Chapter 7

Neighborhood Networks and Processes of Trust

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TRUST IS WIDELY thought to promote a variety of positive societal outcomes (Alesina and La Ferrara 2002; Fukuyama 1995; Knack and Keefer 1997), helping explain why reports of its decline set off alarms (for example, Paxton 1999; Putnam 2000). Much of the attention has centered on generalized trust in others as a proxy for harmonious societal functioning. In one of the best-known trends, a number of surveys reveal a long downward trajectory of Americans' trust in fellow citizens. Leading scholars have pointed to the decline in generalized trust as evidence that social capital is eroding and causally linked to a host of increasing social ills (for example, Putnam 2000).

A more contextualized approach is seen in efforts to specify what might be termed *grounded* or *working* trust. From this viewpoint, trust is specific to contexts of social action and must be conceptualized and measured accordingly. The Russell Sage Foundation's Program on Trust has spearheaded this move in a number of ways. One has been to conceptualize the emergence of trust within specific contexts such as immigrant communities, police departments, social service agencies, unions, and politics (Braithwaite and Levi 1998; Cook 2001; Tyler and Huo 2002). A second and related move has been to conceptualize trust in relational terms, leading to a view of trust as embedded within particular parties and substantive action—what Russell Hardin called "encapsulated interest" (2002, 7). A third move has been to conceptualize trust at a macro or social-organizational level, including the idea that societies and organizations, and, by implication, local communities, vary in cultures and structures of trust (Kramer 1999; Kramer and Cook 2004).

This chapter integrates all three moves of the broad intellectual framework of the Russell Sage program by studying the community and social-network predictors of trust in the city of Chicago. Capitalizing on a long-term project of original data collection, we examine variations in trust among residents, leaders, and institutions across time and community contexts. Between 1995 and 2002, a two-wave panel study was conducted of more than 1,000 positional leaders sampled from six institutional domains—law, politics, business, community organizations, education, and religion—and across thirty Chicago communities. Among other innovations, this study developed an instrument assessing working trust in relationships defined by networks of action among community leaders, along with an assessment of the extent to which local residents trust their leaders and institutions. In addition, in two independent studies of residents of the same communities, the trust and shared expectations of local residents in each other were also assessed.

We combine these new sources of data to contextualize the conditions under which trust emerges. As a result, we set aside legitimate and fundamental questions about how individuals appropriate social capital to achieve intended outcomes (for example, Coleman 1988; Portes 1998). We also set aside debates over aggregate outcomes thought to flow from trust-related dimensions of social capital. Instead we focus on a simple idea, that trust is endogenous and consists of multiple dimensions that vary by neighborhood and institutional-level contexts (Sampson 2002; Sampson, Morenoff, and Earls 1999). We assess this notion at the neighborhood level by using a variety of measures that tap different aspects of trust and shared expectations more generally. We specifically examine the measurement properties of between-neighborhood variations in trust, with a focus on how different measures hang together (or not) across communities. Is there one big dimension or context-specific components? Perhaps most important, we examine the structural predictors of trust with a focus on long-term processes that appear to generate durable *mistrust traps*.

Conceptual Framework

Although there are conflicting definitions, most agree that trust plays a central role in the constitution of social capital. Robert Putnam, for example, defined social capital as "features of social organization, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit" (1993, 36; see also Dasgupta 1988; Luhmann 1979). Social capital in this view stems not from the attributes of individuals but rather the structure of social organization (Coleman 1988). In the words of Karen Cook, Russell Hardin, and Margaret Levi, "evaluations of trustworthiness thus depend more on the nature of the relationship involved, the network in which that relationship is embedded, and other features of the social context or environment than on our initial judgments of the actors

involved, which in some instances may be quite misleading" (2005, 32). Yet the empirical base of most studies so far remains quite limited when we consider variations in dimensions of trust or social capital at the neighborhood level (Sampson, Morenoff, and Earls 1999; Sampson, Morenoff, and Gannon-Rowley 2002).

Neighborhood-level research in particular is dominated by studies of poverty and other sociodemographic characteristics drawn from census data and government statistics that provide very little information on the collective properties of administrative units. Although important as an initial step, administrative studies fail to tap the social interactional or trust mechanisms of theoretical interest directly. These mechanisms may help explain the salience of community demographic attributes. As part of the social process turn in recent research, the community literature has therefore focused more directly on factors such as the density of local ties, exchange, voluntary associations, and trust (Sampson, Morenoff, and Gannon-Rowley 2002). In many urban communities, strong ties among neighbors are no longer the norm because friends and social support networks have become decreasingly organized in a parochial, local fashion (Fischer 1982; Wellman 1979). To address these changes in the nature of contemporary relationships, Robert Sampson, Jeffrey Morenoff, and Felton Earls highlighted a focus on neighborhood-linked mechanisms that facilitate social control without requiring strong ties or associations, emphasizing the combination of trust and shared willingness of residents to intervene in social control (Sampson, Morenoff, and Earls 1999; Sampson, Raudenbush, and Earls 1997).

This linkage of trust and cohesion with shared expectations for control was defined as neighborhood *collective efficacy*. Just as self-efficacy is situated rather than global (one has self-efficacy relative to a particular task), a neighborhood's efficacy exists relative to specific tasks, such as maintaining public order. Distinguishing between the resource potential represented by personal ties, on the one hand, and the shared expectations for social control and the working trust represented by collective efficacy, on the other, helps clarify disputes about social capital. Namely, social networks may foster the conditions under which collective efficacy flourishes but network ties are not enough to exercise control (Bursik 1999).

Viewed through this theoretical lens, collective efficacy is a task-specific construct that highlights shared expectations rooted in trust and mutual engagement by residents with respect to issues of social control (Sampson, Morenoff, and Earls 1999). Moving from a focus on private ties to social efficacy signifies an emphasis on shared beliefs and trust in neighbors' conjoint capability for action to achieve an intended effect, and hence an active sense of engagement on the part of residents. As Albert Bandura argued, the meaning of efficacy is captured in expectations about the exercise of control, elevating an agential aspect of social life over a perspective centered on the accumulation of resources (1997). This conception is

consistent with Alejandro Portes and Julia Sensenbrenner's redefinition of social capital as "expectations for action within a collectivity" (1993, 1323).

Sources of Neighborhood Social Trust and Efficacy

A number of studies have hypothesized that collective efficacy and social trust are predicted by residential instability, concentrated disadvantage, and racial or ethnic heterogeneity. Clifford Shaw and Henry McKay, for example, argued that rapid population turnover, heterogeneity, and poverty undermine a community's capacity for formal and informal social control (1942/1969). More recently, Sampson, Stephen Raudenbush, and Felton Earls argued that concentrated disadvantage and racial exclusion foster a climate of economic dependency, alienation, fear, and distrust that obstruct collective efficacy even in the potential presence of strong personal ties (1997; see also Ross, Mirowsky, and Pribesh 2001).

The connection between neighborhood disadvantage and individual mistrust may be accounted for by social-psychological processes set off in routine interactions between individuals and alienating physical environments permeating their lives. In a study of Illinois residents, Catherine Ross, John Mirowsky, and Shana Pribesh showed that disadvantage predicts mistrust through its impact on individual perceptions of neighborhood disorder, such as abandoned buildings, graffiti, noise, vandalism, drug activities, and crime (2001). Such perceptions are thought to impair the sense of personal control and to beget feelings of alienation (Massey 1996). Although such findings suggest an effect of neighborhood poverty on mistrust within a relatively short time frame, the long-term effect of neighborhood poverty on contemporary mistrust remains unknown.

Migration and residential instability as reflected in the flux of population in and out of a neighborhood have been hypothesized to induce disruptions of institutional continuity, existing social networks, and social cohesion (Coleman 1990). In contrast, high rates of stability and home ownership, reinforced by correlated personal and financial investments, are thought to promote more vigorous efforts to maintain social control (Bursik and Grasmick 1993; Kornhauser 1978).

