Prison Use and Social Control

by James P. Lynch and William J. Sabol

ABSTRACT

Over the past 20 years, the United States has experienced a massive increase in imprisonment. The number of people incarcerated and the clustering of that incarceration in the inner-city black population raise the prospect that incarceration may be undermining less coercive institutions of social control such as families or communities. The long-term result of this incarceration policy, then, would be increases, rather than the expected decreases, in crime. There is some empirical evidence to support this position. Increases in incarceration have been clustered in groups and places and have been of the magnitude that could affect less coercive institutions in those areas. Large proportions of the imprisoned population are involved in families and communities at the time of their imprisonment. Incarceration has been shown to reduce family formation for blacks but not for whites. Research to date, however, has not demonstrated that increasing incarceration has led to more crime in the long run or that the apparent effects of incarceration on other institutions are not due to other factors. If research ultimately establishes that these allegations are true, then future increases in incarceration must be considered in light of their likely long-term effects on these institutions and not just their immediate effect on crime rates.

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Over the past 20 years, the United States has experienced a massive increase in imprisonment (Gilliard and Beck 1996; Lynch and Sabol 1997; Blumstein and Beck 1999). It is not clear what caused this increase, e.g., increases in crime or changes in policy, and it is even less clear what the effects of this policy have been or will be. Traditionally, evaluations of incarceration assess its effects in terms of the recidivism of individual offenders or the reductions in aggregate crime rates (Nagin 1998; Blumstein, Cohen, and Nagin 1978; Levitt 1996). More recently, the number of people incarcerated and the clustering of that incarceration in inner-city black populations raise the prospect that incarceration may be undermining less coercive institutions of social control, such as families and communities (Lynch and Sabol 1992; Rose and Clear 1998a, 1998b; Clear 1996; Moore 1996; Nightingale and Watts 1996). To the extent that these less coercive institutions of social control are the first line of defense against crime, then disrupting them may mean that the long-term consequences of the massive increases in incarceration of the past 15 years will be increased crime (Rose and Clear 1998a).

Allegations that incarceration undermines less coercive institutions of social control are largely speculative. The purpose of this paper is to review and evaluate the existing evidence that recent increases in incarceration have had such effects. We will also suggest research that should be done to test this contention further.

The first of the following sections reviews evidence that the level of incarceration has increased and that this increase has been clustered in social and geographic space. Establishing these facts is crucial for the argument that incarceration can plausibly affect less coercive institutions of social control. The second section reviews and evaluates the evidence that increases in incarceration have had detrimental (or beneficial) effects on less coercive institutions of social control. The third and final section outlines the research required to better assess the impact of incarceration on less coercive institutions of social control.

Trends in the Level and Distribution of Incarceration

The use of incarceration has increased massively over the past 15 years, both in terms of the number of persons in prison on a given day and in terms of the cumulative number of persons experiencing incarceration over that period. This intrusion of incarceration into society has not been randomly distributed in social and geographic space. It has been greatest for young black males, first in central cities and more recently in smaller urban areas (Lynch and Sabol 1997; Lynch, Sabol, and Shelley 1998). The level of incarceration for these groups

has approached 10 percent on a given day and 30 percent in their lifetimes (Lynch and Sabol 1992; Bonczar and Beck 1997). Over time, incarceration has touched more persons who have relatively strong ties to society (Lynch and Sabol 1997; Harer 1993). These trends suggest that changes in the use of incarceration have made imprisonment so prevalent in some groups as to disrupt less coercive institutions of social control.

Evidence from stock rates

The population in correctional institutions has increased substantially since 1980 (see exhibit 1). The number of persons in State and Federal prisons increased from 315,074 in 1980 to 1,138,984 in 1996. The incarceration rate per 100,000 increased from 139 to 423—a 204-percent increase. During the same period, the jail population increased from 182,288 to 557,974. The total incarcerated population increased from 497,362 to 1,696,958.

