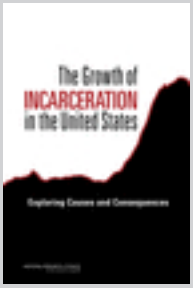

The Growth of Incarceration in the United States: Exploring Causes and Consequences

ISBN
978-0-309-29801-8

464 pages
6 x 9
PAPERBACK (2014)

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Consequences for Communities

Previous chapters have examined the impact of the historic rise in U.S. incarceration rates on crime, the health and mental health of those incarcerated, their prospects for employment, and their families and children. In those discussions, the unit of analysis is the individual before and after incarceration and, secondarily, his or her familial networks. Here, our focus is on the community, especially the urban neighborhoods from which most prisoners come.

At the most prosaic level, we use the term *community* here to denote the geographically defined neighborhood where the individuals sent to prison lived before their arrest and to which, in most cases, they will return after they are released from prison. Scholars have long been interested in the aggregate correlates and consequences of incarceration, but research has tended until quite recently to examine larger social units such as nations, states, and counties. Relatively few studies have examined the units of analyses that are the focus of this chapter—urban communities or neighborhoods. We are most interested in how neighborhoods have borne the brunt of the historic increase in rates of incarceration.

Two questions frame the chapter. We begin by assessing the spatial distribution of incarceration: To what extent is incarceration concentrated by place, and what are the characteristics of the communities most affected by high rates of incarceration? For example, how uneven is the geographic spread of incarceration within American cities, and how does it differ across neighborhoods that vary by economic conditions or the racial and ethnic distribution of residents? These are largely descriptive questions, but ones that are essential for scientific understanding of the problem at hand.

The second question on which we focus here is: What are the consequences for communities of varying levels of incarceration? For example, how have neighborhoods with high rates of incarceration fared relative to those with lower rates? The incidence of crime is one key outcome, but our analysis also considers a broad conception of community life that includes economic well-being (e.g., the concentration of poverty) and the complex set of relationships that create or undermine a sense of connection, belonging, and purpose. Recent research has focused in particular on the dynamics of informal social control and the perceived legitimacy of the criminal justice system. We are also interested in whether the nearly 5-fold increase in per capita rates of incarceration, viewed from the perspective of affected communities, has had positive or negative effects on local neighborhoods.

The second question on the consequences of incarceration is largely causal in nature and puts strict demands on the evidence, which we assess in the third section of the chapter. Our review reveals that, while there is strong evidence that incarceration is disproportionately concentrated in a relatively small number of communities, typically urban neighborhoods, tests of the independent *effects* of incarceration on these communities are relatively sparse. Moreover, the studies that do exist have a number of problems that preclude drawing clear or consistent inferences about what is cause and what is effect. A major problem is that incarceration at the neighborhood level is entangled with a large number of preexisting social disadvantages, especially the concentration of high levels of poverty and violence. We believe this to be an important finding in itself. Indeed, even if incarceration has no estimable unique effect on community-level indicators, the intense concentration of incarceration added to existing social inequalities constitutes a severe hardship faced by a small subset of neighborhoods.

In short, we conclude in this chapter that (1) incarceration is concentrated in communities already severely disadvantaged and least capable of absorbing additional adversities, but (2) there exist no reliable statistical estimates of the unique effect of the spatial concentration of incarceration on the continuing or worsening social and economic problems of these neighborhoods. Based on the existing evidence, we thus are unable to estimate with confidence the magnitude of incarceration's effects on communities. We reach this cautious conclusion fully aware of the unprecedented levels of criminal justice involvement, particularly incarceration, in the communities of interest. Accordingly, in the fourth section of the chapter, we recommend steps that can be taken to fill knowledge gaps in this area and provide a more rigorous assessment of competing claims. We also conclude that causal questions are not the only ones of interest and that further research is needed to examine variation over time and geographic scale in the spatial concentration of disadvantage and incarceration.

SPATIAL CONCENTRATION OF HIGH RATES OF INCARCERATION

Our review of the evidence underscores the fact that incarceration is concentrated in specific places, and the dramatic increases in incarceration have been concentrated disproportionately in those neighborhoods. In other words, rates of incarceration are highly uneven, with some communities experiencing stable and disproportionately high rates and others seeing very few if any residents imprisoned. The communities and neighborhoods with the highest rates of incarceration tend to be characterized by high rates of poverty, unemployment, and racial segregation. In particular, the geography of incarceration is contingent on race and concentrated poverty, with poor African American communities bearing the brunt of high rates of imprisonment. These same places also have high levels of violence and frequent contact with criminal justice institutions (e.g., the police, probation and parole, and the court system). The spatial inequality of incarceration is a general phenomenon across the United States and is seen in multiple cities. To illustrate, we consider four cities: Chicago, Seattle, New York City, and Houston.

Chicago provides an example of the spatial inequality in incarceration (Sampson and Loeffler, 2010). West Garfield Park and East Garfield Park on the city's West Side, both almost all black and very poor, stand out as the epicenter of incarceration, with West Garfield having a rate of admission to prison more than 40 times higher than that of the highest-ranked white community (Sampson, 2012, p. 113). This is a difference of kind, not simply degree.

A second example is Seattle, which is demographically very different from Chicago. The highest levels of incarceration in Seattle are in the Central District and the Rainer Valley. Only a few census tracts in the city or even within these neighborhoods are majority black, but the plurality of the population in those places is African American, and the residents have the city's highest levels of economic disadvantage. Here, too, incarceration is concentrated in the most disadvantaged places (Drakulich et al., 2012).