Finally, diversity of the population has been hypothesized to undermine the emergence and maintenance of social capital due to the difficulties of communication in a context of linguistic and cultural heterogeneity (Kornhauser 1978). Large gaps are reported between ingroup ethnic trust and interethnic trust levels (see chapter 2, this volume). Studies in both the United States and other countries find that ethnic and racial diversity result in lower levels of trust in others, but the results are not consistent for all dimensions of trust or across all contexts. The neighborhood-level literature on these hypotheses has been reviewed extensively elsewhere (Sampson, Morenoff, and Gannon-Rowley 2002).

Social Dynamics

Surprisingly, studies of community social capital are also largely static, examining cross-sectional associations rather than pathways of social trust or efficacy through time. However, as Charles Tilly (1998) and others have argued, categorical distinctions based on nativity, ethnic origin, or race can lead to enduring systems of social closure, exclusion, and control. Such systems, if left unchallenged, tend to imprint a pattern of durable inequality within the larger social structures. How changes in such social structures predict changes in trust and efficacy is largely unknown. We believe that the long-term durability of structural inequalities is fundamentally interwoven with differences in the learning of trust and mistrust across time (Hardin 2002). A major goal in this chapter is therefore to examine how cross-sectional hypotheses translate into longer-term patterns.

Moreover, research to date has largely neglected the mid-range processes whereby structural configurations of local networks and community and power elites influence the creation and maintenance of trust (see also chapter 5, this volume). More than two decades ago, Mark Granovetter advanced the highly influential idea that various forms of social and economic transactions are embedded in larger structures, which by themselves can generate and amplify trust (1985; Uzzi 1996). Although numerous case studies of community elite networks were conducted in the 1950s, 1960s, and 1970s (Knoke 1990), there are very few systematic comparative studies of such leadership structures and their collective capacity to broker internal and external resources and the collective trust critical for community well-being. Hypotheses turning on the density or cohesiveness of networks at the community level are thus largely unexplored.

Analytic Strategy and Hypotheses

We begin to investigate these and related issues by treating communities as social-ecological units, where the extent and focus of social organization is treated as an empirical question (see also Tilly 1973, 212). This theoretical perspective focuses on the ways in which neighborhoods are socially constituted and organized across a number of dimensions (Matsueda 2006; Sampson 2002). We conceptualize collective efficacy, like social capital, as endogenous to structural and cultural contexts (Bourdieu 1986; Sampson, Morenoff, and Earls 1999). We hypothesize that extreme resource deprivation and racial exclusion act as a centrifugal force that hinders trust and the broader concept of collective efficacy. Even when personal ties are strong in areas of concentrated disadvantage, daily experiences with uncertainty, danger, and economic dependency are likely to reduce expectations for taking effective collective action (Woolcock 1998, 207). William Julius Wilson's "socially isolated" areas, for example, are thought to be characterized by

dense personal ties that are nonetheless disconnected from the capacity to capture resources from the larger society (1987). Lack of collective capacity in turn renders a neighborhood vulnerable to further decay and a relative lack of desirability in the pecking order of places to live (Sampson and Raudenbush 2004).

In other words, we suggest that if concentrated poverty serves as a sort of trap (Sampson and Morenoff 2006), it does so partly through a vicious circle whereby mistrust is reinforced, setting in motion a cascading set of disadvantages, such as out-migration and violence, that contribute to deepening and reinforcing poverty. We are not able to model these feedback processes, but we can take a first step by looking at the predictive role of initial conditions and change in poverty on later collective efficacy. In doing so, we adjust for the hypothesized effects put forth in past studies for racial diversity and residential stability. If the concentrated poverty relationships prove durable despite population and housing change over time, there is reason to explore more deeply the connection of declines in collective efficacy and trust with reciprocal declines in the social position of neighborhoods and ultimately the stratification of places.[1]

We propose a further structural focus on how institutionally based networks foster contextual settings of trust. In the organizational and social networks literature (for example, Burt 2005; McEvily, Perrone, and Zaheer 2003; Uzzi 1996), trust is often hypothesized as being closely grounded in the structural characteristics of a network, particularly its density and closure (Granovetter 1985; Portes and Sensenbrenner 1993), and shaped by actors' relative positioning in such structures (see also chapter 3, this volume). In a dense network, actors are more likely to know and trust each other based on past or repeated interactions (relational embeddedness, as defined by Granovetter 1985). They are more likely to know the same third actors, enhancing trust arising from "structural equivalence" (Burt 1992) or "structural embeddedness" (Granovetter 1985). Through a multiplier effect, we hypothesize that the more connected key actors are with multiple local leaders (egos), the more likely the whole local network and eventually the community is to be characterized by higher trust.

To our knowledge, how network structures of leadership vary across communities, much less predict trust, is largely unknown. The typical network study is based on a single or a handful of case studies, precluding comparative variations. In a comprehensive survey of studies on community power structures, John Walton concluded that more critical research was definitely needed to "allow a closer look at the cohesiveness of leadership groups and the conditions under which they effectively exercise power" (1970, 454). Almost forty years later, however, little progress in this direction has been made (for exceptions, see Gould 1989; Knoke 1990). We therefore present in this study a preliminary look at how a key characteristic—the centralization or density of leadership networks—

varies across Chicago communities and in turn predicts variations in contextualized trust independent of compositional features.

To summarize, this chapter has two primary goals. We first identify the major empirical dimensions of trust, whereby neighborhoods are differentially socially organized. How these vary over time and space—the social epidemiology of trust—is the main focus. Second, we examine the structural and spatial predictors of variations in dimensions of trust and efficacy. Here we move outside the black box of poverty and network structures to consider their connections to important social processes such as mutual trust among neighbors, shared expectations, and trust in community leaders and institutions. If the path dependence of resource- or network-based disadvantage has causal relevance at the neighborhood level, presumably it is because it generates self-reinforcing processes that further lock in self-defeating cycles of mistrust, cynicism, and apathy (Bowles 2000; Pierson 2000). To test such models requires the kind of dynamic models and data that no one, to our knowledge, has assembled. Nevertheless, we can examine some reasonable first approximations that may be generative of future research.

Data Sources

This study uses data from the Project on Human Development in Chicago Neighborhoods (PHDCN). The extensive racial and ethnic diversity of the population was a major reason Chicago was selected for the study. We examine local community areas, a collection of both people and institutions occupying a spatially defined area influenced by ecological, cultural, and sometimes political forces (Park 1915, 147–54). Although larger than what are traditionally considered neighborhoods, these areas often have well-known names and borders such as freeways, parks, and major streets. In particular, Chicago has seventy-seven local community areas with an average population of about 37,000, designed to correspond to socially meaningful and natural geographic boundaries. Although some boundaries have changed over time, these areas are widely recognized by administrative agencies, local institutions, and residents alike, and thus prove important when considering organizational aspects of social capital and leadership networks. The names of some have also changed over the years but the distinctiveness of the areas and their borders has remained remarkably stable (Suttles 1990).

Our first data source was the Community Survey (CS). In total, 8,782 individuals eighteen years of age or older were interviewed in their homes in 1995, with an average of 25 per original neighborhood sampling unit and more than 100 in each community area. The survey had three stages. At stage 1, city blocks were sampled within each neighborhood; at stage 2, dwelling units were sampled within blocks; at stage 3,

one adult resident (eighteen or older) was sampled within each selected dwelling unit. Abt Associates carried out the screening and data collection in cooperation with research staff of PHDCN, achieving a final response rate of 75 percent. The design produced a representative probability sample of Chicago residents and a large enough within-cluster sample to create reliable between-neighborhood measures. The samples within areas were designed to be approximately self-weighting, and thus the between-community analysis is based on unweighted data (Sampson, Raudenbush, and Earls 1997, 924). Participants rated their neighborhoods on a number of dimensions, including trust, social cohesion, and informal social control (Raudenbush and Sampson 1999; Sampson, Morenoff, and Earls 1999).

A second Community Survey was conducted in 2001–2002 with a new (repeated) cross-sectional sample of all persons aged eighteen or older living in the Chicago. In collaboration with PHDCN, the University of Michigan's Institute of Social Research carried out 3,105 randomly selected, in-person, adult interviews. The probability sample was nested within the sampling clusters defined by PHDCN's earlier study of social environments. The 3,105 completed interviews mean that approximately forty cases within each community are available to construct contextual measures. The sample is racially and ethnically diverse: 1,240 non-Hispanic blacks, 983 non-Hispanic whites, 802 Hispanics, and 80 people of other races or ethnicities. The second community survey was conducted with a response rate of 72 percent, which comes close to matching the first even though in-person surveys are becoming harder to conduct.