This increase in the use of incarceration has not been uniform across groups. For blacks, the risk of being incarcerated increased from 554 per 100,000 to

Exhibit 1. Rate of incarceration in State and Federal prisons, by gender, race, and Hispanic origin, 1980 and 1996

	Number of sentenced prisoners[a]			Number of prisoners per 100,000 residents[b]		
	1980	1996	% change	1980	1996	% change
Male	303,643	1,069,257	252	275	810	195
Female	12,331	69,727	465	11	51	364
White[c]	132,600	378,000	185	73	193	164
Black	145,300	524,800	261	554	1,574	184
Hispanic	30,700	200,800	554	206	690	235
Total	315,974	1,138,984	260	139	423	204

[a] Based on prisoners with a sentence of more than 1 year. The numbers for race and Hispanic origin were estimated based on the State inmate surveys in 1979 and 1997 and the Federal inmate survey in 1997. Estimates have been rounded to the nearest 100.

[b] Based on census estimates of the U.S. resident population on July 1 of each year and adjusted for the census undercount.

[c] Excludes Hispanics.

Source: Blumstein and Beck 1999, table 1.

1,574 per 100,000. For whites, it increased from 73 per 100,000 to 193 per 100,000 (Blumstein and Beck 1999). Although blacks are about seven times more likely than whites to be incarcerated, this disproportionality has remained relatively constant over time. In absolute terms, however, the increase in the rate of people incarcerated has been much greater for blacks than whites. For purposes of assessing the disruption of less coercive institutions of social control resulting from incarceration, absolute increases are much more important than increases relative to some base number of incarcerated persons at an earlier period.

While the racial disproportionality in the prison population has remained reasonably constant overall, it has increased for drug offenders. The incarceration rate for black drug offenders has increased much more than the rate for whites. This is consequential for our argument because there is some evidence that drug offenders tend to be more integrated into the community than violent offenders (Cohen and Canela-Cacho 1994; MacCoun and Reuter 1992). Removing integrated persons is more disruptive of less coercive institutions of social control than removing less integrated persons.

Lynch and Sabol (1992) examined the changes in the race *and* class composition of the State prison population between 1979 and 1986. They distinguished between "underclass" and "non-underclass" inmates and presented the change in the incarceration rates for these class groups, holding race and age constant.[1] The incarceration rate for underclass males increased 139 percent between 1979 and 1986, from 560 to 1,340 per 100,000 (see exhibit 2).[2] During the same period, the non-underclass incarceration rate increased by 33 percent, from 330 to 440 per 100,000. When these rates were distinguished by race and class, the risk of incarceration increased the most for the black underclass, followed by the white underclass, the black non-underclass, and the white non-underclass (see exhibit 3).

There was a marked change in this pattern of incarceration use from 1986 to 1991. The incarceration of the underclass slowed while the imprisonment of the non-underclass increased (Lynch and Sabol 1994). When these changes in incarceration rates are disaggregated by offense, we see that the greatest increase in incarceration rates is for the black non-underclass sentenced for drug offenses, followed closely by the black non-underclass imprisoned for violent offenses (see exhibit 4).

Over time, the State prison population has included a larger proportion of inmates who did not have a violent incarceration offense and who had not been incarcerated previously (Lynch and Sabol 1997). In 1979, 5.7 percent

Exhibit 2. Adult male incarceration rates per 100,000 for underclass and non-underclass, 1979 and 1986

Underclass status	Year 1979	1986	% change
Underclass	560	1,340	139
Non-underclass	330	440	33

Exhibit 3. Adult male incarceration rates per 100,000 by race and class, 1979 and 1986

Race*	Class	1979	1986	Change
White	Underclass	281	706	425
	Non-underclass	194	256	62
Black	Underclass	1,634	3,242	1,608
	Non-underclass	1,824	2,116	292

* Other race categories were not included because of small numbers and the unreliability of the Hispanic classification over time and place.

of inmates were admitted for a drug offense and had no prior convictions for violence. By 1986, that proportion had changed little, to 7.0 percent. In 1991, however, 17.8 percent of inmates were in for drug offenses and had no prior incarcerations for violence. This is consistent with the previous finding that, after 1986, incarceration increased for the black non-underclass, if we can assume that this group had less prior criminal involvement than the underclass.