To provide a visual perspective that captures the neighborhood concentration of incarceration and its social context by race and income, Figures 10-1 and 10-2 show an aerial view of two other cities, again very different from one another and located in different parts of the country; in this case, moreover, the cities also have very different levels of incarceration.[1] Figure 10-1 shows the distribution of incarceration in the country's most populous city, New York City, which had an overall prison admission rate of

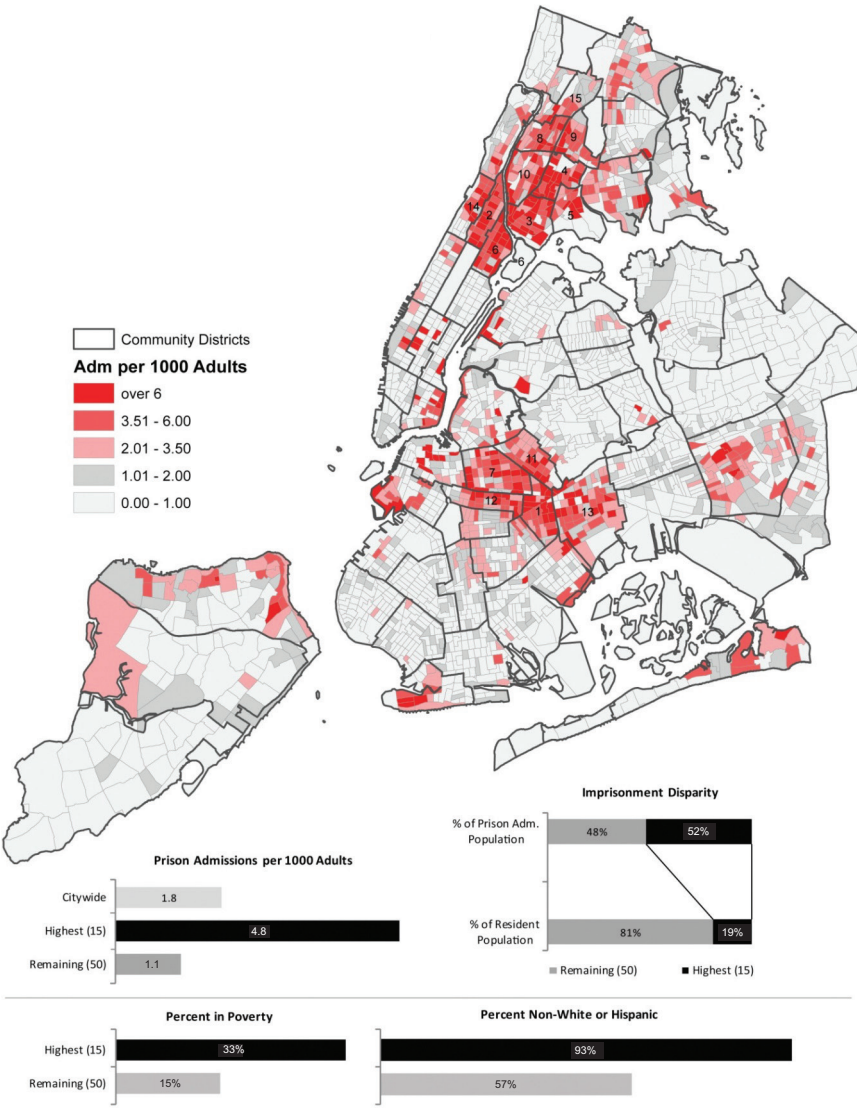
[1]These maps were produced for the committee by Eric Cadora of the Justice Mapping Center (http://www°.justicemapping.org/about-us/).

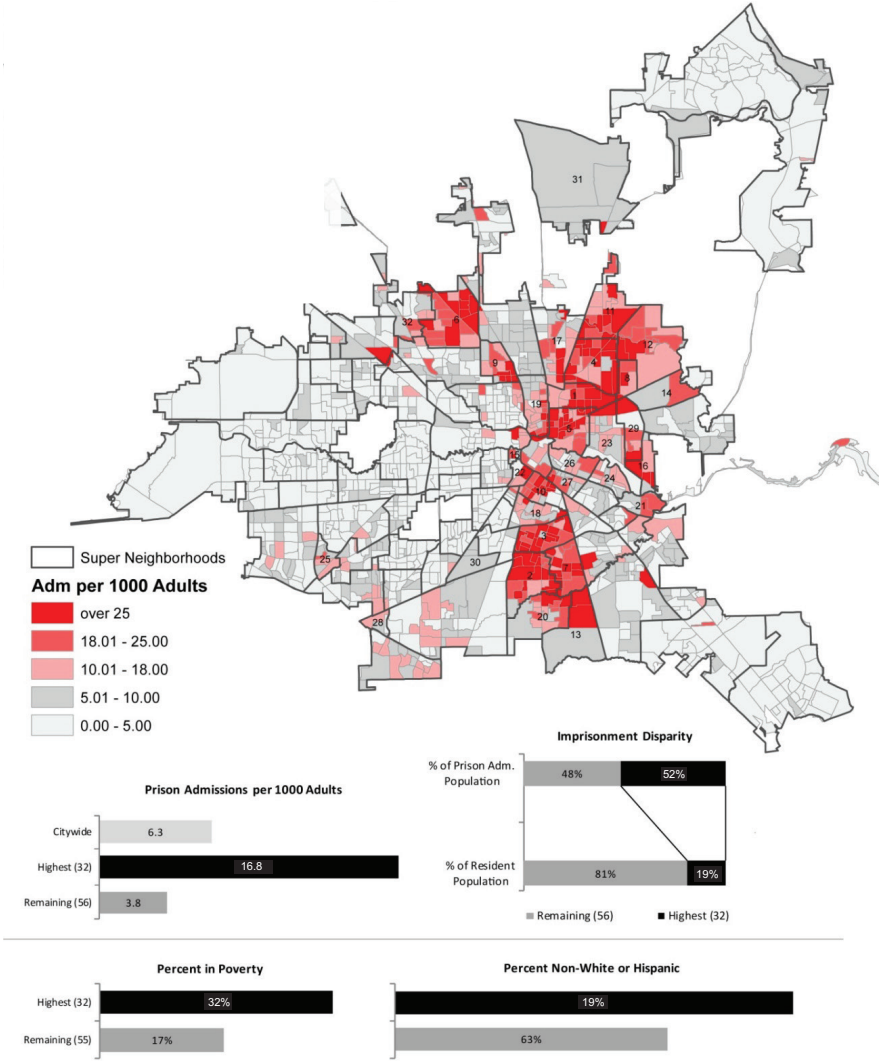
1.8 per 1,000 residents in 2009 (the most recent year for which data with fine-tuned geographic coordinates were available). Figure 10-2 focuses on the country's fourth most populous city—Houston, Texas. Even though Houston has an admission rate more than triple that of New York City, at 6.3 per 1,000 in 2008, a substantial neighborhood concentration of imprisonment still is seen in both cities.