Preliminary analysis has examined response bias and the reliability and validity of a core set of neighborhood-level constructs derived from prior PHDCN-related research. Sampson, Raudenbush, and Earls developed a three-level hierarchical model to assess the theoretical construct of collective efficacy (1997). They studied item inconsistency within scales, interrater agreement on each scale, and an overall estimate of the reliability of measurement of each scale. Extending this strategy, major constructs with accompanying intraclass correlations (ρ) and multilevel reliabilities were examined by linking waves 1 and 2 of the community survey (Sampson et al. 2007). Distinct from individual-level reliability (for example, Cronbach's alpha), neighborhood reliability (λ_2) is defined as: $\Sigma [\tau00/(\tau00 + \sigma^2/nj)] / J$, which measures the precision of the estimate, averaged across the set of J neighborhoods (for further details, see Raudenbush and Sampson 1999). With the exceptions noted in a later section, we are able to reliably tap parameter variance in social trust across neighborhood units.

The Key Informant Study

A weakness of research so far has been its inattention to organizations and the social networks of trust and affiliation among positional leaders

at the center of social action for communities. Indeed, although interviewing residents and observing public areas has proven insightful, the organizational and institutional life of communities is equally if not more important from the perspective of understanding trust. We thus turn attention in this chapter to the institutional basis of trust invested in particular working relationships among institutional leaders for the purposes of getting things done in community settings. Our multipronged approach permits the partitioning of trust into network, institutional, and community components.

The KI (key informant) study designed to ask systematic questions of multiple key informants (leaders or experts) who were expected, based on their position, to have specialized knowledge of, and responsibility for, community social action. This method draws on a distinguished history in cultural anthropology and organizational sociology of using key informants to report on the social and cultural structure of collectivities (Campbell 1955; Tremblay 1957). The systematic use of positional informants to gather quantitative data on context has proved a reliable, although underused, methodology in the social sciences (Houston and Sudman 1975). Here we focus on the observed network structure of community leaders within and between communities from a positional perspective (Knoke 1990; Laumann and Pappi 1976), using informants to define, through both nominations of key actors in their network and through snowball sampling, the community-wide context of social organization relevant to a community's health.

Phase I Design

The initial KI design was based on a systematic sampling plan that targeted six institutional domains: education, religion, business, politics, law enforcement, and community organizations. Within each domain a list of positional leaders was constructed from public sources of information. Matched to areas already randomly selected for intensive investigation in other parts of the PHDCN study, the KI design focused on forty-seven of Chicago's seventy-seven community areas. In Chicago, most organizations representing the six institutional domains recognize the official boundaries of the city's community areas and many rely on them to provide services (Suttles 1990). The sampled areas were stratified by socioeconomic status (SES) and race-ethnicity to represent the full spectrum of Chicago's communities, from ethnically diverse Rogers Park on the far north side to black working-class Roseland on the far south, from exclusive Lincoln Park to the devastated ghetto of Garfield Park, from Mexican American (Little Village/South Lawndale) to Puerto Rican (Humboldt Park), and from white middle class (Clearing) to black middle class (Avalon Park). The Loop was also included.

The design required the construction of a geo-coded list of more than 10,000 positional leaders in Chicago from public sources of information. Of these, 5,716 were located in the forty-seven sampled communities. Target informants were defined by nature of who they were, what they did, and where they were. Examples of key informants are listed by domain:

- religion: Catholic priest, protestant pastor, mosque imam, synagogue rabbi
- education: school principal, local school council (LSC) president
- business: community reinvestment officer (banking), realty company owner/manager
- law enforcement: district commander, neighborhood relations sergeant
- political: alderman, ward committeeman, state representative, state senator
- community organization: housing organization president, health agency director

Approximately 2,500 cases were stratified by community and domain before random release for study, with 10 percent turning out to be ineligible (for example, moved, business closed). The National Opinion Research Center (NORC) at the University of Chicago carried out data collection in 1995, completing 1,713 interviews with sampled leaders in official positions.

Following the research tradition established in cultural anthropology and social-network analyses of community influence structures, a snowball sample was also incorporated as an important addition to the KI design. We suspected that many of the key actors in a community were new to the position or did not appear on official lists and hence were not sampled. Moreover, some of the influential actors in a community may hold nontraditional positions. To capture the full range of community informants, the KI interview asked respondents to nominate knowledgeable or influential persons in each of the six core domains of business, law enforcement, religion, education, politics, and community organizations. To elicit information on nontraditional persons who might be able to report on the community, we asked each respondent, "Now, other than the people and organizations that we've already discussed, is there any one else in [community name] that we should speak with, to really understand this community? This could include a long-time resident, a leader of a youth club or gang, a mentor of youth in the community, and so on. Who else would you recommend we talk to?"

The sampled positional leaders generated 7,340 reputational nominees, about 3,500 of whom were duplicate nominations—the same individual nominated more than once, or a nominee already in the sample.

This finding is an important validation of the design. In all, 1,105 reputational interviews were completed, bringing the final sample size to 2,822. The interviews averaged just under an hour in length and the overall completion rate was 87 percent of eligible cases.

Phase II KI Panel Study

Just as it is not enough to study individual development at one point in time, so too is it misleading to rely on snapshots of community-level processes—so too is it misleading to rely on snapshots of community-level processes—communities change as well. A panel-based positional approach to the study of community dynamics allows for the measurement of changes in community leadership (whether there is a new leader in the same position, for example), organizational change (such as whether the institution survived), changes in the dimensions of social-network structure (the density of ties, for instance) and changes in the content of action (such as crime prevention or health promotion). The KI panel study was thus designed to capture re-interviews of 1995 leaders still in the same position, new leaders in the same position or organization as in 1995, leaders in newly formed organizations and positions, and where leaders who exited from 1995 positions went. Organizational and positional sampling frames were updated and pretest interviews with fifty-two leaders were carried out in the summer of 2000.

The final sample was constructed as a random selection of original positional leaders in 1995, stratified by institutional domain, plus snowball sample nominations designed to capture both new organizations and new leaders. To contain costs, a representative subsample of thirty of the original forty-seven communities was selected for the panel sampling frame. NORC at the University of Chicago was selected to carry out all aspects of contacting respondents and conducting interviews. More than 1,000 ($N = 1,113$) interviews were completed over the summer and fall of 2002 at a response rate of 76 percent of eligible leaders. Approximately 60 percent of the interviews were conducted with new respondents holding the same position as 1995 respondents, indicating considerable personal turnover in fairly stable network positions. Overall, the final sample yielded an average of almost forty interviews per community, enough to construct reliable between-community measures.

The Chicago KI Study advances the science of networks by going beyond the personal and egocentric ties of residents to allowing the examination of cross-level ties between community elites and various subgroups of citizen residents, an understudied aspect of the community structure relevant for well-being (Knoke 1990). More important, unlike the vast majority of network studies, which are case studies of single settings (Faust and Skvoretz 2002), the KI study's comparative design is uniquely designed to allow us to examine how network structures vary across communities. The only

parallel we know of in the literature is the Rang Nong study of fifty-one village networks in Thailand (Entwisle et al. 2007).

Constructing Measures

Using the community survey, we first defined several dimensions of neighborhood social organization from the perspective of residents. The specific goal was to assess the measurement properties and interrelationships among a number of trust-related indicators.

Collective efficacy is defined in as the combination of two scales—cohesion and social control (Sampson, Raudenbush, and Earls 1997, 919–20). Control is a scale composed of five items: "If a group of neighborhood children were skipping school and hanging out on a street corner, how likely is it that your neighbors would do something about it?" "If some children were spray-painting graffiti on a local building, how likely is it that your neighbors would do something about it?" "If a child were showing disrespect to an adult, how likely is it that people in your neighborhood would scold that child?" "If there were a fight in front of your house and someone was being beaten or threatened, how likely is it that your neighbors would break it up?" "Suppose that because of city budget cuts the library or fire station closest to your home was going to be closed down by the city. How likely is it that neighborhood residents would organize to try to do something to keep the fire station or library open?" The cohesion scale includes four items: "People in this neighborhood generally get along with each other. This is a close-knit neighborhood." "People around here are willing to help their neighbors." "People in this neighborhood share the same values." A trust item was also included: "People in this neighborhood can be trusted." All items were coded on a five-point scale such that a higher value signifies higher cohesion and control.