Evidence from admissions rates

Consistent with national data on the incarcerated population, the increases in admissions to prison differ considerably across race and offense, but they also differ across size of place and over time.[3] Admissions rates for blacks are higher than those for whites for both drugs and violence and across all types of places. These differences change in magnitude, however, across crimes, places, and times. In 1984, the ratio of black-to-white incarceration rates for violence in larger urban areas (Primary Metropolitan Statistical Areas [PMSAs]) was 11.4, and in smaller urban areas (Metropolitan Statistical Areas [MSAs]), the ratio of black-to-white admissions was somewhat less at 9.4. By 1987, the

Exhibit 4. Adult male incarceration rates per 100,000 by race, class, and offense: 1979, 1986, and 1991

Offense	Race*	Class	1979	1986	1991
Violent	White	Underclass	139	335	334
		Non-underclass	106	132	191
	Black	Underclass	899	1,934	1,258
		Non-underclass	1,015	1,291	1,738
Property	White	Underclass	109	268	245
		Non-underclass	67	81	117
	Black	Underclass	554	953	609
		Non-underclass	592	554	816
Drugs	White	Underclass	18	57	180
		Non-underclass	14	25	71
	Black	Underclass	123	206	877
		Non-underclass	147	161	919
Other	White	Underclass	16	46	71
		Non-underclass	7	18	415
	Black	Underclass	59	149	169
		Non-underclass	70	109	222

* Other race categories were not included because of small numbers and the unreliability of the Hispanic classification over time and place.

differences in admissions rates across races lessened somewhat (8.9 in PMSAs and 7.1 in MSAs). These ratios remained roughly similar through the period 1987 to 1993.

During the same period, drug admissions rates changed dramatically, as did the differences in these rates across race groups and place. From 1984 to 1987, the black admissions rates more than doubled in MSAs (77.8 per 100,000) and increased *more than four times* in the largest urban areas (114.3 per 100,000). This is in a period when violence admissions rates were relatively stable, and the drug admissions rates for whites increased by 42 percent in PMSAs and 12.6 percent in MSAs. By 1990, black admissions rates for drugs had doubled again. In 1993, the black drug admissions rate remained stable in the largest places (203.3 per 100,000) but increased substantially in the MSAs, to 190 per 100,000—approximately the rate observed in the PMSAs.

Taking account of accumulation

In assessing the effects that prison has on society, we often forget that some effects may not come from the number entering prison in a given year or the number incarcerated on a given day, but from the volume of persons passing through or exposed to prison. To the extent that prison leaves a "taint," this is an appropriate way to assess its possible effects (Freeman 1992).

Bonczar and Beck (1997) estimate that nearly 30 percent of the black male population 20 years of age and older will be incarcerated at least once in their lifetime. If serving a sentence in jail (as opposed to State or Federal prison) were included in this calculation, the proportion ever incarcerated would be greater. Whatever the true lifetime prevalence of incarceration, it is clear that imprisonment is so commonplace among black men that any taint resulting from imprisonment could substantially affect these men and the groups to which they belong.

The level of incarceration has increased massively, which increases the likelihood of disrupting groups rather than individuals. These increases are highly clustered in social and geographic space, which further increases the likelihood of group disruption.

These changes in the level and distribution of incarceration are consistent with the contention that incarceration has changed in ways that can undermine less coercive institutions of social control. The level of incarceration has increased massively, which increases the likelihood of disrupting groups rather than individuals. These increases are highly clustered in social and geographic space, which further increases the likelihood of group disruption. The proportion of the population removed has been much greater for blacks than for whites and much greater in central cities than other places.[4] Moreover, the increases in incarceration have, over time, moved into population segments that were formerly immune. Greater numbers of the non-underclass and non-central city populations have been incarcerated, as well as persons with little criminal history who were incarcerated for nonviolent (largely drug) offenses. Removing more such people, who were integrated into social groups prior to imprisonment, increases the likelihood that those groups will be disrupted.

