels of social capital were related to much lower levels of resident-reported crime and physical disorder than in other low-income, minority communities that have been studied (Rosenbaum 1994; Skogan 1990).

Community organization and participation

While Sampson and colleagues have treated social organization as a historically evolved property of neighborhoods, other investigators have been concerned with understanding how community organization and participation develop in different contexts.

Wandersman and colleagues (Wandersman 1979a, 1979b, 1981; Wandersman, Jacubs, and Giamartino 1981) have studied how and why neighborhood residents form organizations to deal with a broad range of neighborhood issues. Holahan and Wandersman (1987) discussed various ways in which intentionally created community organizations might affect crime control, but they drew on very limited empirical evidence. In an extensive empirical study of these questions involving 1,081 residents of 48 blocks in New York City and 469 block association members, Perkins et al. (1990) reported that participation in block associations was more likely to occur in neighborhoods experiencing problems with the physical environment (e.g., poorly maintained properties), those having residents who neighbored extensively with one another, and those having properties with few external barriers (fences or high shrubbery). However, participation in block associations seemed

unrelated either to reported crime or to fear of crime. The authors concluded that efforts to organize neighborhoods around crime may not be the most effective approach. Rather, participation appears to be related to a broader range of potential environmental and social benefits for the residents. However, whether participation in such voluntary organizations contributes to a reduction in crime at the neighborhood level remains an open but promising question (Rosenbaum 1994).

Two studies are relevant to community organization and participation at the building level. Keyes's (1992) investigation of strategies for combating crime in subsidized housing emphasized the role of local "saints," dedicated residents, organizers, or housing managers who confronted drug dealers and faced off troublemakers, rather than the importance of broad-based social organization. Within the public housing he studied, management functions such as resident selection, rule-setting and enforcement, and eviction contributed to overall housing viability as well as safety.

In a case study of three community development corporations (CDCs), Briggs and Mueller (1997) found that tenant associations were rarely self-sustaining and instead required repeated member training by the CDC. They also discovered that residents of the one CDC that invested in organizing against crime at the neighborhood level and the one that trained tenants in cooperative management both felt safer. However, only residents of the one CDC that reported explicit neighborhood anti-crime organizing reported lower levels of personal victimization. Like Keyes, Briggs and Mueller (1997) gathered ethnographic evidence that highlighted the role of individual saints as more significant in combating crime than general social cohesion or collective efficacy. However, their survey data showed that the neighborhoods in which saints were active and effective were also characterized by larger, more engaged social networks among residents.

Interesting questions remain concerning the interplay of individual actions, the social context in which they occur, and the potential effectiveness of organized participation for crime prevention, an issue that will be examined in this study, albeit at the scale of individual buildings.

Conceptual approach to the current study

This study builds on the theories described above in several ways. First, formal organizations of residents in poor communities are expected to play a crucial role in controlling social disorder by facilitating communication, bolstering commitment, and providing closure. Formal organizations also provide arenas for the development of leadership, shared goals,

and the ability to work effectively with one another (Saegert and Winkel 1996). Second, legal structures defining ownership are seen as encouraging or discouraging the formation of such associations (in this case, tenant associations) and as influencing the ability of individuals and, more important, formal organizations to control social disorder. The importance of ownership is underscored by the work of Rohe and Stewart (1996), who proposed a model that predicted a path from homeownership to the development of social capital. Social capital was used to maintain property and leverage benefits from government and other institutions, resulting in better neighborhood conditions, more resident satisfaction, longer tenure, and higher property values. Rohe and Stewart (1996) used census data to link higher rates of homeownership to longer tenure and higher property values. However, they did not measure their intermediate constructs of social capital, property maintenance, demands on city services, resource flow to the neighborhood as a result of these demands, or neighborhood conditions and resident satisfaction. While their study provides a weak test of their theory and focused on owners residing primarily in single-family housing, their model appears applicable to multi-household cooperative ownership as well.

Bursik and Grasmick (1993) have also identified local institutions and their relationships with public and other nonlocal institutions as critical for safety at the neighborhood level. At the building level, the kinds of organizations that are important and the ways they relate to extra-local agencies and institutions are expected to be different, but nonetheless important.

Focusing on the level of multifamily residential buildings brings additional ecological factors into play. Unlike the ambiguous concept of the "neighborhood," buildings define boundaries and inhabitants by their physical form. Buildings have the potential for controlled access through visitor-screening mechanisms. In addition, Taylor (1997) has documented that people's sense of security, control, and responsibility is centered in the home and declines as they move away from it.

In multihousehold buildings, common building services (for example, heat and water) mean residents share fates to a greater extent. When tenants form a voluntary organization to control social and physical disorder, as well as to improve living conditions in the building, their common residence supports shared awareness of problems and coordination of action. Moreover, unlike most neighborhoods (with the possible exception of gated communities), most multiunit buildings are subject to a single ownership and management structure.[1] Unlike single-family

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[1] Condominiums, of course, are an exception, but even in that case some shared covenant must govern the common spaces and shared walls, roofs, and building systems.

housing in which ownership and management are usually isomorphic, multihousehold buildings may have resident ownership but management through another entity. Alternatively, a community group may purchase a building but encourage the residents to manage it themselves. Or the community group may choose to manage the building as well. A government agency may own the building and regard resident management with indifference, support, or even hostility. These differences in ownership and management are likely to have direct implications for the nature and extent of resident social organization.

In prior work, Saegert and Winkel (1996, 1997, 1998) have shown that differences in ownership and management structures are systematically linked to the nature and extent of the social organization within the buildings in the present study. The level of within-building social organization resulted from a number of different factors, including individual tenant demographic characteristics, within-building age and gender mixes, and sources of income. However, a central element involved having opportunities to take control of one's housing. Saegert and Winkel (1997, 1998) showed that ownership structures that allowed for tenant control of housing were associated with higher levels of within-building social capital. The highest levels of social capital occurred in cooperative ownership, followed by community group ownership. Ownership by a city agency and ownership by private landlords were associated with low levels of social capital.

Although we have treated social capital as a unitary construct, we do not find this conceptualization adequate to describe social organization in multifamily buildings. Saegert and Winkel (1997) identified four factors representative of social capital dimensions within low-income housing contexts: basic participation in tenant association activities; informal social relationships with other building residents; formal participation in building leadership, management, and maintenance; and prosocial norms in which residents reported that other residents contributed to the building's social organization and physical and financial well-being. (Prosocial norms are relationships similar to those that Sampson and Raudenbush [1999] described as social cohesion and collective efficacy.) Informal social relationships and prosocial norms often existed to some extent before efforts to become tenant-owned cooperatives, but the experience of working toward ownership and then the demands of collective ownership reinforced these relationships and legitimated their use to control space (Leavitt and Saegert 1990).

Leavitt and Saegert's (1990) observations raise interesting questions about the relationships among the different social capital factors.

Qualitative data (Saegert and Imbimbo 1996) suggest that prosocial norms have a reciprocal relationship with basic tenant participation and formal leadership activity. Initially, at least moderately high levels of prosocial norms are required to establish the basic trust and cooperation that make the formation of a broadly based, active tenant association possible. Once basic participation increases, problem-solving interactions among tenants tend to generate even higher levels of prosocial norms, as well as maintain high levels of basic participation in building activities.

Formal leadership activity is often required to begin the process of bringing people together for tenant meetings, thus sometimes preceding both basic participation and a rise in prosocial norms. But then the role of formal leadership changes. Once an active tenant association has functioned effectively over time, building leaders may find themselves carrying more of the burden of coping with building problems if tenant participation wanes. At that point, prosocial norms may become more a set of assumptions among tenants than a reflection of actual interactions, particularly when the neighborhood crime context requires less day-to-day tenant vigilance (as it would in a low-crime neighborhood). This reduction in vigilance might actually make buildings more vulnerable to crime because residents assume that things are under control.

To fully understand the interrelationships among social capital factors would require much more extensive longitudinal research. From cross-sectional research (Saegert and Winkel 1998), we do know that higher levels of social capital were directly related to improved building quality, greater building security, and increased participation in community organizations, some of which were involved in crime-prevention efforts. While greater within-building social capital was shown to result in lower resident reports of crime within the building, the relationship was far from perfect (Saegert and Winkel 1998). A possible reason might have been that crime in the surrounding neighborhood, which varied across buildings, might have spilled over into the buildings themselves. Therefore, this study examined the relationships between criminal activity at the building and neighborhood levels. More specifically, the study was concerned with whether any association between building crime and neighborhood crime might be moderated by within-building social organization after controlling for relevant demographic, ownership, and management structures. In addition, it was possible that resident reports of crime in the building were subject to biases related to the measurement of social capital in the same survey. Thus, an independent measure of building crime was desirable. The design of the present study addressed these questions.