In New York City (Figure 10-1), incarceration is concentrated in such neighborhoods as Central and East Harlem, the South Bronx, and pockets of Brooklyn near Bedford Stuyvesant and East New York, almost all of which are black or Hispanic and are characterized by concentrated poverty (see legend graphs). By contrast, many neighborhoods of the city are virtually incarceration free, as, for example, are most of Queens and Staten Island. Overall, just 15 of the city's 65 community districts account for more than half of those sent to prison over the course of the year. These communities have twice the poverty rate of the rest of the city and are more than 90 percent minority, compared with less than 60 percent among the remaining areas.

Figure 10-2 shows that, while having much higher levels of incarceration than New York City, Houston has rates of removal to prison that are also highly uneven. Incarceration rates are highest in a sector extending south of downtown (e.g., Third Ward, South Union) and to the northeast (e.g., Kashmere Gardens). As in New York City, these neighborhoods are disproportionately black or Hispanic and poor (see legend graphs). Overall, these neighborhoods represent less than 20 percent of the city's population yet generate more than half of the admissions to state prison. Also as in

FIGURE 10-1 Distribution of incarceration in New York City (2009). People admitted to prison per 1,000 adults by census tract of residence with community district borders.
NOTE: About half (52 percent) of the people sent to prison from New York City in 2009 came from 15 of the city's 65 community districts. These 15 community districts have the highest prison admission rates among the city's community districts and are labeled on the map according to rank from 1 to 15. They are collectively labeled "Highest (15)" and compared with the city's remaining 50 community districts, labeled "Remaining (50)," in the figure above.
SOURCE: Prepared for the committee by the Justice Mapping Center, Rutgers University School of Criminal Justice: Maps designed and produced by Eric Cadora and Charles Swartz.





New York City, wide swaths of Houston—especially the western, southeastern, and far northeastern parts of the city—see little incarceration.

Thus, whether in Chicago in the midwest, New York City in the northeast, Houston in the central southern portion of the country, or Seattle in the northwest, as in other cities across the United States, geographic inequality in incarceration is the norm, with black and poor communities being disproportionately affected. The level and cost of this kind of spatial concentration can be surprisingly high. In their analysis of the residential blocks in Brooklyn, New York City, with the highest incarceration rates, Cadora and Swartz (1999) find that approximately 10 percent of men aged 16 to 44 were admitted to jail or prison each year. In a subsequent study, they calculate the costs of incarcerating the men from those blocks. For blocks with the highest rates of incarceration, the taxpayers of New York were spending up to $3 million a year per block to house those incarcerated from that block (Cadora et al., 2003).

Did these communities experience the same (or greater, or lesser) increase in per capita rates of incarceration as the country as a whole? Although not at the neighborhood level, a study by Lynch and Sabol (2001) sheds light on this question. They determined that in 1984, early in the prison buildup, about half of the 220,000 individuals released from state prisons returned to "core counties," which the authors define as those with a central city. In 1996, by contrast, two-thirds of the reentry cohort, which had grown to 500,000 individuals, returned to these counties. In absolute numbers, this shift from 110,000 to 330,000 individuals returning to the nation's urban centers represents a tripling of the reentry burden shouldered by these counties in just 12 years.

Evidence also indicates that the link between concentrated disadvantage and incarceration impacts some demographic groups more than others.

FIGURE 10-2 Distribution of incarceration in Houston, Texas (2008). People admitted to prison per 1,000 adults by census block-group of residence with super neighborhood borders.
NOTE: About half (52 percent) of the people sent to prison from Houston in 2008 came from 32 of the city's 88 super neighborhoods. These 32 super neighborhoods have the highest prison admission rates among the city's super neighborhoods and are labeled on the map according to rank from 1 to 32. They are collectively labeled "Highest (32)" and compared with the city's remaining 56 super neighborhoods, labeled "Remaining (50)," in the figure above.
SOURCE: Prepared for the committee by the Justice Mapping Center, Rutgers University School of Criminal Justice: Maps designed and produced by Eric Cadora and Charles Swartz.

Heimer and colleagues (2012) find that black women's imprisonment increases when the African American population is concentrated in metropolitan areas and poverty rates rise, but that white women's rates are unaffected by changes in poverty. Unfortunately, data are insufficient at the neighborhood level from the 1970s to the present to allow finer-grained conclusions about differential rates of increase by disadvantage. Overall, however, Figures 10-1 and 10-2, along with data from other cities around the country, demonstrate that incarceration is highly uneven spatially and is disproportionately concentrated in black, poor, urban neighborhoods.

COMPETING VIEWS ON THE COMMUNITY-LEVEL EFFECTS OF INCARCERATION

Two competing hypotheses frame the conceptual case for the differential effects of incarceration, by community, on crime and other aspects of well-being. One hypothesis, which might be termed the classic view (reviewed in depth in Chapter 5), is that incarceration has a deterrent and/or incapacitative effect (National Research Council, 1978a; Levitt, 2004). Common sense suggests that crime will be reduced as increased incarceration takes criminally active individuals off the streets or deters others in the community from committing crimes. According to this view, one need only point to the low levels of crime in the modern era, and then to the high rates of incarceration, and conclude that the two phenomena are causally linked. Yet, as discussed in Chapter 5, this simple causal claim is not easily sustained at the national level for a number of methodological reasons, and it is equally problematic at the neighborhood level. Moreover, again as noted in Chapter 5, deterrence appears to be linked more closely to the certainty of being apprehended than to the severity of punishment. Incarceration does incapacitate, but the marginal effects are smaller than they at first appear because the free population has less criminal propensity than the incarcerated population. At very high rates of incarceration, therefore, the marginal incapacitative effect may be quite small. At the community level, the overall effects of incarceration are equally difficult to estimate for methodological reasons.