Collective efficacy has been shown to exhibit excellent ecometric properties that define the ability of a measure to capture between-area as opposed to between-individual variations (Raudenbush and Sampson 1999). In this study, collective efficacy yielded a community-level reliability of .92 in 1995 and .76 in 2002.[2] Although trust in neighbors is conceptualized as part of the larger construct of collective efficacy, based on theoretical interests central to this chapter we examined both the overall scale and the single trust items ($\lambda_2 = .90$ and .74 in 1995 and 2002, respectively). Trust and collective efficacy were measured the same way in both surveys.

In 2002 residents were asked the about trust in police: "The police in your local community can be trusted" (coded from strongly disagree to strongly agree; neighborhood reliability, or $\lambda_2 = .72$). They were also asked whether they agreed with the classic generalized trust items: "Now, I want to ask you some questions about how you view other people. Generally speaking, would you say that most people can be trusted or that you can't be too

careful in dealing with people? 'Most people can be trusted' and 'You can't be too careful in dealing with people.'" From these we created a three-point general trust scale that is reliable across communities ($\lambda_2 = .76$).

Key Informant Measures

Leaders' general trust is composed of answers to two questions: "Generally speaking most people can be trusted" and "Generally speaking most people try to be helpful." The scale is coded on a three-point scale on which higher values reflect higher trust. Neighborhood reliability is .48.

Leaders' trust in residents is conveyed by their answers to one question: "People in [community] can be trusted?" The item was coded on a five-point scale on which higher values signify higher trust. Neighborhood reliability (λ_2) is .69. This question is a direct parallel to the question put to community residents on whether neighbors trust one another.

Indices of institutional trust draw on key informants' answers to questions about the most important institutions for the community in six domains: church, schools, political organizations or officials, business, law enforcement organizations or officials, and community organizations (Laumann and Pappi 1976). After the informants identified up to three organizations in each domain, they evaluated the residents' trust in the most important of the three with answers to the following question: "Would you say [organization/official] is trusted by residents of the community?" The items are coded on a three-point scale with higher values for higher trust. The neighborhood reliability for law enforcement and political trust was .64 and for schools .60; the rest of the institutional trust measures had reliabilities under .5, reflecting less meaningful area variation.

Institutional trust or trust in authorities has been shown to significantly predict individual performance, citizenship behavior or altruism, turnover intentions, commitment to the organization, and leaders' decisions in a variety of contexts, from financial institutions to manufacturing firms, military units, and public institutions (Dirks and Ferrin 2002). Institutional trust in authorities is also associated with individuals' feelings of obligation to obey the law (Tyler 1990), political participation, contributions of time and money to campaigns, and voting (Tyler and Huo 2002). Despite the widely accepted significance of institutional trust, the processes underlying its formation, persistence, or disruption are not well understood.

Socioeconomic and Temporal Predictors

We next focused on three dimensions of a community's structural position that have been shown to be important in previous research predicting neighborhood dimensions of social capital (Sampson, Morenoff, and Earls 1999, 633–60). Concentrated poverty is defined by the proportion of the population below the poverty line and measured in each decade from

1970 to 2000. We measured racial diversity as a Herfindahl concentration index equal to one minus the sum of squares of the proportions of the neighborhood population made up by a racial-ethnic group: whites, blacks, and others (Blau 1977; Massey and Denton 1988). The index has higher values the more racially diverse a neighborhood is and reflects the probability of any two randomly drawn individuals from a neighborhood to belong to different subgroups. In supplementary analyses, we also examined linguistic diversity and percentage foreign born but with similar results.

Consistent with a long line of urban research, the third major index captures neighborhood residential stability, defined as the percentage of residents (five years old and older) who lived in the same house five years earlier (Bursik and Grasmick 1993; Kornhauser 1978). We also examined a factor-weighted scale that combined the percentage of owner-occupied homes, with similar results. To better capture change we rely on the raw stability measure across three decades.

Structural Networks

To establish the network structure of leadership ties, the KI study developed a modified version of Ronald Burt's name generator, aided by focus groups and formal pretests in both the 1995 and 2002 studies (1992). Each KI respondent was asked to identify up to five people they went to in order to "get things done" in the community. The names and addresses of each key contact were recorded, along with their positions and organizational affiliations. The net result is a rich source of information that, because of the systematic and replicable sampling procedures, allows us to construct network measures for Chicago and for each of its communities, permitting comparative analysis of network structures. We have constructed an initial set of network measures including density, path distance (or higher-order) density, *alter* density, and leadership inequality.

For simplicity, we focus here on the *centralization of the leadership power network*, a measure of the concentration of nominations coming from all sampled key informants in a given community toward a small number of alters. It also indicates hierarchy or inequality in alters' nominations, that is, the tendency for a few alters to get most of the nominations. For the overall index of centralization, we count all alters, those living in the community of interest or outside it, though the nominations can come only from respondents within that community.

The main index of centralization is based on the Herfindahl formula, traditionally used as a measure of industry concentration, which formally is equal to $\Sigma \pi_r^2$, where π_r refers to r^{th} alter's share of all the nominations coming from a given community. In this study, the centralization index captures the extent to which all nominations go to a smaller rather than

larger number of alters, as well as the variation in the degree of inequality in the number of citations received by all alters nominated by respondents in a community:

$$PWCON = \sum_j \left[\left(\sum_i X_{ij} \right) / TNOM \right]^2, \text{ where } TNOM = \sum_i \sum_j X_{ij}$$

where i indicates a respondent from community k; j refers to all alters nominated by respondents from community k, and X_{ij} represents a tie sent from respondent i from community k to those alters j nominated by respondents from community k. If a tie exists, X_{ij} equals 1. If one does not, it equals 0. The index reflects the probability that two nominations randomly selected from all nominations generated by the KI within a certain community are directed toward the same rather than different alters. The index has a maximum statistically possible score of 1 when all KIs nominate the same alter and a minimum of $1/n$ when all alters receive the same number of nominations, where n is the number of all alters nominated by the KIs from a given community. For instance, a community distributing its nominations equally to only three alters will have a higher power concentration score than one distributing its nominations equally toward ten distinct alters. George Stigler suggested that squaring the nomination shares decreases the influence of errors due to the possible lack of precise data on very small groups (1968). Given its properties, this index can also be reversed and used as a diversity measure.

Finally, using the network name generator we found that about a third of key informants (303) reported a network contact with someone they trusted in the work setting but who was not a personal friend. We operationalize this configuration as a key dimension of *working trust*, where a 1 indexes a trusting contact with a nonfriend, and 0 indexes primarily *strong tie* contacts characterized by friendship and nontrusting ties. This type of formal working trust varies significantly across communities.