Methodology

Databases for the research

Two major databases were used in this research. The first of these involved an extant database on tenant organizations and building conditions in Brooklyn, NY. The second source was the computerized records of reported crime gathered by the New York City Police Department (NYPD).

The housing database

For the past 15 years, the Housing Environments Research Group (HERG), directed by Susan Saegert and located at the Graduate School of the City University of New York, has been conducting research on low-income housing in New York City. In particular, attention has been focused on the large stock of housing the city of New York owns as a consequence of landlords' failure to pay property taxes (*in rem*[2] housing). New York is somewhat unique with regard to the treatment of these distressed properties in that the City took ownership and developed a wide variety of programs to transfer this ownership to tenants, new private landlords, community groups, or, in a short-lived program, the New York City Housing Authority. Buildings taken by the City in lieu of taxes are designated as belonging to the Department of Property Management (DPM). New owners for these buildings are found through the efforts of the Division of Alternative Management Programs (DAMP). Buildings sold through DAMP are designated by the program through which they were sold. Co-ops were sold to tenants through the Tenant Interim Lease (TIL) Program. (This was the only sales program operating at the time of the study, so some buildings were still in the transfer program and are designated as TILs, while others had completed the transfer and became Housing Development Finance Corporations (HDFCs).) Buildings sold to landlords went through the Private Ownership and Management Program (POMP); the Community Management Program (CMP) sold buildings to community organizations; and the Housing Authority Rehabilitation Program (HARP) sold buildings to the New York City Housing Authority. At the time of the survey, not all buildings had entered the DAMP program. Those still owned by the city are called DPM Central buildings in the analyses that follow.

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[2] *In rem*, Latin for "against the thing," is the legal action under which New York City brings a foreclosure action against privately owned buildings. The buildings themselves are usually referred to as *in rem* buildings.

Survey data were drawn from interviews with 2,985 residents living in 487 buildings in Brooklyn, NY, between May and November 1994. Buildings were either held by the City or had been sold through one of the programs noted above, and ownership forms were coded from City records of ownership transfer.

The *in rem* housing stock is concentrated in the poorest neighborhoods and housed the poorest residents (Blackburn 1995). For *in rem* tenants, incomes in 1992 averaged $6,420, down 14 percent from 1990. Almost 70 percent of the households reported incomes below the poverty level. Average incomes for residents of public housing and for all renters were $7,800 and $19,000, respectively. Tenants were overwhelmingly African American and Latino, as are the neighborhoods where the stock is concentrated.

Nine Brooklyn, NY, neighborhoods (defined as community districts[3]) with the largest number of currently and formerly *in rem* units for that borough were selected for study. While the preponderance of the sample was located in very poor neighborhoods, especially the Bedford-Stuyvesant area, the sample included buildings in areas that have received an influx of higher-income residents, for example, artists who have moved into Greenpoint-Williamsburg and Caribbean and Asian immigrants in a number of other neighborhoods. A handful of buildings were located near affluent areas, usually on an industrial border.

A 15 percent random sample of buildings still owned by the City was drawn from a list of *in rem* buildings. To have a large enough sample of buildings in different sales programs to permit analysis, a 100 percent sample of these buildings was attempted in the first five community districts surveyed. Thereafter, funding limitations forced a reduction to a 65 percent random sample. Random samples were drawn from within community boards proportionally for programs. One- and two-unit buildings were excluded as inappropriate for a study of interhousehold social processes.

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[3] A community district is a local governmental unit run by a district manager and an appointed community board. Although the boards have limited formal powers, they are a unique neighborhood forum for debating political issues that affect communities. They are also the units used to develop neighborhood housing needs assessments for the Consolidated Housing Assessment of Needs. Many types of housing and neighborhood data are aggregated at this level.

During the late spring, summer, and fall of 1994, community surveyors administered these multilingual instruments in face-to-face interviews.[4] The two-page survey included demographic and income information, as well as items used to construct the four social capital factors (see Saegert and Winkel 1997 and 1998 for greater detail).

The neighborhood crime database

The data obtained from the NYPD covered a six-month period from June to November 1995.[5]

Because the building addresses from the housing interviews were geocoded, it was possible to match addresses to crimes recorded by the NYPD in each of the buildings for the six-month period for which we had crime data. These data, then, served as the prospective information used to determine whether different levels of social organization would have any effect on within-building crime six months to a year after the interviews had been completed. The data also allowed an analysis of whether the neighborhood crime context interacted with building-level social organization. For example, did levels of social organization within the building influence within-building crime more or less when crime

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[4] Each of eight community organizations provided a coordinator who recruited and supervised surveyors for a particular area. In all, 50 surveyors were recruited and trained. HERG staff trained and supervised the coordinator and provided initial training sessions for the surveyors. Additional training was provided by the coordinator in small-group sessions. Coordinators checked surveys for completeness and discussed any problems with surveyors. HERG staff also checked each survey for problems. Surveyors received $3 per survey for the first 20, then $3.50 per survey for the rest. Surveyors were identified with a photo ID and carried clipboards. Community groups sent flyers to buildings to be surveyed before surveyors made their door-to-door calls.

[5] The choice of a six-month period of building crime was based on a tradeoff between two issues: the stability of the building crime data and the stability of the social organization in the buildings included in the study.

 With regard to the stability of the crime data, ideally, we would have used crime data from the NYPD shortly after the interviews were completed in fall 1994. However, the NYPD did not begin to use the COMPSTAT (computer comparison statistics) program to computerize crime information until June 1995, and our contact at the department would not vouch for the accuracy of the data before the introduction of the computerized system.

 Once the COMPSTAT system was operational, we thought that if we used a year of building crime data, we would be less confident about the stability of the social organizations in the buildings under study since, in some instances, the crime data would have been gathered 18 to 24 months after the interviews were completed. However, we are mindful of reviewer concerns about the stability of both the building crime data and building organization 6 to 12 months after the interviews were completed. We will address these concerns when we report our results.

was high in the surrounding neighborhood? To establish the neighborhood crime context for within-building crime, NYPD data on the surrounding area were employed, thus establishing neighborhood crime measures linked to each building.

To conduct the analyses described below, the crime data supplied by the NYPD, as well as the addresses provided by HERG, were first geocoded using an address associated with each event and building. A TIGER (Topologically Integrated Geographic Encoding and Referencing System) street file produced by the Department of the Census containing street names and addresses was used to locate the crimes and *in rem* housing structures in Brooklyn, NY.

Once geocoded, the crime data were further transformed using a procedure called kernel smoothing, which served to calculate the density of criminal activity over space.[6] This technique allows one to calculate the density of the activity of interest (in this case, various kinds of crimes). Neighborhood crime was measured by constructing a zone around each building.

The size of the zone surrounding each grid cell whose center was the building being considered is known as the "bandwidth" and has a large impact on the analysis. The larger the bandwidth, the smaller the variation of density over space, and the smaller the bandwidth, the larger the density variation over space. A bandwidth of 10 miles (Brooklyn, NY, is only 8 miles across) would cause every crime to be counted in the density calculation of every cell, providing a uniform density value across Brooklyn, while a bandwidth of 100 feet would produce a huge range of density values, from zero in some areas to very high numbers in others. In this analysis, three to four different bandwidths were evaluated for each crime: 500 feet, 1,000 feet, and 1,500 feet for assault, auto theft, burglary, grand larceny, and robbery; in addition, a 3,000-foot bandwidth was considered for rape and homicide, because of the

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[6] To calculate the density of criminal activity, the software program must first place an arbitrary grid over the area of interest. The size of the grid cells are determined by the user, and smaller cell sizes produce smoother, more accurate maps. In our case, we asked the program to place a two-dimensional grid over the borough of Brooklyn with a cell size of 50 feet. This size was chosen to approximate the size of a city building.

   The program uses the grid as a starting point for the analysis and the display of the results. In effect, it creates a buffer zone around each individual grid cell, counts the number of points within the buffer zone, divides this number by the area of the buffer zone, and then assigns this density value to the grid cell. Using this technique, the same crime could be included in the density calculation of several grid cells, depending on the size of the buffer zone used in the analysis. Also, the technique we employed was slightly more complicated because it weighted points closer to the center of the cell, making them slightly more important than more distant points.

rarity of these crimes. Because a city block is approximately 500 feet on each side, these values could also be thought of as one city block, two city blocks, three city blocks, and six city blocks.

Once the crime density had been assigned to each grid cell, this value could then be linked to the building occupying that cell. This allowed an analysis of the relationship between the characteristics of different types of *in rem* housing and crime density in the immediate neighborhood zone around every building.