The second, very different hypothesis is that incarceration—at least at high levels—has a criminogenic, or positive, effect on crime independent of other social-ecological factors. According to this view, to the extent that high incarceration rates disrupt a community's stability, they weaken the forces of informal social control in ways that result in more crime. This hypothesis may initially appear to be counterintuitive, as one wonders how the removal and incarceration of many more people convicted of crimes could lead to an increase in crime. Yet this hypothesis is rooted in a

scientific understanding of the role of informal social control in deterring criminal behavior.

The most forceful argument for this hypothesis is made by Clear (2007) and his colleagues (Rose and Clear, 1998; Clear et al., 2003). These authors argue for an interpretation of incarceration as a dynamic of "coercive mobility"—the involuntary churning of people going from the community to prison and back—generating residential instability that is a staple of social disorganization theory (Bursik, 1988; Sampson and Groves, 1989). The effects of imprisonment at one point in time thus are posited to destabilize neighborhood dynamics at a later point, which in turn increases crime. Destabilization is hypothesized to occur mainly through residential and family instability, weakened political and economic systems, and diminished social networks. Clear (2007, p. 5) argues as follows: "Concentrated incarceration in those impoverished communities has broken families, weakened the social control capacity of parents, eroded economic strength, soured attitudes toward society, and distorted politics; even after reaching a certain level, it has increased rather than decreased crime."

Another mechanism, hypothesized by Sampson (1995), works through increased unemployment and imbalanced sex ratios arising from the disproportionate removal of males in the community. Thus, for example, where there are fewer males, especially employed males, per female rates of family disruption are higher. These changes in high incarceration communities are thought to disrupt social control and other features of the neighborhood that inhibit or regulate crime. Of course, it is also possible that incarceration may have no effect on crime, or only a small one (see Chapter 5). It is important as well to note that the above two hypotheses are not mutually exclusive. Incarceration at moderate levels could decrease crime while disrupting the social organization of communities and increasing crime at high levels.

ASSESSING THE EVIDENCE

Relatively few studies have directly assessed the coercive mobility hypothesis or the more traditional crime reduction hypothesis at the neighborhood level, and among existing studies the evidence is conflicting. Similar to a recent review by Harding and Morenoff (forthcoming), our efforts yielded fewer than a dozen studies directly addressing the questions raised in this chapter.

In a study of Tallahassee, Florida, Clear and colleagues (2003) report that after a neighborhood reaches a certain concentration of prison admissions, the effect of more admissions is to increase crime (see also Clear, 2007). Hence the relationship between prison input and crime in this study is curvilinear, with high levels of imprisonment having criminogenic effects.

However, the same study finds that releases from prison are positively associated with higher crime rates the following year, which the authors note could be explained in several different ways.[2] Another study of Tallahassee finds similar nonlinear results (Dhondt, 2012).

Renauer and colleagues (2006) attempted to replicate the Tallahassee studies in Portland, Oregon. They argue that testing nonlinear effects is problematic with the models used in prior research.[3] Using three different estimation techniques, they find a significant negative relationship between incarceration and violent crime at moderate levels but a positive relationship at high levels. They identify the tipping point of high incarceration as a rate of 3.2 admissions per 1,000, but only 4 of 95 neighborhoods they examined met or exceeded this level. These results do not hold for property crime, and the results for violence are sensitive to outliers. In a study of New York City, Fagan and colleagues (Fagan and West, 2013; Fagan et al., 2003) find no overall effect of incarceration on homicide at the neighborhood level. By contrast, Lynch and Sabol (2004b) report that removing and incarcerating people in Baltimore reduced crime at the neighborhood level. Overall, then, while some research finds that incarceration, depending on its magnitude, has both positive and negative associations with crime, the results linking incarceration to crime at the neighborhood level are mixed across studies and appear to be highly sensitive to model specifications.

The coercive mobility hypothesis advanced by Rose and Clear (1998) focuses on the effects of incarceration not only on crime but also on the social organization of neighborhoods. They argue that high rates of incarceration, controlling for crime rates, undermine key social characteristics of neighborhoods, such as social networks, community cohesion, informal controls, and respect for the law—in other words, legitimate systems of order and the political and social structure within a community. Lynch and Sabol (2004b) tested this hypothesis in Baltimore by estimating the effect of prison admissions on informal social control, community solidarity, neighboring (i.e., individuals interacting with others and meaningfully engaging in behaviors with those living around them), and voluntary associations (see

[2]"Routine-activities theory," for example, suggests that "releasing ex-offenders into the community increases the number of offenders in the community and that an increase in crime is, therefore, not surprising." Another interpretation, consistent with a "social disorganization framework," is that released ex-offenders "are people whose arrival in the community constitutes a challenge to the community's capacity for self-regulation" (Clear et al., 2003, pp. 55-56).

[3]Clear and colleagues (2003) estimate a negative binomial model for count data. Relying on Hannon and Knapp (2003), Renauer and colleagues (2006) argue that negative binomial models and log transformations may "bend" the data toward artifactual support for nonlinear relationships. They therefore recommend robustness checks using a variety of estimation techniques to determine the sensitivity of results to model specification.

also Lynch and Sabol, 2004a). Their findings are mixed. Using an instrumental variables approach, the authors find that incarceration in the form of removal had a positive effect on informal social control but a negative effect on community cohesion. Adjusting for control variables, they find no effect of incarceration on neighboring and membership in voluntary associations. Drakulich and colleagues (2012) report that as the number of released inmates increases in census tracts, crime-inhibiting collective efficacy is reduced, although the authors indicate that this effect is largely indirect and is due to the turmoil created in a given neighborhood's labor and housing markets.[4] We were surprised by the absence of research on the relationship between incarceration rates and direct indicators of a neighborhood's residential stability, such as population movement, household mobility, and length of residence in the community.

Two studies examine human capital and the link between incarceration and a neighborhood's economic status. Fagan and West (2013) find that jail and prison admissions were associated with lower median income, although the association was larger for jail than for prison. Piquero and colleagues (2006) report that the association of high rates of incarceration with lower income and human capital was strongest for blacks.