Evidence of the Breakdown in Noncoercive Institutions of Social Control

Although the foregoing description of changes in the level and distribution of incarceration suggests that incarceration increases have disrupted less coercive

institutions of social control, it is more akin to establishing probable cause than to proving that it is the case. Much more evidence is required to say that incarceration has undermined less coercive institutions of social control in certain places and within specific groups. The nature of the evidence required will depend on the specific processes that link incarceration with the demise (or robustness) of less coercive institutions of social control. Consequently, we must review the conceptual models that link incarceration with less coercive institutions of social control, then proceed to the relevant empirical evidence.

Models of the effect of incarceration on less coercive institutions of social control

Although this review is focused on the potentially negative effects of incarceration on less coercive institutions of social control, it is essential that we also consider the possible positive effects of imprisonment on these institutions. Therefore, we review models explaining both the possible negative and positive effects of incarceration policies.

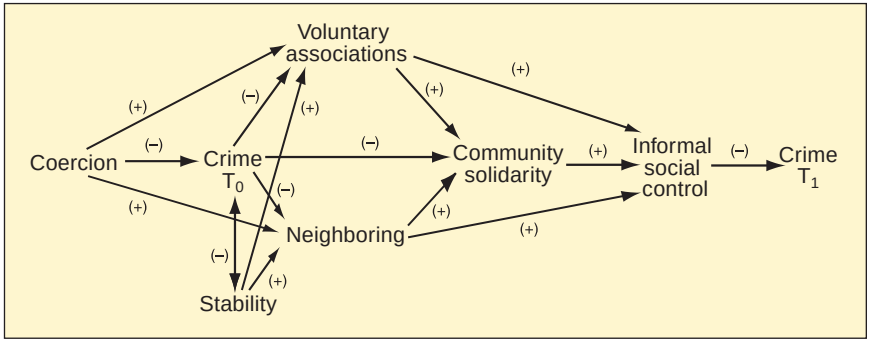
Models of positive effects

Traditionally, the principal benefit of incarceration has been crime reduction through incapacitation or deterrence. Until recently, this has been reason enough to warrant imprisonment. Beneficial effects of imprisonment were believed to occur because of increases in the certainty and severity of punishment or because the offender was simply removed from society. Nagin (1998) acknowledges the evidence in support of deterrence but cautions against overgeneralizing its applicability. He asserts that the deterrent effect of incarceration may depend on the social context in which it is applied and, specifically, whether imprisonment stigmatizes the offender in his family and community. Absent this stigmatization, deterrence will not occur (Zimring and Hawkins 1973). Nagin's argument is not that imprisonment will bolster less coercive institutions of social control, but that without these less coercive institutions of social control, imprisonment may not deter crime. The novelty of Nagin's argument is the linkage of imprisonment to less coercive institutions of social control, rather than viewing it alone as an instrument of crime reduction.

There is virtually no theory or empirical work that associates imprisonment directly with building or supporting less coercive institutions of social control. Most of the beneficial effects of imprisonment on less coercive institutions of social control are expected to occur through crime reduction. So, removing an abusing spouse from the home will improve the functioning of a family. Likewise, the realistic threat of imprisonment for assaulting other family

members may be sufficient to stop the behavior and thereby help the family (Sherman 1995). The improved functioning of the family should provide for socialization and supervision of children and thereby lower crime rates. Similarly, actually removing criminals from communities or plausibly threatening incarceration can reduce crime rates in neighborhoods or the fear of crime. This, in turn, would permit the interaction among neighbors that provides the informal controls to promote community organization and reduce neighborhood crime. These types of causal processes underlie programs like Weed and Seed (Dunworth and Mills 1999) and are summarized in exhibit 5. Although these models have been discussed, they have never been tested empirically.[5]

Exhibit 5. Model of the positive effects of incarceration on less coercive institutions of social control