As noted earlier, our indicator of crime within the building involved matching the building addresses from the resident interviews to the building addresses in the six months of NYPD data. We searched the NYPD data for any addresses that matched exactly any of the addresses in our interview protocols and simply tallied the number of crimes associated with each specific building over the six-month period. This constituted our measure of within-building crime.

Preliminary analyses

The analyses in this article were conducted at the building level. This choice was guided by several considerations. The phenomenon of interest (crime within the building) occurs at the building, not the individual, level. Furthermore, the social capital variables, while based on individual data, are more appropriately thought of as contextual variables that characterize the building itself.

As a consequence of this decision, both the demographic and social capital data were aggregated to the building level, making it necessary to establish the reliability of the individual items to be aggregated. For this task, the generalizability coefficient (O'Brien 1990) was employed.[7] Following the approach taken by Coulton, Korbin, and Su (1995), aggregate measures having generalizability coefficients above 0.4 were used in the subsequent analyses. The final number of buildings involved in the analyses ranged from 437 to 448.[8] In the aggregated building survey

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[7] Perfect aggregate reliability would be achieved if the coefficient reached 1.00. Higher coefficients can be expected when there are larger differences on the individual measures among aggregate units (in this case, buildings) and smaller differences among respondents within units (buildings).

[8] While there were 487 buildings in the original sample, we chose to focus only on those buildings in five major city programs (those having enough buildings to yield reliable estimates of the parameters of interest): DPM Central, TIL, HDFC, POMP, and CMP. This decision yielded a sample of 448 buildings. However, in many analyses, missing data resulted in an effective sample size of 437 buildings.

data, there were unequal numbers of respondents in each of the buildings. Because this situation can create heterogeneity of error variances, before analysis, the aggregated building variables were weighted by the reciprocal square roots of the number of respondents.

Preliminary inspection of the frequency distributions for neighborhood crimes using the NYPD data indicated that the rates for each of the crimes (assaults, burglaries, and so on) were essentially flat. These data were rounded to the nearest whole number, and then the distribution was recoded into six groups. So, for example, if the burglary rate was between 0 and 160 burglaries, this range was coded 1 (and would represent neighborhoods having the lowest burglary rates). The range between 161 and 215 burglaries was coded 2, and so on. The sixth group represented neighborhoods with the highest burglary rates. Each group contained approximately the same percentage of total crimes (16.67 percent) and these added up to 100 percent for the six groups. This strategy effectively reduced the heterogeneity of variance encountered when ungrouped neighborhood crimes were used as outcomes in various analyses.

Graphical inspection of the resulting crime distributions against the outcomes being used indicated that the regrouped distributions using a 1,000-foot boundary around each building (two city blocks) for assaults, burglaries, and robberies and a 3,000-foot boundary (six city blocks) for homicides and rapes related more clearly to the outcomes of interest in this study, and these regrouped distributions were used in all subsequent analyses unless otherwise noted.

Summary measures of building and neighborhood crime

Two summary measures of crime within the building were used in two different analytic models. The first examined total crime for each building address (the simple sum of homicides, assaults, rapes, robberies, and burglaries). In the second model, we confined our attention solely to crimes against the person at the exact building address (the simple sum of homicides, assaults, rapes, and robberies).[9]

To provide indicators of the neighborhood crime context, two summary indices of crime outside the building paralleling the within-building measures—total neighborhood crime and neighborhood crimes against

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[9] In the context of within-building crime, the only property crime involved burglary. Given that this was the only indicator of crime against property, we thought that the relatively small numbers would preclude analyzing building-level burglaries beyond providing descriptive information.

the person within two to six blocks around the building but not in the building—were also created.

Inspection of the distribution of crimes within the building revealed extreme positive skewness. Given this extreme skewness and the fact that the two within-building crime indicators involved count data, the SAS Generalized Linear Models program (PROC GENMOD) was used for the analyses that follow. The program was instructed to use a Poisson distribution with an associated log link function. The log of the number of residential units in each program was used as an offset, since the average number of residential units in the buildings in each program differed systematically and in a known way. In those instances in which there were dispersion problems, the dispersion was modeled using the square root of the deviance divided by the denominator degrees of freedom as a scaling parameter (Collett 1991).

Analytic strategy

In a previous article (Saegert and Winkel 1998), hierarchic weighted least squares regression was used to understand how social capital factors influenced building quality, security, and reported building crime. The goal of that approach was to understand whether within-building social capital factors either contributed to building assessments or mediated the effects of demographics, building income streams, and city programs. In the present study, additional variables describing total neighborhood crime and crimes against the person at the neighborhood scale have been included to determine whether social capital factors might interact with (or moderate) these neighborhood crime contexts either by protecting residents from or exposing them to more crime within the building. To assess both mediator and moderator effects[10] of neighborhood crime context and social capital factors on within-building crime against the person, a generalized linear models approach (McCullagh and Nelder 1989) was adopted. Within this framework, we entered variables into our analyses in a manner similar to that employed in hierarchic regression.

First, demographic factors that have been identified in the literature as having negative (positive) effects on the quality of neighborhood life

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[10] For the distinction between mediator and moderator variables, we rely on Baron and Kenny's work (1986). In that paper, mediator variables are considered to be third variables that are assumed to represent the process by which an explanatory variable influences the outcome of interest. By contrast, a moderator variable would be considered as an interaction term in the analysis of variance context.

and, by extension, building life were entered,[11] accompanied by four variables representing sources of income for building residents (percentage of people receiving Social Security, percentage having jobs, percentage receiving public assistance, and percentage receiving Section 8 rental assistance), since these might have implications for building security. Second, dummy variables representing the five city housing programs were entered into the equation. Third, a single variable representing the relevant neighborhood crime context in the area immediately around each building was added. In the fourth step, the main effects of the four social capital factors were included. In the final step, first-order interaction terms representing each of the social capital factors crossed with crime at the neighborhood scale were entered.

Results

Descriptive and background analyses

Tables 1 through 4 contain the descriptive statistics for the building-level demographic variables, social capital factors, NYPD neighborhood crime data, and NYPD data on reported building crimes.

The demographic results indicate that the percentage of residents earning less than $10,000 a year is rather high (62.65 percent) and that their educational attainments are limited. A large percentage of households are headed by women (80.07 percent). Residents are more likely to be middle-aged, to have few children under the age of 18, and to have lived in their buildings for some time (10 years on average). A rather large percentage of the residents have experienced homelessness (40.78 percent), and a modest number (37.16 percent) are receiving public assistance.

To provide a further context for the analyses to be presented below, the distribution of ownership and management structures represented by city housing program across levels of total neighborhood crime and neighborhood crime against the person were examined separately to determine whether some programs were located in higher- or lower-crime areas. There were statistically significant differences by program, both for total neighborhood crime ($F = 7.58$; $df = 4,443$; $p < 0.0001$)

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[11] These variables included the percentage of building residents earning less than $10,000 a year (a poverty measure), a measure of the building's ethnic diversity (a low number indicates racial homogeneity while a high number represents racial heterogeneity), the average educational attainment of building residents, average length of residence, percentage of female-headed households, and percentage of residents who were formerly homeless.

and neighborhood crime against the person (F = 9.44; df = 4,443; p < 0.0001). In both analyses, posthoc tests using the Tukey-Kramer adjustment for multiple comparisons indicated that buildings still owned by the city (DPM Central), those still in the TIL program, and those owned by private landlords were located in significantly higher-crime neighborhoods (using either total neighborhood crime or crimes against the person as the outcome) than buildings that had been sold through TIL to become co-ops (HDFC) or through CMP to community groups.

Earlier (in footnote 5), we discussed our decision to use 6 months of police department data for the building crime outcomes. To address the concern that 6 months might not be enough to provide a reasonable degree of stability and representativeness in our building crime indicators, we employed items in our resident interviews measuring residents' perceptions of crime in their buildings. We thought that if there is stability and representativeness in the 6 months of data provided by the NYPD, then resident perceptions of building crime (presumably covering a broader temporal range of experience) would be related to the police data on building crime measured 6 to 12 months after the interviews. Residents' perception of crime in the buildings was associated with total building crime measured by the NYPD data (Wald chi-square = 5.77; df = 1,445; p = 0.0163) and crimes against the person within the building (Wald chi-square = 20.96; df = 1,445; p < 0.0001).

Table 1. **Descriptive Statistics for Aggregate Demographic and Building Characteristics**

	Aggregate Mean	Aggregate Standard Deviation
Percentage earning less than $10,000 a year	62.65	32.08
Ethnic diversity of the building	0.45	0.38
Average building density: Number of residential units	13.46	11.97
Average education	3.66[a]	0.83
Average length of residence in years	10.08	5.98
Percentage of female-headed households	80.07	25.92
Average age	3.63[b]	0.87
Average number of children under 18	1.45	0.89
Average percentage who have experienced homelessness	40.78	55.05
Percentage receiving Section 8 housing assistance	17.58	27.73
Percentage employed	41.87	33.64
Percentage receiving pensions	3.09	9.55
Percentage receiving Social Security	15.47	23.00
Percentage receiving public assistance	37.16	31.99

[a] 3 = some high school; 4 = high school graduate.