A closely related question is whether incarceration influences attitudes toward the law, and if so, to what extent. Clear and Rose (1999) find that Tallahassee residents familiar with someone who had been imprisoned were more skeptical of the power of government or community to enforce social norms than those who had not been exposed to incarceration. A later study (Rose et al., 2001) finds that Tallahassee residents with a family member in prison were more isolated from other people and less likely to interact with neighbors and friends. Finally, research has established that concentrated disadvantage is strongly associated with cynical and mistrustful attitudes toward police, the law, and the motives of neighbors—what Sampson and Bartusch (1998) call "legal cynicism." And research also has shown that communities with high rates of legal cynicism are persistently violent (Kirk and Papachristos, 2011). Consistent with the hypothesis of Clear and Rose (1999), then, high rates of incarceration may add to distrust of the criminal justice system; however, few studies have directly addressed this issue.

[4]If one assumes an effect of incarceration on communities due to such coercive reentry, then the question arises of whether the underlying mechanism is compositional or contextual. A compositional effect could occur if releasing individuals from prison (churning) puts active criminals back into the community, driving up the crime rate even with no change to the neighborhood's social organization. A contextual effect could occur if the return (or removal) of individuals disrupts neighborhood social organization, leading in turn to higher crime rates. Future studies are needed to distinguish these (nonexclusive) mechanisms if the process by which incarceration affects communities is to be fully understood.

Methodological Challenges to Causal Inference

When attempting to estimate the effects of incarceration on crime or other dimensions of community life, such as informal social control, researchers encounter a host of methodological challenges. The challenges addressed in this section are equally relevant whether the object of study is crime or community life more broadly.

One simple but large obstacle is that much of the research on the relationship between community or neighborhood characteristics and incarceration is cross-sectional. Although longitudinal assessments are no panacea, disentangling cause and effect at a single point in time is difficult. The important questions on these topics—such as whether incarceration reduces or increases community crime or informal social control—are about social processes over time, which require longitudinal data to be thoroughly tested. Such neighborhood data have yet to be assembled across all the decades of the prison boom. Instead, cause-and-effect questions have been addressed using a small number of cross-sectional data sets, usually for limited periods of time. At the outset, then, the database from which to assess the evidence is neither large nor robust, a point to which we return in the chapter's concluding section.

A second problem, whether one is using cross-sectional data or making longitudinal predictions with explicit temporal ordering, arises from the high correlation and logical dependencies between crime rates and incarceration at the community level. These factors make it difficult to (1) disentangle what is causal and what is spurious, and (2) control for prior crime in estimating the independent influence of incarceration. For example, crime is expected to influence incarceration and vice versa, and both are embedded in similar social contexts. Incarceration also is conditional on conviction, which in turn is conditional on arrest, which in turn is strongly related overall to differences in crime commission. The interdependent nature of criminal justice processing is complicated by the fact that incarceration rates are highest in communities with a long history of social deprivation. Communities with high rates of incarceration and violent crime, in other words, tend to be characterized by the persistent concentration of poverty and racial segregation (Sampson, 2012, Figures 1 and 2). To the extent that incarceration is closely associated with crime rates and other long-hypothesized causes of crime at the community level, large analytic challenges arise. The remainder of this section probes the nature of these challenges in more detail.

A body of research in criminology suggests that crime and violence have deleterious effects on community well-being through mechanisms, such as selective outmigration, the segregation of minorities in disadvantaged environments, fear, disorder, legal cynicism, diminished collective

efficacy and altruism, and general community decline (Bursik, 1986; Liska and Bellair, 1995; Morenoff and Sampson, 1997; Skogan, 1986, 1990). There is also compelling evidence that exposure to violence among children leads to decreases in learning and increased risk of future violence, producing self-reinforcing "cycles of violence" (National Research Council and Institute of Medicine, 2001; Sharkey, 2010) and incarceration that are concentrated in selected communities. The result is that what appear to be incarceration effects at the community level may instead be caused by prior crime or violence.

Consider just the relationship between incarceration and crime rates. Evidence from Chicago indicates that the two are highly correlated across neighborhood, defined and measured in different ways, and time period (Sampson and Loeffler, 2010). In a set of follow-up analyses conducted for this report, we examined the *concurrent* association between incarceration and crime rates in Chicago community areas averaging approximately 38,000 residents. These are the two variables of central interest to the coercive mobility, criminogenic, and deterrence or crime control hypotheses. The linear relationship is near unity (0.96) in the period 2000-2005: there are no low crime, high incarceration communities and no low incarceration, high crime communities that would support estimating a causal relationship. The concurrent relationship between concentrated disadvantage in 1990 and incarceration in 1990-1995 is also extremely high—0.89.

We then examined the *predictive* relationship between incarceration and crime and at a lower level of aggregation, the census tract. Multicollinearity, or overlap among variables, is typically less of an issue at lower levels of aggregation.[5] Yet the 1995-2000 crime rate in Chicago census tracts is strongly, positively associated with imprisonment between 2000 and 2005 ($R = .85$, $p < .01$). Among more than 800 census tracts, only 1 was an outlier neighborhood that plausibly could be said to have high crime and low (or lower than expected) incarceration. Only 9 tracts combined no incarceration with varied rates of crime, and then only up to the middle of the crime distribution.

Furthermore, crime tends to be highly correlated over time, and controlling for prior crime is one of the major strategies employed by researchers to adjust for omitted variable bias when attempting to estimate the independent effect of incarceration (see Chapter 9 for a discussion of omitted variable bias). As Clear (2007, p. 164) notes: "Controlling for the

[5]The geographic unit of analysis varies across the studies we examined, but the most common unit in neighborhood-level research is the census tract, an administratively defined area meant to reflect significant ecological boundaries and averaging about 4,000 residents. One reason census tract data are commonly used is that they allow linkage to a rich array of sociodemographic variables collected by the U.S. Census Bureau.

previous year's crime rate removes a great deal of variance in crime rate and places a substantial statistical burden on the capacity of other variables in the model to explain the much reduced variance that is left." Clear's observation underscores the problem that arises with regression equations examining crime residuals from prior crime, regardless of whether incarceration is the independent variable. The existing literature predominantly finds persistently high correlations of crime rates over time, again meaning that only a handful of neighborhoods are supporting empirical estimates of independent effects of either incarceration or crime. Renauer and colleagues (2006, p. 366), for example, find that the correlation of violent crime from one year to the next was 0.99 across Portland neighborhoods. The effects of incarceration in this study thus are estimated on a tiny residual.