Dynamics and Dimensionality of Trust

We begin the analyses by examining the stability in community trust across time ($r = .62$) at the community level (figure 7.1). An important component of community trust seems to be transmitted across years, even as residents fluctuate in or out of the community. This pattern occurs despite the fact that the trust indicator is based on one item and is measured with error. Collective efficacy, based on a multi-item scale, is correlated at $r = .73$ over time. These results indicate persistence in the part of a community's character that is related to residents' trust and shared expectations for social action. Although there is no information about the levels of community trust from earlier than 1995 in Chicago, both the 1970 poverty rate and changes in poverty across three decades have a significant and durable association with contemporary trust levels. A long-ranging cumulative

Figure 7.1   Scatterplot of Trust in Chicago Communities over Time ($N = 77$)
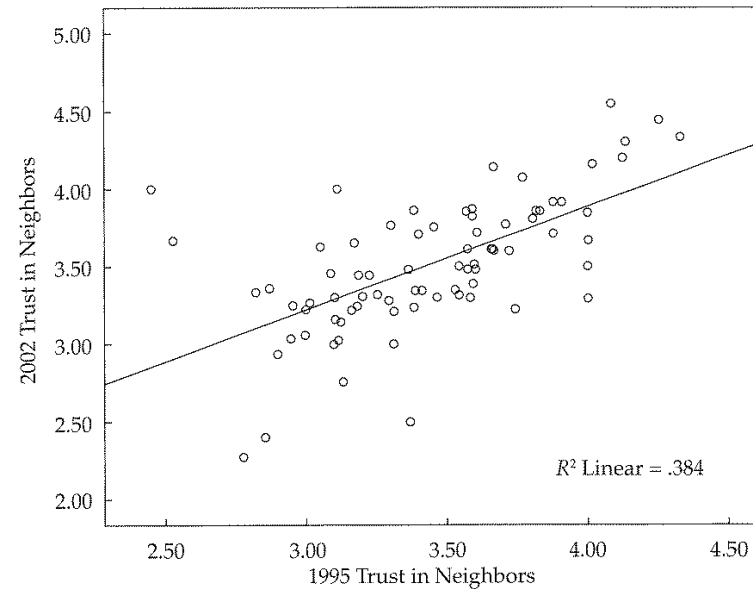
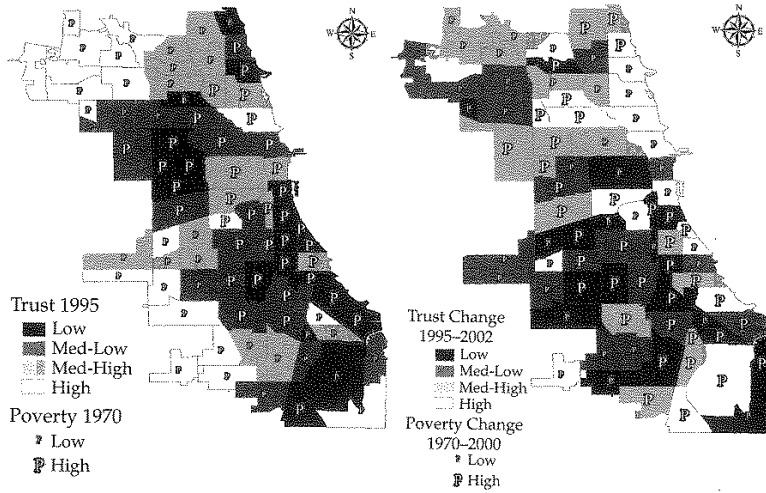*Source:* Authors' compilation based on PHDCN Community Survey (1995, 2002).

effect of poverty on trust is further suggested by the fact that 1970 poverty has an even stronger association with later mistrust than the 1990 poverty rate. Neighborhood traces are apparently not easily overcome.

Figure 7.2 maps this pattern in geographic space. With few exceptions, most of the high poverty communities appear in the lowest trust quartile. Although there is some indication of high 1970 poverty levels in communities that also have a high level of trust in 1995, these communities seem to have experienced some of the highest decreases in poverty between 1970 and 2000 and the highest increases in trust levels between 1995 and 2002. The maps in figure 7.2 further reflect a remarkable pattern of spatial clustering, where communities with similar levels of mistrust are ecologically positioned near each other and overlap with poverty clusters, combining into what appear to be unfortunate traps of spiraling vulnerabilities and reinforcing spatial risks.

We turn now to dimensions of trust at different structural levels of the community by pooling data from the Chicago community survey and the KI panel survey. Table 7.1 shows that the three main structural dimensions

Figure 7.2   Geographic Distribution of 1995 Neighborhood Trust

Trust 1995
- Low
- Med-Low
- Med-High
- High

Poverty 1970
- ℗ Low
- ℗ High

Trust Change 1995–2002
- Low
- Med-Low
- Med-High
- High

Poverty Change 1970–2000
- ℗ Low
- ℗ High

Source: Authors' compilation based on NCDB (GeoLytics 2003) and PHDCN Community Survey (1995, 2002.)

of trust correlate with each other differently. Whereas leadership trust correlates moderately to strongly with residents' trust items, trust in institutions does not correlate consistently with the other dimensions. The trust indices that correlate at the highest level with each other are those reported by residents. Although residents' trust in police would seem to fit better conceptually with the institutional trust items, and does covary strongly with residents' trust in law enforcement as reported by the key informants (itself an indicator of construct validity), both indices correlate surprisingly low with the rest of the institutional trust items and higher with residents' general trust and residents' trust in neighbors. Our findings do suggest, however, that trust includes a component related to personal security and law enforcement, a component that originates from, or makes reference to, community residents. Recall also that trust in law enforcement yields the highest between-community variance component of all the institutional trust measures, and thus is more reliably measured (at .64).

Consistent with table 7.1, a principal factor analysis (not shown) indicated that residents' general trust, trust in neighbors, and trust in police

Table 7.1   Correlations Among Trust Dimensions

	Residents' Trust			Leaders' Trust			Institutional Trust					
	General	Neighbor	Police	General	Resident	Working	LawEnf	ComOrg	Church	School	Politics	Busins
Residents' general trust	1.000											
Residents' trust in neighbors	.680	1.000										
Residents' trust in police	.683	.740	1.000									
Leaders' general trust	.595	.581	.412	1.000								
Leaders' trust in residents	.441	.741	.738	.440	1.000							
Leaders' working trust	.769	.493	.400	.512	.186	1.000						
Trust in law enforcement	.618	.762	.696	.395	.717	.371	1.000					
Trust in community organizations	.082	.025	.265	.026	.248	.131	.143	1.000				
Trust in churches	−.095	.155	.020	.005	.219	−.135	.235	.023	1.000			
Trust in schools	−.044	.173	.089	−.115	−.030	−.140	.168	.091	.380	1.000		
Trust in politicians	.228	.355	.304	.265	.338	.076	.544	.297	.319	.460	1.000	
Trust in business organizations	.018	.243	.415	−.090	.379	−.051	.376	.328	.364	.227	.383	1.000
Collective efficacy (residents' reports)	.453	.811	.636	.326	.616	.168	.450	.134	.132	.226	.260	.062
Collective efficacy (leaders' reports)	.516	.783	.738	.562	.869	.315	.715	.288	.131	.053	.454	.260

Source: Authors' compilation based on PHDCN Community Survey and Key Informant Studies 2002 (Sampson 2002).

load strongly on a single component. In the next steps in the analyses we therefore use a weighted factor score of the three items, called residents' "overall trust scale." In a different principal component analysis (PCA) of trust scores originating from the key informant reports, the three items most equivalent with the residents' also loaded on the first component but at a lower level. Note, too, the generally lower correlations among key informant measures (for example, the highest correlation of leaders' general trust with any other trust measure is .51). We thus decided to continue analyzing the individual trust items of key leaders rather than constructing an overall trust scale.
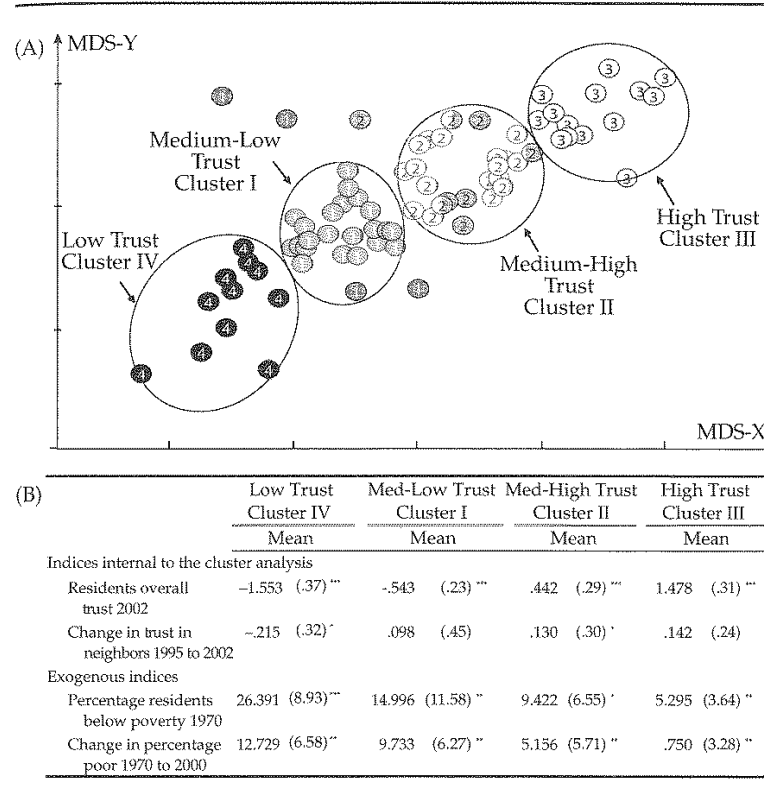
Also consistent with table 7.1, the institutional trust items do not cluster strongly with each other in a principal component analysis. This suggests either that there is no overarching concept of institutional trust or simply too little between-community variance in most of the institutional trust measures to justify including them in multivariate analyses. We leave to future research further investigation of this issue.[3] In the next models, we concentrate on the most reliable measure of institutional trust, namely trust in law enforcement. The two independently measured collective efficacy indices, as reported by residents and the institutional informants, largely follow similar patterns of covariation with the trust measures: strongly associated with resident trust in neighbors, police and law enforcement, and with leader trust in residents.