[b] 3 = 31 to 40 years old; 4 = 41 to 50 years old.

Table 2. **Descriptive Statistics for Social Capital Items and Summary Scores**

	Aggregate Mean	Aggregate Standard Deviation	Generalizability Coefficients
Factor I: Informal Building Participation Items			
1. Do you ever organize social functions or parties in the building? (0 = never; 2 = often)	1.26	0.350	0.49
2. Do you help with any maintenance work or cleaning chores that need doing in the building? (0 = never; 2 = often)	1.66	0.527	0.66
3. Do you ever do things for other people in your building, like shopping for groceries, sharing meals, watching children, or otherwise helping out? (0 = never; 2 = often)	1.58	0.460	0.94
Factor II: Perceived Prosocial Norms Items			
4. How many tenants keep the building clean? (0 = none; 4 = most)	1.87	1.102	0.96
5. How many tenants pay their rent? (0 = none; 4 = most)	2.90	1.110	0.93
6. How many tenants help each other? (0 = none; 4 = most)	1.93	1.035	0.89
7. How many tenants look out for others' children? (0 = none; 4 = most)	1.93	1.056	0.89
Factor III: Formal Leadership Activity Items			
8. Have you ever been a building leader? (0 = never; 2 = often)	0.417	1.36	0.93
9. Have you ever served as an officer (president, treasurer, chairperson, etc.) of your tenant association or other organization related to your building? (0 = never; 2 = often)	0.251	0.380	0.94
10. Have you ever served as a member of a committee working on some aspect of your building? (0 = never; 2 = often)	0.274	0.356	0.96

Table 2. **Descriptive Statistics for Social Capital Items and Summary Scores**
(continued)

	Aggregate Mean	Aggregate Standard Deviation	Generalizability Coefficients
11. Have you ever represented your building in an official meeting (such as a neighborhood meeting)? (0 = never; 2 = often)	0.238	0.333	0.96

Factor IV: Basic Participation Items

12. Do you participate in a tenants group? (0 = never; 2 = often)	1.57	0.611	0.94
13. How frequently are tenants' meetings held? (0 = never; 4 = at least monthly)	1.78	1.54	0.94
14. How many tenants participate in the tenants' group? (0 = none; 4 = most)	1.47	1.205	0.89

Summary Statistics for the Social Capital Factors	Mean	Standard Deviation
Basic participation	3.96	2.60
Tenant prosocial norms	9.17	3.84
Formal participation	7.24	3.58
Informal participation	4.33	1.06

Table 3. **Summary Descriptive Statistics for Neighborhood Crime Categories (NYPD)**

	Mean	Standard Deviation
Homicide rate (3,000-foot perimeter, ungrouped)	5.53	4.48
Homicide rate (3,000-foot perimeter, grouped)	3.60	1.63
Assault rate (1,000-foot perimeter, ungrouped)	194.86	115.77
Assault rate (1,000-foot perimeter, grouped)	3.47	1.68
Rape rate (3,000-foot perimeter, ungrouped)	12.77	6.79
Rape rate (3,000-foot perimeter, grouped)	3.55	1.72
Burglary rate (1,000-foot perimeter, ungrouped)	280.86	133.58
Burglary rate (1,000-foot perimeter, grouped)	3.42	1.66
Robbery rate (1,000-foot perimeter, ungrouped)	283.93	157.41
Robbery rate (1,000-foot perimeter, grouped)	3.42	1.68
Total neighborhood crime rate (ungrouped)	3,046.59	1,291.18
Total neighborhood crime rate (grouped)	80.65	26.16

Table 4. **Frequency of Actual Building Crimes (NYPD Data)**

Number of Crimes	Homicides	Assaults	Rapes	Burglaries	Robberies
0	448	422	446	411	437
1	1	24	3	35	10
2	0	3	0	2	1
3	0	0	0	0	0
4	0	0	0	1	0
5	0	0	0	0	0
6	0	0	0	0	0
7	0	0	0	0	1

Note: Numbers in the cells represent the number of buildings that experienced a crime. For example, there were 422 buildings in which no assaults occurred, 24 buildings in which one assault occurred, and 3 buildings in which two assaults occurred.

Mediator and moderator tests of the effects of social capital on within-building crime

Total building crime. Table 5 presents the results for total within-building crime. The first panel summarizes the results for the demographic variables. There it can be seen that two demographic variables predicted within-building crime. Buildings with a higher percentage of female-headed households had significantly less within-building crime. However, buildings housing more formerly homeless residents had significantly higher levels of within-building crime. The analysis in which building residents' sources of income was entered indicated that within-building crime was not related to any of these variables (they are not included in table 5). The second panel summarizes the results when city program was entered.[12] There, it can be seen that total within-building crime was significantly lower in tenant-owned and -managed buildings (TIL and HDFC) and in buildings owned by community-based groups (CMP) than in buildings still owned by the City of New York.[13] In addition, crime in buildings owned by private landlords was not significantly different from crime in city-owned buildings. This analysis also showed that buildings having higher percentages of residents receiving Social Security had lower within-building crimes, an effect that became increasingly stronger as the analysis progressed. We think that this was due to increased stability in the buildings as a function of a steady source of income.

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[12] The vector representing buildings still under New York City ownership served as the reference vector to avoid rank deficiency problems in the analysis.

[13] During this analysis, one of the sources of income variables—the percentage of residents receiving Social Security—also became significant.

Table 5. **Within-Building Crime in the Context of Total Neighborhood Crime**

	Demographic Predictors	Effects of City Program	Effects of Neighborhood Crime	Effects of Social Capital	Moderating Effects
Income under $10,000	0.010 (0.006)	0.005 (0.006)	0.005 (0.006)	0.006 (0.007)	0.012 (0.007)
Ethnic diversity	−0.706 (0.662)	−1.088 (0.674)	−1.686***** (0.657)	−1.784*** (0.673)	−1.570** (0.700)
Average educational level	−0.170 (0.164)	−0.162 (0.207)	−0.323 (0.209)	−0.281 (0.227)	−0.158 (0.220)
Average length of residence	−0.013 (0.041)	0.012 (0.033)	0.032 (0.030)	0.088* (0.046)	0.060 (0.046)
Female-headed household	−0.384***** (0.109)	−0.277*** (0.104)	−0.182* (0.098)	−0.323*** (0.107)	−0.340*** (0.105)
Percentage formerly homeless	0.010***** (0.003)	0.008**** (0.003)	0.006* (0.003)	0.013***** (0.004)	0.011*** (0.004)
Percentage receiving Social Security	—	−0.147* (0.084)	−0.274**** (0.088)	−0.361***** (0.094)	−0.344***** (0.097)
Total neighborhood crime	—	—	0.115***** (0.019)	0.104***** (0.019)	0.045 (0.053)
DPM	—	−3.279 (0.320)	−3.496 (0.301)	−4.530 (0.744)	−5.320 (0.708)
TIL	—	−2.412* (1.312)	−2.429** (1.239)	−1.495 (1.259)	NS
HDFC	—	−3.004**** (1.068)	−2.216** (1.016)	−1.469 (1.079)	NS
POMP	—	0.410 (0.552)	0.683 (0.576)	0.975* (0.584)	1.106** (0.548)
CMP	—	−2.504**** (0.811)	−1.434* (0.765)	−1.108 (0.867)	NS
Basic participation	—	—	—	−0.602* (0.322)	−0.722** (0.327)
Tenant prosocial norms	—	—	—	−0.060 (0.064)	−0.016 (0.067)
Formal participation	—	—	—	−0.001 (0.094)	−0.124 (0.106)
Tenant prosocial norms by total neighborhood crime	—	—	—	—	−0.028*** (0.011)
Formal participation by total neighborhood crime	—	—	—	—	0.026* (0.015)

Note: Standard errors for the regression parameters are in parentheses. NS = not significant.
*$p \geq 0.05$ to ≤ 0.10. **$p < 0.05$. ***$p < 0.01$. ****$p < 0.005$. *****$p < 0.001$.

The third panel reveals that total neighborhood crime had a very significant impact on total within-building crime. Buildings located in neighborhoods with higher overall crime rates experienced more within-building crime. In addition, buildings having greater ethnic diversity had fewer within-building crimes. The entry of the social capital factors can be seen in the fourth panel.[14] A number of interesting changes can be observed at this point.