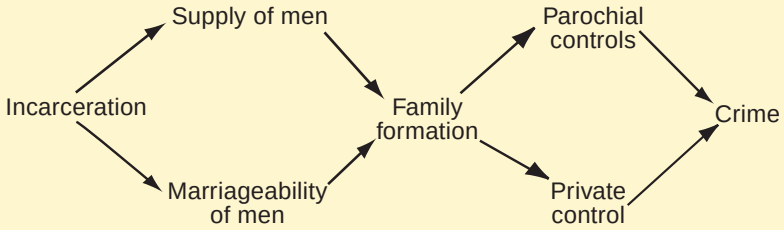


Models of negative effects

There are various routes and processes by which incarceration can adversely affect less coercive institutions of social control. Lynch and Sabol (1992; 1997; 1998b) speculated that incarceration would reduce the marriageability of men and thereby reduce marriage formation. This, in turn, would increase the number of female-headed households in areas with high incarceration rates and, ultimately, increase crime rates due to an absence of supervision for young males in these areas (Sampson 1987). They speculated that the marriageability of men would be reduced by (1) their removal through incarceration, and (2) the taint of a prison record in the job market. This simple model is summarized in exhibit 6.

Rose and Clear (1998a) describe a much more elaborate set of processes through which incarceration affects less coercive institutions of social control. They expanded Bursik and Grasmick's (1993) general systems model to consider the

Exhibit 6. Model of negative effects of incarceration on institutions of social control



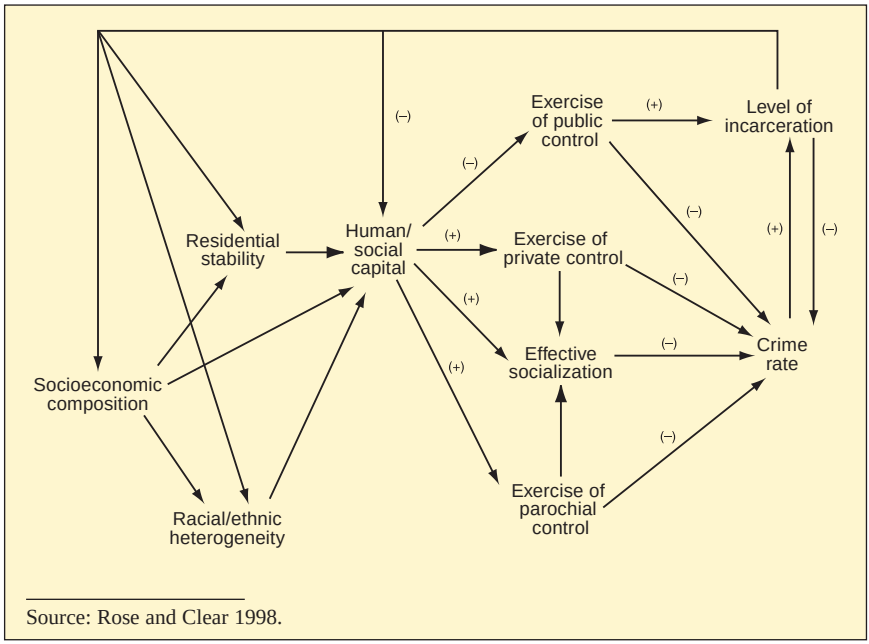
Source: Lynch and Sabol 1998a.

effects of incarceration. This model describes how community disorganization leads to crime. The principal exogenous variables in the model are heterogeneity, mobility, and socioeconomic status. These variables can facilitate or inhibit interaction in communities that allow residents of that community to set and achieve collective goals. They can enhance private control within intimate groups as well as "parochial" control outside of intimate groups but in the area. Parochial control would include control in the context of neighboring and in voluntary associations. Heterogeneity, mobility, and socioeconomic status can also affect the amount of public control in a community by influencing that community's ability to negotiate services with municipal bureaucracies, including the criminal justice system. In Bursik and Grasmick's model, the levels of private, parochial, and public control in a community determine the crime rate. Communities that are stable and homogeneous will have high levels of private and parochial control as well as optimum levels of public control, resulting in relatively low levels of crime.

Incarceration will weaken families by removing men from families and by reducing the supply of marriageable men. This will make families less effective as socializing agents and less able to supervise teenage children.