Arrest rates also are strongly correlated with imprisonment rates at the community level (0.75 at the tract level in Chicago) and not just with crime itself, making it difficult to disentangle the causal impact of incarceration from that of arrest. And of course, incarceration is definitionally dependent on conviction. These facts are important because a large literature in criminology suggests that arrest and conviction are in themselves disruptive and stigmatizing, just as incarceration is hypothesized to be (Becker, 1963; Goffman, 1963; Sutherland, 1947).[6] Attributing the criminogenic effects of these multiple prior stages of criminal justice processing (another kind of punishment) solely to incarceration is problematic without explicit modeling of their independent effects. Specifically, if criminal justice processing prior to incarceration is causally important, the appropriate counterfactual in a test meant to assess the specific role of high rates of incarceration in a community's social fabric would be an equally high-crime community with high-arrest rates but low imprisonment. Because neighborhoods with high levels of imprisonment tend to have high rates of crime and criminal justice processing, this comparison is difficult to find.

This close interdependence extends beyond the criminal justice system. Indeed, there is a strong concentration in the same communities not just of crime, arrests, and incarceration but also of multiple social disadvantages—often over long periods of time. It has long been known that the neighborhoods from which convicted felons are removed and sent to prison are troubled, marginal places. At the other end of the process, released inmates typically return to the disadvantaged places and social networks they left behind (Kirk, 2009). Even when not returning to the same neighborhood,

[6]Recent evidence suggests that arrest in adolescence is strongly associated with later school failure (Kirk and Sampson, 2013), and low educational attainment is known to be strongly related to both criminal involvement and incarceration. Crutchfield and colleagues (2012) find that early juvenile arrest is positively associated with later juvenile arrest, holding self-reported crime constant. Evidence also indicates that early arrest may predict young adult criminality and later conviction, holding self-reported crime involvement constant.

they return to places much like those from which they were removed (Bobo, 2009). These communities are characterized by high levels of social disadvantage, including poverty; unemployment; dropping out of school; family disruption; and, not surprisingly, high rates of crime, violence, and criminal justice processing in the form of arrests and convictions (Sampson, 2012).

The correlation of neighborhood disadvantage with race and incarceration presents an additional problem of interpretation when one is attempting to assess the effects of incarceration. Massoglia and colleagues (2013) use a nationally representative data set and find that only whites live in significantly more disadvantaged neighborhoods after than before prison. For blacks and Hispanics, incarceration has no overall effect on neighborhood attainment once preprison context is controlled for. The authors attribute this racial variation in the effect of incarceration to the high degree of racial neighborhood inequality: black ex-prisoners on average come from severely disadvantaged areas, while white ex-prisoners generally come from much better neighborhoods and so have more to lose from a prison spell. The authors conclude that their results "demonstrate the importance of controlling for pre-prison neighborhood characteristics when investigating the effects of incarceration on residential outcomes" (p. 142).

The situation of historically correlated adversities in most neighborhoods of the United States makes it difficult to estimate the unique causal impact of incarceration. The use of instrumental variables is one statistical approach with which researchers have attempted to address the fundamental causal identification problem. The idea is to seek exogenously or randomly induced variation in incarceration, such as one would obtain in an experiment. But we found that the empirical results of the handful of such studies are highly conflicting. Moreover, regardless of what direction of relationship obtains, the assumptions necessary to support identification restrictions often are arbitrary, and none of the studies of which we are aware uses experimentally induced variation. For example, one study that finds a deterrent effect of incarceration at the community level hinges on the assumption that drug arrests (the excluded instrument) are related to incarceration but not later crime (Lynch and Sabol, 2004b). This assumption is violated if, say, increases in drug arrests lead to competition among dealers that in turn results in a cascade of violence, or if the visibility of arrests leads residents to reduce crime through a deterrence mechanism. In both of these scenarios, the instrument has an effect on crime not operating through incarceration. Other studies have tried to use dependent variables thought to be decoupled from simultaneity or endogeneity, such as adult incarceration rates predicting juvenile delinquency as the outcome (unpublished paper described in Clear [2007, p. 171]). But the existing evidence on the intergenerational transmission of violence (Farrington et al., 2001) renders this strategy problematic as well.

Our review thus suggests a number of serious challenges to existing estimates of the neighborhood-level effects of incarceration. An independent assessment reaches much the same conclusion concerning the fragility of causal estimates in prior research (Harding and Morenoff, forthcoming). The authors conclude that the empirical evidence in published studies on neighborhoods and incarceration is equivocal: "Existing studies are few in number, based on relatively small numbers of neighborhoods, and heavily reliant on static cross-neighborhood comparisons that are very susceptible to omitted variable bias and reverse causality. Moreover, the findings are inconsistent across studies and even within studies when using different estimation techniques." To this we would add that although fixed effects longitudinal analyses have been used to control stable characteristics of the community and thereby omitted variable bias, crime, incarceration, arrest, poverty, most of the other confounders discussed in this section are time varying. It is possible that time-varying counterfactual models of neighborhood effects would be useful in addressing this problem (see, e.g., Wodtke et al., 2011).

Is High Incarceration Different?

As noted earlier, the coercive mobility hypothesis predicts that incarceration at low to moderate levels will reduce crime or imprisonment but at high levels will increase crime. Our examination of the evidence on this hypothesis revealed that nonlinear effects have not been systematically investigated in a sufficient number of studies or in ways that yield clear answers. Clear (2007, pp. 163-165) reviews six studies testing the nonlinear pattern and concludes that there is partial support for the coercive mobility hypothesis. At the same time, Clear notes that a number of problems hinder such estimates, including influential observations that are typically those with the highest incarceration rates. A related issue is that there is no consensus definition, whether theoretical or empirical, of what constitutes "high incarceration." In the study by Renauer and colleagues (2006), for example, a high incarceration neighborhood is defined empirically as one with more than 3 prison admissions per 1,000 residents, meaning that more than 0.5 percent of the population was admitted to prison. More worrisome, the authors report that only a handful of neighborhoods (four) met this criterion, yet these neighborhoods accounted for the positive effect of incarceration on crime (the effect was negative for moderate incarceration). In addition, when a nonlinear cubic model is estimated with terms for incarceration, incarceration squared, and incarceration cubed, these constituent terms tend to be highly correlated (even when transformed), and thus estimates often are highly unstable or, again, highly influenced by a few observations.