First, of all the social capital main effects, only basic participation in building activities through a tenant association was significant: Buildings in which residents participated in tenant association activities had lower within-building crime. Next, the previously significant program effects for TIL, HDFC, and CMP were no longer significant, indicating that program effects on crime were being mediated by basic participation.[15] In addition, a marginally significant effect for crime in buildings owned by private landlords (POMP) appeared, indicating that there was more crime in these buildings than in buildings still owned by the city. This effect may be attributed to the fact that landlord-owned and -managed buildings present very few opportunities for residents to become involved in building activities.

The final panel of table 5 summarizes moderating effects. First, it should be noted that basic participation in tenant associations continues to be a significant main effect. There is a moderator effect (Wald chi-square = 6.93; $df = 1,374$; $p = 0.008$) for tenant prosocial norms and a marginally significant effect for formal leadership participation (Wald chi-square = 2.89; $df = 1,374$; $p = 0.089$) as they interact with total neighborhood crime.[16]

Figure 1 graphically represents the interaction effect for tenant prosocial norms. In neighborhoods one standard deviation above the mean on total neighborhood crime, stronger prosocial norms were significantly related to fewer within-building crimes ($p = 0.0399$). Despite the apparent crossover in the graph, the effect of prosocial norms on building crime in neighborhoods one standard deviation below the mean on total neighborhood crime was not significant ($p = 0.1626$).

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[14] Informal participation was not significant in any of these analyses and to conserve space, the parameter estimates are not reported.

[15] The same results were obtained when basic participation was the only variable assessing social capital main effects. This indicates the central role that this factor plays in understanding social capital in low-income buildings.

[16] When we run the model removing the nonsignificant effects for average length of residence and average education, the p value for the tenant prosocial norms interaction becomes 0.003, and it equals 0.055 for formal participation.

Figure 1. **Tenant Prosocial Norms and Total Neighborhood Crime**
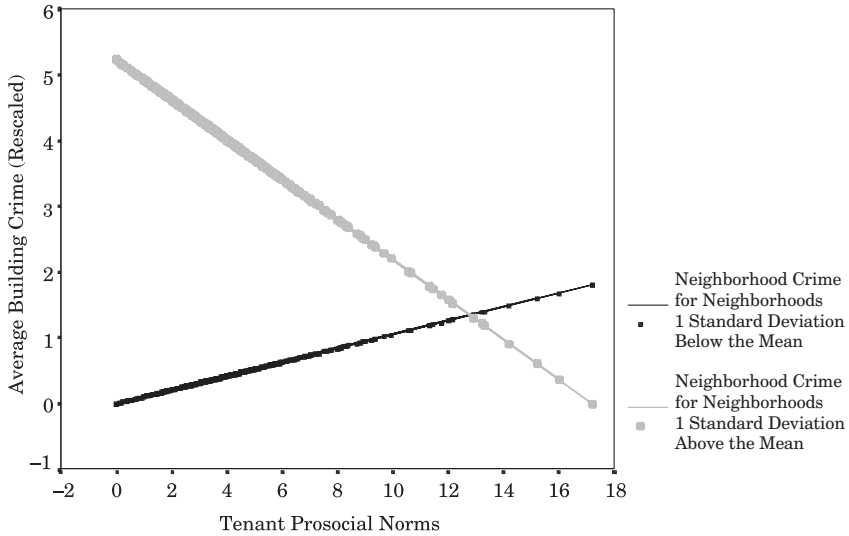

Figure 2 presents the results of interaction between total neighborhood crime and formal participation. The apparent positive relationship between formal leadership and building crime in neighborhoods one standard deviation above the mean on crime is actually statistically insignificant ($p = 0.9207$). In neighborhoods one standard deviation below the mean on crime, building crime decreased as formal participation increased ($p = 0.0736$).

Figure 2. **Formal Participation and Total Neighborhood Crime**
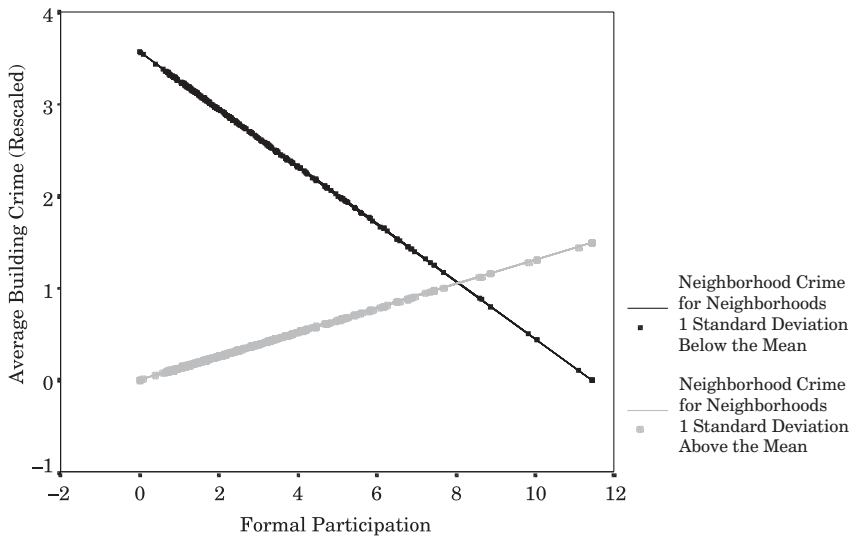
While these findings support our conceptual framework, we wished to examine two objections that might be raised about any conclusions we might draw. The first is related to the possibility that the one building having seven robberies (see table 4) might represent an outlier that exerted too much influence on our results. To test this possibility, we reran our analyses removing that building. While there were changes in the Wald chi-squares and probability values, all the previously significant variables continued to be significant, and the signs on the parameters remained the same. The only substantive change was that one other demographic variable became significant. Buildings housing a greater percentage of residents earning under $10,000 a year experienced higher within-building crime.

The second objection could be that there were changes in building social organization between the time of the interviews and the period in which the NYPD data were gathered, because of either internal social dynamics or resident turnover. Of course, we have no data on changes in social dynamics, but we did examine residential turnover as a function of city program. With one exception, there were no significant differences by city program. Residents of buildings in the HDFC program were more permanent than residents of the remaining four city programs (HDFC mean = 13.24 years versus 9.84 years for residents in the other programs). More than 90 percent of all residents in all city programs have lived in their buildings for 2 years or more. Median years of residence ranged between 8 and 13 years. Thus, to the extent that changes in social capital are partially a function of residential turnover, we think that whatever changes in social capital occurred between the end of the interview period and the end of the six-month period of NYPD data were probably not great. However, we recognize that it will be necessary to test this assumption in future research.

Crimes against the person. Examination of within-building crimes against the person by city program revealed that residents living in the tenant cooperatives in the TIL Program experienced no crimes against the person (at least involving the police), even though they lived in neighborhoods having some of the highest rates of crime against the person. These residents did, however, experience building burglaries. Having no crimes against the person meant that our analysis of this outcome could not include the TIL Program as an explicit variable, since it yields infinite likelihoods as well as infinite parameter estimates and standard errors. Therefore, the vector representing the TIL Program served as the reference vector to avoid rank deficiency problems in the analysis and allowed us to include TIL indirectly in the model. Table 6 summarizes the results of this analysis. Since the measure of crimes against the person is largely the same as total building crime (without burglary, of course), we will report only similarities and

Table 6. **Within-Building Crime against the Person in the Context of Neighborhood Crimes against the Person**

	Demographic Predictors	Effects of City Program	Effects of Neighborhood Crime	Effects of Social Capital	Moderating Effects
Income under $10,000	0.008 (0.008)	0.004 (0.007)	0.0008 (0.007)	–0.002 (0.008)	0.004 (0.008)
Ethnic diversity	–0.283 (0.748)	–0.615 (0.750)	–1.606** (0.729)	–1.193 (0.742)	–0.862 (0.764)
Average educational level	–0.332 (0.228)	0.696** (0.313)	–0.954*** (0.331)	–0.441 (0.294)	-0.335 (0.281)
Average length of residence	0.034 (0.039)	0.052 (0.034)	0.070** (0.032)	0.124*** (0.046)	0.116** (0.045)
Female-headed household	–0.276* (0.139)	–0.158 (0.128)	–0.057 (0.121)	–0.243* (0.133)	–0.217* (0.130)
Percentage formerly homeless	0.013***** (0.003)	0.010*** (0.003)	0.008** (0.003)	0.014***** (0.004)	0.011** (0.004)
Percentage receiving Social Security	—	–0.160* (0.093)	–0.316*** (0.100)	–0.312**** (0.105)	–0.266** (0.106)
Total neighborhood crimes against the person	—	—	0.173***** (0.026)	0.151***** (0.025)	0.092 (0.068)
DPM	—	1.151* (0.959)	1.331 (0.932)	1.474 (1.068)	1.597 (0.701)
TIL	—	–3.993 (0.384)	–4.155 (0.360)	–6.210 (0.823)	–6.647 (0.821)
HDFC	—	–2.865* (1.667)	–1.559 (1.577)	–0.640 (1.689)	NS
POMP	—	1.886* (0.967)	2.562*** (0.962)	3.00*** (1.114)	2.684**** (0.761)
CMP	—	–2.134* (1.256)	–0.550 (1.193)	0.459 (1.304)	NS
Basic participation	—	—	—	–0.930*** (0.339)	–0.871** (0.344)
Tenant prosocial norms	—	—	—	–0.141** (0.071)	–0.059 (0.079)