Rose and Clear (1998a) elaborate on this basic model by hypothesizing that incarceration will introduce mobility and heterogeneity into communities, and thereby abet the process of disorganization (see exhibit 7). They focus specifically on certain institutional arrangements that will be weakened by incarceration and how this weakness, in turn, will reduce private, parochial, and public control in these communities. Incarceration will weaken families by removing men from families and by reducing the supply of marriageable men. This will make families

Exhibit 7. Nonrecursive model of crime control, social disorder, and crime



Source: Rose and Clear 1998.

less effective as socializing agents and less able to supervise teenage children. Removal through incarceration will also affect economic institutions in communities by removing people who bring money to families and the community. Political institutions will be affected by removing people from networks that mobilize the community in response to external threats. There will be gaps in the network so that mobilization of the community will be incomplete. Moreover, removing persons from the area will mean that those who take up their tasks have less time for the mobilization process. Rose and Clear (1998a) also hypothesize that massive use of incarceration in communities will lessen the stigma (and hence the effectiveness) of this type of public control for community residents.

Evidence for the positive effects of incarceration on less coercive institutions of social control

There is almost no direct empirical evidence that incarceration strengthens less coercive institutions of social control where incarceration, crime reduction, and changes in such institutions are included in the same study. The negative

association between imprisonment (and other forms of coercion) and crime has been the subject of extensive study (Blumstein, Cohen, and Nagin 1978; Ehrlich 1973; Levitt 1996; Nagin 1998). That crime reduction has beneficial effects on less coercive institutions of social control has been largely assumed.

Incarceration is alleged to reduce crime either through the process of incapacitation or deterrence. Incapacitation assumes that incarceration reduces crime by removing an individual from society so that the crime he would have committed will be prevented or moved to an institutional setting. Imprisonment can also reduce crime if the threat of punishment is sufficient to prevent would-be criminals from engaging in crime. There is considerable empirical evidence for and against both the incapacitation and deterrent effects of incarceration. Much of this evidence is seriously flawed so that unequivocal inclusions are difficult to draw. The preponderance of the evidence, however, is that incarceration both incapacitates criminals and deters crimes, but it is not clear when and under which conditions incarceration will lead to reduced crime.

Evidence for incapacitation

Empirical support for the incapacitation effects of incarceration has been obtained from simulations and from time-series analyses. The simulations seek to establish the magnitude of crime reduction that could be expected from incarcerating. To do this, researchers estimate (1) rate of participation in crime (P), (2) age at initiation (Ao), (3) age at termination (An), (4) associated career length (T), and (5) frequency of offending (λ). These parameters are used to estimate a crime rate (C) as follows:

$$C = P\lambda$$

They are also used to estimate career length for a given individual:

$$Ti = An - Ao$$

The crime reduction that occurs from removing a given individual for a specified amount of time can be estimated by multiplying the sentence length (S) by the frequency of offending for that individual (λi), under the assumption that the total sentence is served during the active career length Ti.

Much of the controversy concerning these simulations of incapacitation effects comes from disagreements over the magnitude of λ as well as the nature of criminal careers and the homogeneity of λ across persons and crimes. Many of the early simulations estimating incapacitation effects used estimates from inmate surveys and police arrest records (Chaiken and Chaiken 1982; Greenwood 1982; Blumstein and Cohen 1979; Blumstein et al. 1986). Both of these

sources of data produce distributions with long tails, such that a small number of high-volume offenders affect the mean of λ and substantially affect the estimates of crime reduction that flow from incarceration. Moreover, some believe that police arrest data and inmate survey data are affected by selection biases and response biases that inflate estimates of λ (Horney and Marshall 1991).

Others have criticized this research for using overly simplistic assumptions about the nature of criminal careers (Gottfredson and Hirschi 1986). Some early work in this area assumed a criminal career that started abruptly, continued at a constant λ, and then ended abruptly (Blumstein et al. 1986). Critics argued that criminal careers were more like the cross-sectional age-crime curve, with a peak in the youngest ages and then a rapid dropoff (Zimring and Hawkins 1995). Others argued that incarceration lengthened the active criminal career by the length of the sentences. Again, this would produce different estimates of the incapacitation effect.

There is also considerable disagreement as to whether λ is the same across persons and offenses (Greenwood 1982; Cohen and Canela-Cacho 1994). Drug dealers, for example, may have a different λ than burglars so that incarcerating burglars would affect the crime rate differently than removing drug dealers. At the same time, there is some agreement that identifying high-rate offenders is difficult (Greenwood and Turner 1987). Finally, some have taken issue with the assumption that offenders removed by incarceration are not immediately replaced by other offenders with similar λs (Zimring and Hawkins 1995). Disagreement over these essential parameters clouds the evidence from these simulations. Work is progressing to resolve these various issues, but much more needs to be done.