Multidimensional Scaling of Trust and Change in Trust Across Time

As a final descriptive tool we conducted a multidimensional scaling (MDS) analysis of Chicago communities based on their score on residents' general trust, trust in neighbors and in police, and changes across time in neighborhood trust to produce a geometric distribution of each community relative to all others (see figure 7.3). Essentially this is a dynamic MDS that reflects both pairwise and global dissimilarities between communities according to their scores on the input indices. MDS systematically transforms information on the dissimilarity between communities according to their trust scores from an n-by-n distance matrix, into a geometric representation of the input stimuli in a lower dimensional multivariate space. Similar to a principal components analysis, MDS condenses the dissimilarity between the stimuli from p dimensions (the number of input variables), into a smaller number of dimensions that are easier to interpret (Steyvers 2002). However, compared to a PCA, the MDS entails a minimum set of assumptions, mainly that the interpoint distances are monotonically (in the case of nonmetric MDS) related to the dissimilarities between stimuli (that is, communities).

To help interpret the neighborhood pattern arrangement of the MDS, we next conducted a cluster analysis (Kruskal and Wish 1978). In contrast

Figure 7.3   Structural Cluster Configuration of Chicago Communities (N = 77), Overall Trust and Change in Trust, 1995 to 2002

(B)	Low Trust Cluster IV		Med-Low Trust Cluster I		Med-High Trust Cluster II		High Trust Cluster III	
	Mean		Mean		Mean		Mean	
Indices internal to the cluster analysis								
Residents overall trust 2002	−1.553	(.37)***	−.543	(.23)***	.442	(.29)***	1.478	(.31)***
Change in trust in neighbors 1995 to 2002	−.215	(.32)*	.098	(.45)	.130	(.30)*	.142	(.24)
Exogenous indices								
Percentage residents below poverty 1970	26.391	(8.93)***	14.996	(11.58)**	9.422	(6.55)*	5.295	(3.64)**
Change in percentage poor 1970 to 2000	12.729	(6.58)**	9.733	(6.27)**	5.156	(5.71)**	.750	(3.28)**

Source: Authors' compilation based on NCDB (GeoLytics 2003) and PHDCN Community Survey (1995, 2002).
Notes: (A) The shaded circles represent communities. Spatial location of communities relative to each other is based on multidimensional scaling (MDS). The shading and the loops around communities represent the corresponding cluster assignment based on a hierarchical cluster analysis (squared Euclidean distance, Ward method)
(B) Standard deviations in parentheses next to group means. * $p < .10$, ** $p < .05$, *** $p < .01$

to MDS, which identifies global structural positions, cluster analysis identifies more finely tuned patterns (Aldenderfer and Blashfield 1984). To reflect a balanced weighting of stability and change, we entered both the static and the dynamic components of overall community trust. The hierarchical cluster analysis using the pairwise squared Euclidean distance measure and the Ward method resulted in an assignment of communities to four main groups. The clusters are signaled in figure 7.3, panel A, by

the loops and the shading of the smaller circles, which represent communities. The fairly compact loops suggest a good match between the community groupings yielded by the MDS configuration and the cluster solution (Kruskal and Wish 1978). The clustering results also indicate a good fit for the two-dimension MDS solution at the community level.

Panel B of figure 7.3 shows the mean characteristics of the communities within each of the four clusters. We name the clusters from low trust to high trust according to the rank order of their average scores on the indices used as input in the cluster analysis: residents' trust and change in trust across time. The group means for change in trust across time follow largely the same ordered distribution across clusters as the 2002 overall level of trust, indicating that communities with high levels in overall trust in 2002 also have experienced the highest increases in trust across time. The distribution pattern of the 1970 poverty scores (and change in poverty) across the low to high trust community clusters parallels the findings described earlier (see also table 7.1) indicating a robust negative association between poverty and trust across the three decades.

Poverty and Mistrust Traps

We now specify a set of multivariate regression models that account for spatial dependencies among communities in examining the prediction of community trust from poverty, diversity, and leadership structures. Including spatial lags is important because socioeconomic characteristics of a neighborhood tend to be associated with the characteristics of other spatially contiguous neighborhoods (see also Sampson, Morenoff, and Earls 1999).[4] In modeling panel data, the method of first differences is often used to eliminate fixed effects, a procedure we follow. Including serial lags is also important, however, because the observable population level response to changes in certain neighborhood characteristics often is delayed due to the natural duration that information takes to reach the relevant population, the time it takes for individuals to respond to the new information received and to negotiate normative, social, or institutional factors.

The analyses support the argument that the time-spanning durability of structural deprivation and inequalities is interwoven with sharp differences in the construction and maintenance of trust (Hardin 2002). Models 1 in tables 7.2, 7.3, and 7.4 show that even after controlling for residential mobility and population diversity, the level of community poverty from the 1970s has resilient negative associations with 2002 levels of resident overall trust and collective efficacy. Similarly, poverty predicts also lower leader trust in residents and institutional and working trust. To the extent that the 1970 level of poverty is highly associated with more recent levels of community poverty, this finding is not very surprising. Interestingly, however, the 1990 poverty levels are less strongly associated with trust

Table 7.2   Maximum Likelihood Spatial Regression of Residents' Overall Trust and Change in Trust in Neighbors

	Residents' Overall Trust 2002		Change in Trust in Neighbors 1995 to 2002	
	Coeff.	Std. Err	Coeff.	Std. Err
Constant	1.135	(.538)**	3.407	(.710)***
Percentage residents in poverty 1970	−.037	(.007)***	−.013	(.005)**
Change in percentage poor 1970 to 2000	−.067	(.010)***	−.029	(.008)***
Percentage residential stability	−.002	(.007)	.003	(.005)
Change percentage stability 1970 to 2000	−.002	(.008)	.004	(.005)
Racial diversity 1970	−.515	(.512)	−.383	(.295)
Change in diversity 1970 to 2000	.049	(.339)	.066	(.199)
1995 trust in neighbors			−.893	(.188)***
Spatial lag	.333	(.104)***	.060	(.147)
R^2	.735		.308	
N	77		77	

Source: Authors' compilation of NCDB (GeoLytics 2003) and PHDCN Community and Key Informant Surveys (1995, 2002; Sampson 1995, 2002).
***$p < .01$, **$p < .05$

Table 7.3   Maximum Likelihood Spatial Regression of Residents' Collective Efficacy and Change in Collective Efficacy

	Collective Efficacy 2002		Change in Collective Efficacy 1995 to 2002	
	Coeff.	Std. Err	Coeff.	Std. Err
Constant	1.776	(.386)***	2.383	(.484)***
Percentage residents in poverty 1970	−.004	(.002)**	−.005	(.002)**
Change in percentage poor 1970 to 2000	−.013	(.003)***	−.012	(.004)***
Percentage residential stability	.009	(.002)***	.010	(.002)***
Change percentage stability 1970 to 2000	.008	(.002)***	−.001	(.002)
Racial diversity 1970	−.105	(.136)	−.149	(.143)
Change in racial diversity 1970 to 2000	.082	(.091)	.081	(.096)
1995 collective efficacy			−.856	(.152)
Spatial lag	.330	(.117)***	.037	(.145)
R^2	.611		.371	
N	77		77	