Table 6. **Within-Building Crime against the Person in the Context of Neighborhood Crimes against the Person** (continued)

	Demographic Predictors	Effects of City Program	Effects of Neighborhood Crime	Effects of Social Capital	Moderating Effects
Formal participation	—	—	—	0.077 (0.096)	–0.077 (0.130)
Tenant prosocial norms by total neighborhood crime against the person	—	—	—	—	–0.036** (0.016)
Formal participation by total neighborhood crime against the person	—	—	—	—	0.038* (0.023)

Note: Standard errors for the regression parameters are in parentheses. NS = not significant.
*$p \geq 0.05$ to ≤ 0.10. **$p < 0.05$. ***$p < 0.01$. ****$p < 0.005$. *****$p < 0.001$.

differences between these two analyses. First, it should be noted that basic participation in building activities continues to be a significant main effect (Wald chi-square = 6.44; $df = 1,373$; $p = 0.01$). There continues to be a significant moderator effect (Wald chi-square = 5.50; $df = 1,373$; $p = 0.01$) for tenant prosocial norms and a marginally significant effect for formal leadership participation (Wald chi-square = 2.56; $df = 1,373$; $p = 0.10$) as they interact with total neighborhood crime against the person.[17]

The only demographic differences between tables 5 and 6 involve ethnic diversity and length of residence. Ethnic diversity is no longer significant. In buildings having residents who have lived there longer, there is significantly more within-building crime against the person. This effect first appears in panel 3 of table 6 when we enter neighborhood crime against the person along with city program. This finding may be an anomaly, or it may be related to the differential distribution of length of residence across programs and the different distributions of programs across high- and low-crime areas.

Because of the change in reference vector, the positive sign on the parameter for buildings still owned by the city in table 6 (DPM) simply

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[17] Removing nonsignificant parameters yielded a p value of 0.0049 for the interaction of tenant prosocial norms and a p value of 0.0476 for the interaction involving formal participation.

means that, compared with TIL (the reference category), there is more crime against the person in city-owned buildings.[18]

Removing the building with seven robberies had no substantive effect on the results of this analysis of crimes against the person. Thus, we do not think that these findings can be attributed to the effects of that single building.

Discussion

To our knowledge, this is the first prospective study to find an effect of local social organization at one point in time on frequency of crime at a later point. The research program of Sampson and his colleagues has contributed greatly to understanding the relationship between social organization and crime within local areas, even after controlling for resident characteristics but leaves open the question of which came first. While there may be other variables underlying social organization measures at time 1 and crime measured at time 2, the longitudinal nature of the study and controls for crime in the surrounding area substantially bolster confidence that stronger social organization did not simply covary with crime but actually played a role in preventing it.[19]

The findings have practical implications for the operation of low-income housing and suggest that forms of social organization may remain relatively stable over a period at least of 6 to 12 months. These findings are especially important for policy because government programs to convey ownership to tenants and community groups provided the context in which higher levels of social capital could be developed and used to combat crime. The study is also one of the few documenting the role of voluntary organizations, in this case tenant associations, in preventing crime.

This study adds to the literature in a second way. Most of the writing on social capital, with the exception of the work of Rohe and his colleagues (Rohe and Stewart 1996; Temkin and Rohe 1998), treats social capital as a phenomenon that develops over time in some places

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[18] When DPM buildings were the reference category in table 5, the negative sign for DPM simply provides the log of the average number of crimes in DPM buildings, when all the covariates are at their average value (since the covariates have been mean-centered).

[19] We acknowledge that a longitudinal research design measuring both social organization in the building and crimes at several points in time would provide a better test of our thesis. Such research should be conducted to better understand the phenomenon.

more than others and that can make institutions work better or worse at a subsequent time (Putnam 1993). By contrast, this study and Rohe's work (Rohe and Stewart 1996; Temkin and Rohe 1998) identify institutions as significant contributors to how much social capital will be developed and how effectively it can be used. Rohe and his colleagues (Rohe and Stewart 1996; Temkin and Rohe 1998) theorize that homeownership and CDCs are the two forms of housing provision most likely to contribute to stable neighborhoods through the development of social capital at the neighborhood level, although their data are somewhat equivocal. These are the two institutional forms most associated with both the accumulation of social capital and its effective use to prevent crime within buildings. Temkin and Rohe (1998) position the institutional infrastructure of a neighborhood as a significant mechanism for translating relationships among neighbors—of the sort termed collective efficacy by Sampson, Raudenbush, and Earls (1997)—into the ability of residents to defend their neighborhood from threats and promote stability.[20] From an ecological perspective, neighborhood organizations or resident relationships (along with other effective institutions), rather than homeownership, may be the institutional structure through which collective efficacy is achieved in a neighborhood of single-family homes.

Third, the focus on multiunit buildings provides an opportunity to examine more closely the nature and structure of different forms of social organization as they relate to preventing crime. As noted earlier, one of the conditions that served as a basis for the evolution of the social organizational structures that were effective in preventing crime was the existence of enclosed spaces defined by the buildings themselves. These created what might be considered ecological niches within the built environment that provided, in principle, multiple opportunities for the development of effective building-level social organization. But clearly, well-defined and potentially well-defended spaces were not sufficient. One essential element involved the ownership and

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[20] Using data from a 1980 survey of Pittsburgh neighborhoods, the authors operationalized social capital in two forms: sociocultural milieu (based on a broad range of items tapping into concepts as diverse as sense of community, neighboring, and neighborhood activities) and institutional infrastructure (measured by a factor combining voting with reports of the presence of an effective neighborhood organization, a volunteerism factor, and a factor combining the presence of a CDC and other major institutions). Their outcome measure was upward change in the value of house prices. The study validated the positive effect of sociocultural milieu measures of social capital and a more limited positive effect of organizational infrastructure found only for the factor containing voting and reports of an effective neighborhood organization. It is interesting to note that Temkin and Rohe's (1998) study found no social capital differences between homeowners and renters. However, their study differs from ours not only in the outcome measure, but also in that it lacked measures of resident involvement with the institutional infrastructure.

management structure of the low-income housing in this study. After controlling for neighborhood crime levels and resident demographic characteristics, both tenant- and community-owned buildings experienced lower levels of crime than city-owned and landlord-owned buildings. Ownership and management appear to provide the institutional context for the potential development of social capital arising from the daily activities of organizing and running a building effectively.

Fourth, this study goes beyond identifying social capital or collective efficacy as generalized ways to promote the interests of residents in an area. Other work has described the structure of social capital and its relation to different ownership and management forms (Saegert and Winkel 1997, 1998), showing that social capital is not a unitary construct but rather consists of four different yet related components. Systematic differences in the levels of these factors were related to different ownership and management forms. These studies (Saegert and Winkel 1997, 1998) showed that the effects of ownership form on resident reports of building quality, security, and crime were either completely or partially mediated by one or more of the four social capital factors. A similar but stronger mediating effect was noted in this study. However, rather than relying only on resident reports of building crime, independent crime data from the NYPD were used as an outcome measure.

Of the four social capital components investigated, the most consistent, powerful mediator of ownership form on within-building crime was basic participation by the residents in tenant associations. That basic participation is effective in reducing within-building crime is made more telling by the fact that buildings in the TIL Program (where basic participation is highest) were located in neighborhoods where the crime rates (both total crime and crime against the person) were also among the highest. It is remarkable as well that the six months of NYPD data contained no police records of crime against the person in TIL buildings. Even after controlling for neighborhood crime levels (both total neighborhood crime and crimes against the person), residents living in buildings with high levels of basic tenant participation experienced very little crime.

The second most powerful social capital factor in various analyses was tenant prosocial norms. In high-crime neighborhoods (defined by using either total crime or crimes against the person), stronger tenant prosocial norms predicted lower within-building crime 6 to 12 months later, while weaker prosocial norms predicted higher within-building crime. However, in low-crime neighborhoods, prosocial norms did not appear to have any statistically significant effect on within-building crime.