These studies point to an important conclusion: if there is a nonlinear pattern such that incarceration *reduces* crime at one point and *increases* it at another, then it is important to know precisely what the net effect is and where the tipping point lies. Based on our review, the challenges to estimating the countervailing influences of incarceration have not yet been resolved. In short, if incarceration has both positive and negative effects and at different time scales and tipping points, single estimates at one point in time or at an arbitrary point in the distribution yield misleading or partial answers (Sampson, 2011).

Additional Perspectives

Although the confounding among community crime rates, incarceration rates, and multiple dimensions of inequality makes it difficult to draw causal inferences, this high degree of correlation is itself substantively meaningful. Indeed, the fact that communities that are already highly disadvantaged bear the brunt of both crime and current incarceration policies sets up a potentially reinforcing social process. Sampson and Loeffler (2010), for example, argue that concentrated disadvantage and crime work together to drive up the incarceration rate, which in turn deepens the spatial concentration of disadvantage and (eventually) crime and then further incarceration—even if incarceration reduces some crime in the short run through incapacitation. In such a reinforcing system with possible countervailing effects at the aggregate temporal scale, estimating the overall net effect of incarceration is difficult if not impossible, even though it may be causally implicated in the dynamics of community life.

A growing ethnographic literature is focused on understanding the effect of incarceration on community life. Although not estimating cause and effect, these studies draw on interviews, fieldwork, and observation to provide a description of the consequences of incarceration.

Two studies offer insight into the social processes and mechanisms through which incarceration may influence the social infrastructure of urban communities. Rios (2011) considers the impact of the rise in incarceration on the structure of urban communities and institutions in Oakland, California. He argues that youth are subjected to social control efforts as a consequence of punitive practices among families, schools, convenience stores, police, parole officers, and prisons. According to this view, community institutions have been restructured from their original design in the wake of the growth in incarceration to focus on punishing marginalized boys living under conditions of extreme supervision and criminalization. In a study of a poor Philadelphia community, Goffman (2009) examines how imprisonment and the threat of imprisonment have undermined individual relationships to family, employment, and community life. Men "on the run"

and their families or associates develop strategies for avoiding confinement and coping with the constant surveillance of their community.

Gowan's (2002) ethnographic research in San Francisco and St. Louis reveals that incarceration often led to periods of homelessness after release because of disrupted social networks, which substantially increased the likelihood of reincarceration resulting from desperation and proximity to other former inmates. Studying a group of men and women returning to Seattle neighborhoods after incarceration, Harris (2011) finds that an important determinant of successful reentry was individual-level change, but those she interviewed were aware of the importance of the cultural and structural barriers to their success, including employment and housing challenges, as well as the proximity to others in the neighborhood who were still "in the life."

In his analysis of family dynamics based on a series of case studies in Washington, DC, Braman (2002) compares relationships between men and women in high and low incarceration neighborhoods. In communities with many of their men behind bars, there were only 62 men for every 100 women, compared with a ratio of 94 men to 100 women in low incarceration neighborhoods. Braman (2002, p. 123) describes the consequences of this gender imbalance: "Men and women in neighborhoods where incarceration rates are high described this as both encouraging men to enter into relationships with multiple women, and encouraging women to enter into relationships with men who are already attached." It is not clear, however, whether gender imbalance can be attributed to incarceration as opposed to differentials in violence rates, mortality, or other social dynamics occurring in inner-city African American communities.

The studies cited above add richness to the findings presented in this report on the impact of high incarceration rates on families and children (Chapter 9) and U.S. society (Chapter 11). They also underscore the importance of undertaking a rigorous, extensive research program to examine incarceration's effects at the community level.

KNOWLEDGE GAPS

As detailed above, research on the effects of incarceration on communities has confronted a number of analytic challenges to drawing causal inferences. Moreover, the data available for this purpose leave much to be desired. State corrections departments maintain data for their own administrative purposes (e.g., locating parolees, collecting fines or restitution), so they often do not maintain information researchers need to test either the aggregate deterrence or coercive mobility hypothesis. Researchers have been able to obtain data that have allowed partial tests, but good-quality and temporally relevant geocoded data documenting both the communities

from which the incarcerated are removed and those to which they return are needed to substantially advance understanding of these processes.

Beyond the collection and dissemination of georeferenced data, we believe the existing evidence justifies a rigorous program of research on communities, crime, and crime control—including incarceration. Based on our review, we see at least four potentially useful directions for future research: (1) comparative qualitative studies of the communities from which the incarcerated come and to which they return; (2) research taking advantage of natural experiments that induce exogenous change in prison admissions or releases; (3) longitudinal or life-course examination of individuals as they are arrested, convicted, and admitted to and released from prison; and (4) study of neighborhood-level relationships among crime, cumulative neighborhood disadvantage, and criminal justice processing over time, including over the full period of the historic rise in incarceration. We stress the importance of studying incarceration not in isolation but in the context of the other criminal justice experiences and social adversities typically faced by prisoners.

Comparative Qualitative Studies

As indicated above, some scholars have studied high incarceration neighborhoods through ethnography. Because it is difficult to generalize from single sites, there is a need for more qualitative studies, in diverse jurisdictions, of what happens in communities in which large numbers of people are imprisoned and large numbers of formerly incarcerated people live. Collaborative and comparative ethnographies are especially important, and researchers need to probe more widely multiple aspects of criminal justice processing and social deprivation. In particular, it is important to examine prior exposure to violence and state sanctions such as arrest and court conviction alongside incarceration, especially if Feeley's (1979) well-known argument that "the process is the punishment" is correct.