Source: Authors' compilation based on NCDB (GeoLytics 2003) and PHDCN Community and Key Informant Surveys (1995, 2002; Sampson 1995, 2002).
***$p < .01$, **$p < .05$

Table 7.4   Regressions of Trust Dimensions in 2002 Among Key Informant Leaders: N = 30 Chicago Communities

	Leaders' General Trust		Leaders' Trust in Residents		Leaders' Working Trust		Trust in Law Enforcement	
	Coeff.	Std. Err	Coeff.	Std. Err	Coeff.	Std. Err	Coeff.	Std. Err
Constant	2.138	(.59)***	2.356	(.46)***	.874	(.25)***	1.834	(.34)***
Residents' trust in neighbors 1995	.084	(.16)	.451	(.12)***	-.159	(.07)**	.226	(.09)**
Percentage residents in poverty 1970	-.002	(.00)	-.010	(.00)**	-.004	(.00)**	-.007	(.00)**
Change in percentage poor 1970 to 2000	-.004	(.01)	.000	(.01)	-.008	(.00)***	-.006	(.00)*
Centralization of leader network 1995	1.246	(1.38)	-1.052	(1.08)	1.301	(.59)**	-.476	(.78)
Change in centralization of leader network 1995 to 2002	2.036	(1.77)	-1.635	(1.39)	2.423	(.76)***	1.813	(1.01)*
R^2	.263		.745		.494		.756	

Source: Authors' compilation based on NCDB 1970–2000 (GeoLytics 2003) and PHDCN Key Informant Panel Survey (1995, 2002; Sampson 1995, 2002).
***$p < .01$, **$p < .05$, *$p < .10$

than the 1970 levels are. Moreover, the temporal fluctuations in community poverty across three decades from the 1970 to the year 2000 are also included in the estimated models and significantly predict lower levels of resident overall trust, trust in law enforcement, and more surprisingly, leader working trust.

Perhaps even more unexpected is the durable effect of the 1970 poverty level on recent decreases in residents' trust, controlling for changes in poverty over time (table 7.2). It appears that poverty and its associated pitfalls, disorder and violence, for instance, may have a lasting and cumulative effect on collective memories about urban communities affecting their reputation and perceived "local character" for a long time, in a downward spiral of disadvantage, which may increasingly undermine residents' trust in local institutions and possibly in each other as well (Molotch, Freudenburg, and Paulsen 2000; Suttles 1984). Reinforcing the importance of distinguishing between different dimensions of trust, however, note that 1970 poverty is not consistent in predicting all measures of trust. In particular, 1970 poverty does not predict leaders' general trust and the change in poverty across time does not seem to impact general trust by leaders or leaders' trust in residents. Contextual effects on trust are thus largely specific to grounded contexts rather than to global dimensions of general trust, in keeping with our hypothesis.

After controlling for poverty and residential stability, 1970 levels of diversity and change in diversity across three decades do not significantly predict trust or collective efficacy, suggesting that most of any zero-order negative association between racial diversity and trust is accounted for by the patterns of covariation between poverty and stability with trust at the community level. This set of findings implies that as the importance of the foreign born has grown in the United States and cities like Chicago, the negative effect of racial diversity on community social processes found in previous studies may have become outdated, changing into a nonsignificant effect. We are currently exploring these findings, using more extensive diversity measures, in greater detail.

Network Structure and Leadership Trust

Finally, we turn to the largely unexplored arena of the connection between community network structures and leadership trust. Figure 7.4 illustrates the range of variation in the centralization of community leadership structures by comparing two communities at different poles on this index, one with centralized and dense leadership structure and another with a sparse and decentralized community structure. The dots represent key informants and the thickness of the ties between informant pairs reflects the number of nominees they have in common, if any.

Figure 7.4   Decentralized and Centralized Leadership Networks

| Community A: Sparse and Decentralized | Community B: Dense and Centralized |
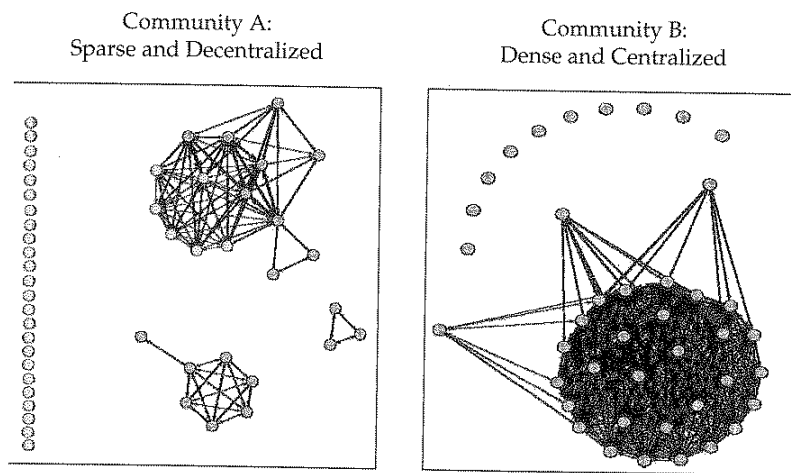
Source: Authors' calculations based on PHDCN Key Informant Network Study (1995; Sampson 1995)

Notes: N = 2,813 leaders, 47 communities. Degree of connectedness reflects the degree of centralization. Dots are key informants, and the thickness of the connecting ties represents the number of the same alters (if any) that two informants have nominated. Hence respondents are connected through alters.

The network concentration index simultaneously measures both the spread and evenness in the distribution of network ties within the social structure of a community (Ottaviano and Perri 2005; Parijs 2006). A high score reflects a relatively low number of alters nominated by the key informants. This indicates a high level of agreement among the respondents about the constituents of the leadership core, suggesting a relatively well-defined and small elite group instrumental in getting things done for the community. Furthermore, a high level of network concentration simultaneously suggests a relatively high inequality in the distribution of ties across all the nominated alters. This means that a few leaders receive nominations from a large number of respondents, whereas most other alters receive one or very few nominations.

Net of disadvantage and residential stability, network centralization yields a positive and strong association with leader working trust but not with leader general trust, their trust in residents, or trust in law enforcement (table 7.4). The nonsignificant coefficients at these higher structural levels might be affected by the small sample size (N = 30).[5]

Still, the negative sign of the centralization coefficient in predicting institutional trust indicates potentially opposite processes leading to some forms of trust compared to others. This raises yet another cautionary flag about the explicit or implicit assumption, frequently made in studies of trust and social capital, that individuals' general levels of trust reflect fairly well other specific dimensions of trust. In fact, the findings suggest that general trust may be more of a characteristic of the person than the context.

In contrast, working trust seems deeply embedded in the social and structural characteristics of the community and network contexts. One reason may be that a centralized network reflects perhaps a more cohesive leadership structure, whereby leaders agree more often with each other in naming the instrumental actors for the community. The more individuals are putting their hopes in a particular leader, the cost of monitoring his or her actions decreases and the level of trust likely increases in a self-reinforcing loop. Alternatively, when more key informants in a community nominate the same alters, it may be the result of shared perceptions among the members of the community leadership network that they form a cohesive elite group rather then multiple cliques or no group at all. If this is the case, the positive relationship between network centralization and working trust may be explained by an in-group heuristic based on expectations of generalized exchange. In chapter 1 of this volume, Margaret Foddy and Toshio Yamagishi present experimental results that support this hypothesis. Community leaders with high nomination scores seem to be more trustworthy (see chapter 3, this volume). A centralized network may also reflect a more condensed and smaller leadership core, making its members more visible and accountable to the community. Put differently, when the core leadership circle is relatively small and public attention more focused on them, the intensity of social control and the cost of deviance increases thereby creating a multilayered "enforceable trust" (Portes 1998).[6]

A common critique of indices of centralization or concentration brings to attention their inherent association with the size of the network or the community (Wasserman and Faust 1994). Using reports from key informants in fifty-one communities, Terry Clark suggested that that the population size of a community is positively related to the institutional decentralization of the decision making structure (1968). In contrast, Walton's (1970) review of community studies concluded that the size and the composition of the population are not related to the structure of the community power. In this study, we find that the leadership network concentration index is associated with the community size but the pattern of association between power concentration and other community characteristics remains significant independent of size.