Formal leadership activities generally seemed to be strongly associated with lower levels of building crime only in low-crime neighborhoods and seemed to have no relationship at all with building crime in high-crime neighborhoods (whether measured as total neighborhood crime or crime against the person). We believe that the explanation can be traced to the intertwined nature of prosocial norms, basic participation, and formal leadership participation. On the basis of qualitative data (Saegert and Imbimbo 1996), we think that formal participation, net prosocial norms, and basic participation are often inadequate to combat building crime in high-crime neighborhoods. Buildings could become more vulnerable in high-crime neighborhoods because the qualitative data suggest that formal participation alone is not enough to maintain the level of vigilance required to reduce crime. When basic participation and tenant prosocial norms did not coincide with an effective formal leadership structure, formal leaders were faced with the task of protecting a building in which the tenants were seemingly not concerned and responsible enough to join the tenant association. Ironically, this situation could have arisen because building leaders intent on doing a good job acted over time in ways that circumvented broadly based involvement among tenants and eroded trust. Or, as noted above, once a well-functioning leadership group is in place, levels of basic building participation by tenants may simply decline.

In the buildings we studied, basic participation was highest in TIL buildings. These were in the formative stages of co-op development and had most recently received training from a citywide group. A previous study of limited-equity co-ops in this same stock 5 to 10 years after sale led to the conclusion that periodic retraining, as well the establishment of permanent networks and support services among co-ops, was required to ensure continued viability (Saegert et al. 1989). The need for periodic retraining is congruent with the conclusions reached by Briggs and Mueller (1997).

The buildings we studied that had the strongest social organizations (co-ops and co-ops in training) also performed the management functions Keyes (1992) identified (resident selection, rule-setting and enforcement, and eviction if necessary). In the present study, broad-based tenant associations that meet regularly appear best able to both provide good management and prevent crime.

While this study demonstrated the important role that within-building social capital plays in preventing crime in low-income housing, there is still the broader question of preventing neighborhood crime. Is it the case, for example, that in buildings having higher levels of social capital, within-building crime is simply displaced to contiguous buildings having less social organization? Or do many well-organized buildings

in a particular neighborhood lower neighborhood as well as within-building crime? These are clearly important questions, and, at the moment, we do not have the answers. However, the questions themselves raise important conceptual and policy issues.

Unlike buildings, neighborhoods do not have walls. And, by law, neighborhoods are not owned in the same way buildings are. These aspects of neighborhood life clearly generate obstacles to effective community crime control. Nonetheless, there have been efforts (Rich et al. 1995) to understand the circumstances under which community organizations develop either reactively (to deal with a neighborhood problem like crime) or proactively (to foster a community good such as improved recreational opportunities for youth). Perkins (1995) has discussed community involvement in crime prevention within the broader context of the empowerment concept (Rappaport 1981). In addition, Perkins et al. (1990), using a conceptual framework similar to the one employed in this article, found that participation in block associations was the result of both enduring and more transient environmental neighborhood conditions (e.g., building size and building maintenance, respectively) and extensiveness of neighboring relations among residents, as well as the perceived efficacy of block association leadership. Extensiveness of neighboring may be one basis for the development of what we have called prosocial norms and Sampson, Raudenbush, and Earls (1997) refer to as collective efficacy. However, it should also be noted that "crime, and concern about crime, have not been found to be catalysts for citizen participation in community empowerment organizations, even those with a major focus on crime prevention" (Perkins 1995, 773). Briggs and Mueller (1997) explain the success of one CDC in reducing neighborhood crime by arguing that while casual spontaneous neighboring may not reduce crime in high-crime areas, "CDCs, as real-estate developers, housing managers, community organizers, and service providers, are much more substantial social interventions than the block-watch type programs that predominate in the research literature in the field" (12).

Policy implications and conclusions

This study validates the potential efficacy of the efforts residents of poor, high-crime neighborhoods make to protect themselves and promote safety by documenting the pivotal role of tenant associations in protecting buildings from crime, regardless of the crime level in the surrounding neighborhood. However, it also underscores the necessity for programs that provide legal ownership and resources for housing rehabilitation. New York City's ownership transfer programs not only conferred title, but also came with rehabilitation subsidies that have

grown over the years and, when available, Section 8 certificates for tenants who could not afford to pay the rent. It is likely that the combination of these investments and the ownership structure were required to achieve the results reported in this article. Without these subsidies, tenant organizations would have not been able to improve the physical conditions of buildings, including those with clear implications for security like locked doors. Further, participation in tenant organizations that could not deliver better housing conditions would most likely wane over time. In the context of these investments, broadly based, regularly functioning tenant associations were most effective in preventing crime and were most often found in tenant-owned co-ops.

It is also important to understand the political processes that contribute both to the existence and implementation of government programs and to working tenant associations. Although tenants frequently organize spontaneously in the face of threat, these organizations often fail either to achieve and sustain a broad base or to function reliably. Nor does effective organization naturally occur under co-op ownership. Co-op owners in the buildings we studied received management training. Over time, many buildings struggled with loss of leadership and declining participation. As described elsewhere (Saegert and Winkel 1998), it has been necessary for co-ops to organize neighborhood and citywide networks and to gain support from organizations of financial, legal, training, and other service providers to handle crises. Organizations such as the Task Force on City-Owned and Distressed Property have vigilantly monitored the program design, regulations, budgets, and formal and informal operating procedures of city government and advocated on behalf of the tenants affected by these programs. Agency staff have developed innovative programs as well as helpful responses to program weaknesses and changes in the funding and political climate. Concerned members of the city council have held hearings on important program issues. The flow of personnel in and out of advocacy, development, agency, and political positions is in itself an important kind of social capital.

Since New York City no longer takes tax-delinquent properties, future access to the sorts of programs that appear to be successful in fighting crime is not assured. In the absence of city ownership, the political visibility of residents living in buildings sold through former city programs may decline and pose risks to the continued viability of these buildings. The formal and informal social organization of tenants, advocates, community-based organizations, agency staff, and political officeholders provides a historical base of information with which to confront the new circumstances, as well as some level of social relatedness that may allow the lessons learned from previous programs to be translated into the new context.

Policies that build on the lessons of this research would have the following components:

1. Funds and training for tenant organizers, as well as the legal services, building financing, and operating subsidies required for low-income residents to succeed in their attempts to improve the safety, building conditions, and financial viability of their homes

2. Program design, funding, and training for organizers in low-income housing, regardless of ownership form, to develop broadly based, well-functioning tenant associations with real control over important aspects of their housing

3. Ownership transfer and new construction programs for low-income limited-equity co-ops that include staff to train and retrain residents, as well as provide crisis assistance

4. Recognition by law enforcement agencies of the resources tenant, shareholder, and homeowners associations can provide for crime prevention, and effective cooperation between law enforcement and such associations

Programs, funding mechanisms, and organizer and service provider training need to be sensitive to the requirement that residents have real control over important aspects of their housing to build and use social capital to combat crime and improve the quality of life in their housing and neighborhoods. Membership and advocacy organizations attempting to improve safety and quality of life in poor neighborhoods can also develop programs and technical assistance to support broadly based, regularly functioning tenant associations. Educational and networking forums for tenant association leaders and members should be organized to exchange information about effective practices for promoting inclusive participation in and regular, well-organized meetings of tenant associations. One lesson from our data is that, to be effective in preventing crime, the most visible forms of tenant activism (leadership, committee participation, representing the association to the larger community) require a backdrop of less active but extensive membership and a modest level of attendance at regular meetings.

To extend the policy implications of this research to the neighborhood scale, more must be learned about the relationship between social dynamics and crime at the building and neighborhood levels. Achieving this goal will require a combination of ethnographic and quantitative measurement strategies, systematic sampling, longitudinal and multi-level research designs, the combination of survey data with data from other sources, and the consideration of institutional and financing

variables along with social organizational factors. Thus far, research on community development rarely, if ever, has all of these characteristics. The spotty nature of data on community development can easily lead to faulty or partial conclusions, most likely making community-based efforts to prevent crime appear ineffective, weak in comparison to economic or structural factors, or the result of unique circumstances or individuals. As evidence mounts that social capital, or its more limited formulation as collective efficacy, works to limit crime in housing and neighborhoods, it is not useful to pit social organization against financing, management, or macroeconomics as explanatory variables. Rather, inquiry should be directed toward understanding the characteristics of individual, group, and organizational activities that lead to crime prevention and other improvements in community life.

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References

Baron, Reuben M. and David A. Kenny. 1986. The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51:1173–82.

Blackburn, Anthony J. 1995. *Housing New York City: 1993*. New York: City of New York Department of Housing Preservation and Development.

Briggs, Xavier de Souza, and Elizabeth J. Mueller (with Mercer Sullivan). 1997. *From Neighborhood to Community: Evidence on the Social Effects of Community Development*. New York: New School for Social Research, Community Development Research Center.