Natural Experiments

Some states have recently undergone rapid change in their criminal justice procedures as a result of court orders or other events that are arguably uncorrelated with underlying social conditions. California, for example, recently began a large-scale release of inmates under court order, providing an opportunity to study how the unexpected return of ex-prisoners to selected communities is causally linked to social conditions and crime rates. In the Boston area, mistaken and fraudulent work in a crime lab led to the voiding of hundreds of criminal convictions. Studying the impact of these exogenous changes might improve on prior attempts to use

arbitrarily defined instrumental variables and thus prove useful in teasing out the various hypotheses on coercive mobility and the return of prisoners to communities. We caution, however, that an unbiased causal estimate is not the whole story. Often, where strong identification can be obtained, it is scientifically uninteresting because the estimate is for a highly atypical sample or a specific policy question that lacks broad import. The criminological research community needs to balance concern for unbiased causal estimates against external and substantive validity.

Life-Course Perspectives

Considerable observational research has focused on individuals released from prison, much of it looking at recidivism (National Research Council, 2007). Studying parolees, for example, Hipp and colleagues (2010) find that the social context of the neighborhoods and nearby neighborhoods to which they returned and the availability of social services in those neighborhoods were important predictors of their success or failure after release. Researchers could advance understanding of the processes discussed here by beginning to focus more on the communities where individuals returning from prison reside under naturally occurring or equilibrium conditions and by taking into account knowledge gained from life-course criminology. For example, the concept of "turning points" has been proposed to explain the effects of incarceration on later criminal and other social behaviors (Sampson and Laub, 1993). Neighborhoods can have turning points as well, allowing researchers to examine the aggregate deterrence and coercive mobility hypotheses in new ways, potentially building an understanding of how communities react when larger numbers of formerly incarcerated people live in them. Crucially, however, future research of this sort is dependent on the availability of a new generation of high-quality data matched to specific geographic coordinates in the criminal history.[7]

Neighborhood-Level Relationships

Feedback loops and cumulative processes not easily ascertained in experiment-like conditions are important to study. One area deserving further research is the likely reciprocal interaction whereby community vulnerability, violence, and incarceration are involved in negative feedback loops. As we have noted, disadvantaged communities are more likely than more advantaged communities to have high rates of incarceration, and

[7]We recognize that there are potentially serious confidentiality and institutional review board (IRB) concerns with respect to geographically identifiable data on arrestees and prisoners. Further work is needed in this area as well.

there is suggestive evidence that this connection increases their likelihood of becoming even more disadvantaged in the future (Clear, 2007; Sampson, 2012). Moreover, if disadvantaged communities disproportionately produce prisoners, they will disproportionately draw them back upon release, which in turn will generate additional hardships in terms of surveillance imposed on the community (Goffman, 2009), the financial strains of housing and employment support and addiction treatment, and potential recidivism. These feedback loops need further testing but conceptually are consistent with the persistent challenges faced by high incarceration communities. Simulation and agent-based models developed to understand neighborhood change (Bruch and Mare, 2006) may be useful in further understanding the complex dynamics of incarceration and crime.

CONCLUSION

Incarceration, broadly speaking, represents an interrelated sequence of events, experiences, and institutions. It is important to consider how the components and correlates of incarceration may have differential importance for any given community characteristic. As many researchers have observed, admissions and releases may have significantly different outcomes because they are very different social processes. As noted in Chapter 5, moreover, incarceration is not itself a policy but a policy product. Greater clarity is therefore needed as to what "incarceration" means: juvenile justice practices, admissions, releases, community supervision, and the incarceration rate (i.e., how many former residents are currently incarcerated) are related but different, and further research is needed on the precise mechanisms that relate them. The important point for this chapter is that incarceration represents the final step in a series of experiences with the criminal justice system such that incarceration by itself may not have much of an effect on communities when one also considers arrest, conviction, or other forms of state social control (Feeley, 1979).

High incarceration communities are deeply disadvantaged in other ways. We have underscored that prior exposure to violence and persistent disadvantage represent major challenges to estimating independent effects of incarceration at the community level beyond prior criminal justice processing. We want to emphasize that this problem is different from that described in Chapter 5 concerning the impact of incarceration on crime in the United States as a whole. In studies of communities, the effect of incarceration on crime cannot at present be estimated with precision. Specifically, unless researchers can locate high incarceration but socially advantaged communities with low arrest rates and low crime rates or low incarceration communities with high arrest and high crime rates and concentrated disadvantage, they will find it difficult or impossible to estimate the unique

effect of incarceration. Even if located, any such communities would be highly atypical by definition, and the findings on those communities would thus lack general import.

It is also unclear whether incarceration has the same community impact for whites and blacks. As discussed in earlier chapters, increased incarceration is known to have occurred disproportionately among African Americans (Pettit, 2012; Western, 2006) and in poor African American neighborhoods (Sampson and Loeffler, 2010). What is as yet unknown is whether increased incarceration has systematic differential effects on black compared with white communities, and whether there are reinforcing or reciprocal feedback loops such that incarceration erodes community stability and therefore reinforces preexisting disadvantages in the black community.

Although the available evidence is inconclusive, existing theoretical accounts are strong enough to warrant new empirical approaches and data collections that can shed further light on the relationship between incarceration and communities. It is important to emphasize here that adjudicating the relationship between competing hypotheses is difficult because of how neighborhoods are socially organized in U.S. society. This is a substantive reality rather than a mere statistical nuisance. Indeed, durable patterns of inequality lead to the concentration in the same places, often over long periods of time, of multiple social ills such as exposure to violence, poverty, arrest, and incarceration—especially in segregated African American communities. Thus, while legacies of social deprivation on a number of dimensions mean that the unique effect of incarceration is confounded and imprecisely estimated, perhaps the larger point is that the harshest criminal sanctions are being meted out disproportionately in the most vulnerable neighborhoods. The long-run consequences of historically correlated adversities, although difficult to quantify, remain a priority for research. So, too, is descriptive work on the variability across communities and time in the degree to which incarceration is geographically entangled with other social adversities. The dual concentration of disadvantage and incarceration is of considerable significance in its own right.