Conclusions

We have found that mistrust and low collective efficacy are stubbornly persistent in terms of their neighborhood concentration, which is somewhat surprising when considered in relation to the common emphasis in urban sociology on social transformation (Wilson 1987). Low levels of trust and collective efficacy appear to beget cycles of further mistrust and ineffective institutional response. Neighborhoods also remain remarkably stable in their relative social standing despite the inflow and outflow of individual residents. There is something enduring about the poverty vulnerability of neighborhoods that is not simply a matter of the current income of residents (Sampson and Morenoff 2006; Sampson and Sharkey 2008).

Second, initial levels of concentrated poverty—those from 1970—predict multiple dimensions of (mis)trust some thirty years later. What change does occur reveals strong patterns of long-term increases in poverty from 1970 to 2000 being linked to decreasing trust, with the latter measured in the 1995–2002 period and thereby alleviating concerns about simultaneity. This finding suggests that increases in resource deprivation may have a substantial causal effect on reductions in trust. One way that historical connections between structural and individual level processes can expand across decades is by intergenerational transmission of what may be called "learned mistrust" (Hardin 2001). Even as the population composition changes within a chronically distrusting neighborhood, newcomers may learn not to trust others in the community, a rational reaction to a corrosive moral environment. This finding contributes to the midrange paradigm of trust Henry Farrell emphasizes in chapter 5 of this volume. We find that neighborhood poverty and the institutional deprivation it signifies have an enduring impact on trust across layers of the social fabric within a community. Not only does poverty predict resident mistrust of institutions such as law enforcement, it heightens leader mistrust of residents. Moreover, residents' mistrust of their neighbors seems to lead over time to mistrust of residents at the leadership level as well. At the structural level, the effect of concentrated disadvantage on communities at a given point in time may have snowballing effects on trust that amplify over time due to the cumulative weakening of their institutional and organizational base. Such processes may be reinforced by declines in opportunities for employment (Wilson 1996), deterioration of parks, schools, or medical services (LaGrange, Ferraro, and Supanic 1992; Robert 1998; Taylor and Hale 1986), the decline of formal services (LeClere, Rogers, and Peters 1997; Robert 1998), and the erosion of informal social controls (Sampson, Raudenbush, and Earls 1997). The deep imprint of cumulative disadvantage on collective mistrust appears to be difficult to overcome.

Third, decreases in poverty predict decreases in mistrust net of changes in racial diversity and residential stability. The latter itself has a strong

association with collective efficacy but not trust in leaders or the overall trust factor. Because of statistical power constraints, we could not examine a large number of potential confounders at the time-varying covariate level, but racial change and changes in residential tenure are two of the most potent ecological characteristics in a long line of urban research. In line with those of Karen Cook, Russell Hardin, and Margaret Levi, our results support policies reducing economic, social, and political disparities by building a "social infrastructure that ensures a rupture with the past and that promotes substantial relearning of the likelihood of trustworthiness" (2005, 13).

Interestingly, however, a fourth result is that racial diversity is either positively correlated with trust or unrelated to trust once multivariate controls are introduced. Either finding contradicts common beliefs and theories arguing that ethnic heterogeneity plays a deleterious role for the community (for example, Shaw and McKay 1942/1969). Our findings instead are more in line with recent research that depicts a more optimistic image for communities increasing in immigration and diversity (Sampson 2008, 2009). Toward the beginning of the twenty-first century, diversity appears to be evolving from a marker of white-nonwhite hierarchies into a marker of increasingly complex cultural differentiations within a more amorphous ethnic hierarchy. Moreover, though racial heterogeneity is typically expected to increase problems of communication and mistrust (Putnam 2007), the weak link between diversity and trust we found here highlights the importance of drawing on alternative sociological frameworks to better understand contemporary diversity and its effects on neighborhoods. Conceptual frames such as Claude Fischer's subcultural theory of urbanism (1975) or Peter Blau's theory of heterogeneity and inequality (1977) predict both positive and negative social processes and outcomes stemming from diversity. For example, more diverse communities offer increased opportunities for both intergroup contact and intergroup conflict (Knight 2001) as well as increased tolerance and intermarriage.

A fifth finding is that spatial proximity to "mistrust traps" is related to lower levels of trust in focal neighborhoods despite indigenous characteristics. By contrast, proximity to neighborhoods with high levels of trust seems to have a protective effect on the focal neighborhood. Consistent with those of other studies on collective efficacy and social capital in Chicago, this finding highlights a remarkable, yet little documented, contextual characteristic of neighborhood trust—its spillover across space and time (see Sampson, Morenoff, and Earls 1999). Explanations for trust spillovers range from simple errors due to omitted variable bias to macro-level processes of what we call *mistrust contagion*. Systematic investigation of such processes will constitute a valuable area of further research.

Finally, structural networks among community leaders—both lagged and change—predict working trust among leaders *but not general trust*. In communities in which centralized and dense networks of leaders prevail

and are increasing in number, contextual trust is thus higher (or increasing) despite controlling for concentrated poverty and racial diversity. This is one of the first empirical demonstrations we are aware of that indicates the role network structures can play in the formation of grounded trust. Of course, this model constitutes only a first glimpse at the enduring implications of complex local structures. Characteristics of social network structures can rarely be thought of as fully exogenous to outcomes generated within those structures (see also chapters 9 and 11, this volume). Accounting for potential feedback processes between contexts and trust would be highly valuable in further analyses. We emphasize, however, that in this chapter the predictors and outcomes were measured independently and time ordered, and that the finding holds regardless of the changing composition of the community population.

The consequences of durable and increasing poverty appear to be long lasting, at least with respect to predicting key social processes like relational trust. Controlling for stability and racial diversity, both persistent poverty and increases in poverty from 1970 to 2000 predict lower collective efficacy and higher mistrust by neighborhood residents in 2002. Although the time span is shorter, structural variations in dense networks among community leaders also predict future variations in trust specific to leaders in their communities. Ambiguities remain, of course, but our findings are consistent with the idea that the structural dynamics of concentrated urban poverty set systemic processes in motion that contribute to the marginalization of urban neighborhoods and a further deepening of poverty. On the more positive side, cohesive networks of leadership may signal hope as a viable lever of neighborhood social change.

Notes

1. Interpretations of how neighborhoods become trapped in poverty vary, the most common one being the differential selection of individuals into and out of neighborhoods (Sampson and Morenoff 2006). In a recent examination of selection as a mechanism reproducing concentrated poverty, Robert Sampson and Patrick Sharkey found that even when selection decisions to move are explicitly modeled, inequality is replicated across racial-ethnic groups (2008).

2. Neighborhood reliability is a function of (1) the sample size (N) in each of the j neighborhoods and (2) the proportion of the total variance that is between

neighborhoods relative to that is within neighborhoods. Thus, the 2002 survey yields lower reliabilities overall given its substantially lower sample size.

3. Although one might expect evaluations of trust in different types of institutions to be strongly associated, some recent research questions this assumption by indicating that the strength of associations depends on variations in the information available or in individuals' differential experience with the respective institutions under evaluation (see chapter 10, this volume).

4. The significant Lagrange multiplier test (for example, LM-lag tests for a missing spatially lagged dependent variable) and the significant Robust Lagrange multiplier tests indicate that a spatial lag model is more appropriate than a spatial error model in predicting residents' overall trust and collective efficacy. Specifically, the spatial lag dependence is robust to tests for a missing spatial error term (Anselin 2005). Unlike those predicting time-lagged trust, models predicting change in trust or collective efficacy show no evidence of spatial dependence. The spatial dependence lag is not included in the models using network centralization or leader's reports on trust due to sample size limitations and to the fact that most of the sampled communities (thirty of the city's seventy-seven) are not contiguous.

5. Because of the small sample size at the community level (thirty), we specify only a small set of theoretically motivated control variables. Further sensitivity analyses revealed that the patterns remain once stability and change in poverty are in the model.

6. Conversely, one could also argue that tightly knit and centralized power structures can lead to lower trust and increased cynicism if these leaders become corrupt and monopolize access to community resources and power (Cook, Hardin, and Levi 2005).

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