Brown, Barbara. 1987. Territoriality. In *Handbook of Environmental Psychology*, Vol. 1, ed. Daniel Stokols and Irwin Altman, 505–32. New York: Wiley.

Bursik, Robert J. Jr. 1988. Social Disorganization and Theories of Crime and Delinquency. *Criminology* 26:519–51.

Bursik, Robert J. Jr., and Harold G. Grasmick. 1993. *Neighborhoods and Crime*. Lexington, KY: Lexington Books.

Coleman, James S. 1988. Social Capital in the Creation of Human Capital. *American Journal of Sociology* 94:S95–S120.

Collett, David. 1991. *Modeling Binary Data*. London: Chapman and Hall.

Coulton, Claudia, Jill Korbin, and Marilyn Su. 1995. *Measuring Neighborhood Context for Young Children in an Urban Area*. Cleveland: Case Western Reserve University, Center for Urban Poverty and Social Change.

Halpern, Robert. 1995. *Rebuilding the Inner City: A History of Neighborhood Initiatives to Address Poverty in the United States*. New York: Columbia University Press.

Holahan, Josh, and Abraham H. Wandersman. 1987. The Community Psychology Perspective in Environmental Psychology. In *Handbook of Environmental Psychology,* Vol. 1, ed. Daniel Stokols and Irwin Altman, 827–62. New York: Wiley.

Jacobs, Jane. 1961. *The Death and Life of American Cities*. New York: Random House.

Kasarda, John D., and Morris Janowitz. 1974. Community Attachment in Mass Society. *American Sociological Review* 39:328–39.

Keyes, Langley C. 1992. *Strategies and Saints: Fighting Drugs in Subsidized Housing*. Washington, DC: Urban Institute Press.

Kornhauser, Ruth R. 1978. *Social Sources of Delinquency*. Chicago: University of Chicago Press.

Leavitt, Jacqueline, and Susan Saegert. 1990. *From Abandonment to Hope: Community Households in Harlem*. New York: Columbia University Press.

McCullagh, Peter, and John Nelder. 1989. *Generalized Linear Models*. 2nd ed. Boca Raton, FL: Chapman and Hall/CRC Press.

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

O'Brien, Robert M. 1990. Estimating the Reliability of Aggregate-level Variables Based on Individual-Level Characteristics. *Sociological Methods and Research* 18:473–504.

Perkins, Douglas. 1995. Speaking Truth to Power: Empowerment Ideology as Social Intervention and Policy. *American Journal of Community Psychology* 23:765–94.

Perkins, Douglas, Paul Florin, Richard Rich, Abraham H. Wandersman, and David Chavis. 1990. Participation and the Social and Physical Environment of Residential Blocks: Crime and Community Context. *American Journal of Community Psychology* 18:83–115.

Perkins, Douglas, Jennifer Meeks, and Ralph Taylor. 1992. The Physical Environment of Street Blocks and Resident Perceptions of Crime and Disorder: Implications for Theory and Measurement. *Journal of Environmental Psychology* 12:21–34.

Putnam, Robert D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press.

Putnam, Robert D. 1994. Bowling Alone: Democracy in America at the End of the Twentieth Century. Paper presented at the Nobel Symposium, Democracy's Victory and Crisis, Uppsala, Sweden. August 27–30.

Putnam, Robert D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Shuster.

Rappaport, Julian. 1981. In Praise of Paradox: A Social Policy of Empowerment over Prevention. *American Journal of Community Psychology* 9:1–26.

Rich, Richard C., Michael Edelstein, William K. Hallman, and Abraham H. Wandersman. 1995. Citizen Participation and Empowerment: The Case of Local Environmental Hazards. *American Journal of Community Psychology* 23:657–76.

Rohe, William M., and Leslie S. Stewart. 1996. Home Ownership and Neighborhood Stability. *Housing Policy Debate* 7(1):37–81.

Rosenbaum, Dennis P., ed. 1994. *The Challenge of Community Policing: Testing the Promises*. Thousand Oaks, CA: Sage.

Saegert, Susan. 1996a. Ownership Alternatives for Low-Income Housing: Consequences for Housing Quality and Civil Society. Paper presented at the International Symposium on Architecture, Urbanism, and Technology, University of São Paulo, Brazil. November 1–3.

Saegert, Susan. 1996b. What We Have to Work With: The Lessons of the Task Force Surveys. In *No More Housing of Last Resort: The Importance of Affordability and Resident Participation in In Rem Housing*, ed. Michelle Cotton, 35–63. New York: Parodneck Foundation for the Task Force on City-Owned and Distressed Property.

Saegert, Susan, Helene Clark, Eric Glunt, William Roane, and April Tyler. 1989. Planning for Permanence: An Evaluation of City-Sponsored Limited-Equity Cooperative Housing in New York City. Working Paper Series. City University of New York Graduate Center, Robert F. Wagner Sr. Institute for Urban Public Policy.

Saegert, Susan, and Jodi Imbimbo. 1996. *Case Studies of "Good Buildings" Sold through the Division of Alternative Management Programs in New York City*. New York: City University of New York Graduate Center, Housing Environments Research Group of the Center for Human Environments.

Saegert, Susan, and Gary Winkel. 1996. Paths to Community Empowerment: Organizing at Home. *American Journal of Community Psychology* 24:517–50.

Saegert, Susan, and Gary Winkel. 1997. *Social Capital Formation in Low-Income Housing*. New York: City University of New York Graduate Center, Housing Environments Research Group of the Center for Human Environments.

Saegert, Susan, and Gary Winkel. 1998. Social Capital and the Revitalization of New York City's Distressed Inner-City Housing. *Housing Policy Debate* 9(1):17–60.

Sampson, Robert J. 1988. Local Friendship Ties and Community Attachment in Mass Society: A Multilevel Systemic Model. *American Sociological Review* 53:766–79.

Sampson, Robert J. 1991. Linking the Micro- and Macrolevel Dimensions of Community Social Organization. *Social Forces* 70:43–64.

Sampson, Robert J. 1999. What "Community" Supplies. In *Urban Problems and Community Development,* ed. Ronald Fergusen and William Dickens, 241–92. Washington, DC: Brookings Institution Press.

Sampson, Robert J. 2001. Crime and Public Safety: Insights from Community-Level Perspectives on Social Capital. In *Social Capital and Poor Communities: Building and Using Social Assets to Combat Poverty,* ed. Susan Saegert, Phillip J. Thompson, and Mark Warren, 89–114. New York: Russell Sage.

Sampson, Robert J., and William B. Groves. 1989. Community Structure and Crime: Testing Social Disorganization Theory. *American Journal of Sociology* 94:774–802.

Sampson, Robert J., and Stephen Raudenbush. 1999. Systematic Social Observation of Public Spaces: A New Look at Disorder in Urban Neighborhoods. *American Journal of Sociology* 105:603–51.

Sampson, Robert J., Stephen Raudenbush, and Felton Earls. 1997. Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy. *Science* 277:918–24.

Skogan, Wesley. 1990. *Disorder and Decline: Crime and the Spiral of Decay in American Neighborhoods*. Berkeley, CA: University of California Press.

Taylor, Ralph B. 1996. Neighborhood Responses to Disorder and Local Attachments: The Systemic Model of Attachment, Social Disorganization, and Neighborhood Use Value. *Sociological Forum* 11:41–74.

Taylor, Ralph B. 1997. Social Order and Disorder of Street Blocks and Neighborhoods: Ecology, Microecology, and the Systemic Model of Social Disorganization. *Journal of Research in Crime and Delinquency* 34:113–55.

Temkin, Kenneth, and William M. Rohe. 1998. Social Capital and Neighborhood Stability: An Empirical Analysis. *Housing Policy Debate* 9(1):61–88.

Wandersman, Abraham H. 1979a. User Participation: A Study of Types of Participation, Effects, Mediators, and Individual Differences. *Environment and Behavior* 11:185–208.

Wandersman, Abraham H. 1979b. User Participation in Planning Environments: A Conceptual Framework. *Environment and Behavior* 11:465–82.

Wandersman, Abraham H. 1981. A Framework of Participation in Community Organizations. *Journal of Applied Behavioral Science* 17:27–58.

Wandersman, Abraham H., John Jacubs, and Gary Giamartino. 1981. Participation in Block Organizations. *Journal of Community Action* 1:40–47.

Warren, Mark, Phillip J. Thompson, and Susan Saegert. 2001. Building Social Capital as a Strategy to Combat Poverty. In *Social Capital and Poor Communities: Building and Using Social Assets to Combat Poverty,* ed. Susan Saegert, Phillip J. Thompson, and Mark Warren, 1–28. New York: Russell Sage.