Evidence for deterrent effects

Nagin (1998) reviewed the evidence on the deterrent effects of punishment on crime, including the effects of incarceration. He concluded that there is evidence for a general negative effect of imprisonment on crime but that these results tell us little about the wisdom of any given policy. To assess the likely deterrent effect of specific policies, Nagin argues that we need to know (1) the long-term as well as the short term effects of incarceration, (2) the link between risk perceptions and actual policy, (3) the form in which policies are implemented across population units, and (4) the link between intended and actual policy.

Twenty years earlier, Nagin was much more cautious even about a marginal negative effect of incarceration on crime (Blumstein, Cohen, and Nagin 1978). His misgivings at the time resulted from the inability of most empirical studies

of the effects of incarceration on crime to account for the identification or endogeneity problem. Most studies of the deterrent effect observe the change in incarceration and the change in crime over time or across units. While punishment affects crime, crime can also affect punishment. In assessing the deterrent effects of punishment, it is important to determine the effects of punishment on crime independent of the effects of crime on punishment. The usual method is to employ instrumental variables correlated with one of the variables (i.e., the prison population) but not the other (crime). By including the instrumental variable in the model, we can consider any exogenous factors that act on both crime and punishment.

Levitt (1996) made clever use of court-ordered reductions in prison populations due to overcrowding to address the endogeneity problem. Since court-ordered reductions in prison populations will be correlated with shorter sentences, but not with the crime rate, increases in crime in those States under court order cannot be due to the prior crime rate in these areas. Levitt found that States that did *not* shorten sentences to comply with court orders had lower crime rates than those that did. This supports the general idea that increases in punishment will result in decreases in crime. Levitt estimated that the deterrent impact on violent crime of adding 1 additional prisoner amounts to a reduction of approximately 2 violent crimes and 15 crimes overall.

While Levitt's work provides impressive evidence for deterrence generally, Nagin (1998) cautions against applying this evidence to other policies, crimes, and situations. He notes that Levitt's results pertain more to policies that lengthen sentences for persons in prison than to incarcerating additional people. Cohen and Canela-Cacho (1994) found that deterrent effects differed according to the type of offenders sentenced. Incarcerating violent offenders was associated with crime reduction, but imprisoning drug offenders had no effect on crime.

Empirical support for the crime reduction effects of incarceration indicates that, in general, imprisonment has a negative effect on crime. This general finding, however, cannot be directly and unequivocally applied to the increases in incarceration during the past 15 years. The specific combinations of sanction, criminal behavior targeted, and social context of the punishment have not been subject to specific testing to demonstrate the crime reduction effects. Lengthening prison sentences of drug offenders in central city areas, for example, may be extremely effective in deterring violence, but increasing prison admissions for violence in less disorganized places may not affect the crime rate. Moreover, no studies to date have explicitly linked incarceration with both crime reduction *and* the strengthening of less coercive institutions of social control.

Thus, there is no evidence to conclude that current incarceration policies have reduced crime and thereby bolstered less coercive institutions of social control. At the same time, evidence on the general deterrent effects of incarceration is persuasive, suggesting that incarceration has the potential to positively affect less coercive institutions of social control. However, studies of more specific incarceration policies in various social contexts are needed. Such studies must explicitly address the effects of incarceration on less coercive institutions of social control and not simply the aggregate crime rate.

Evidence for the negative effects of incarceration on less coercive institutions of social control

The evidence that imprisonment has negative effects on less coercive institutions of social control is incomplete and uneven. In some cases there is no empirical evidence. Where evidence exists, it can differ in quality. For example, evidence differs with respect to whether it is direct or indirect. Direct evidence refers to the relationship between imprisonment and a particular institution, whereas indirect evidence refers to generalization from a similar event. Direct evidence of the effect of imprisonment on families would study families of inmates and compare them with families without incarcerated members. Indirect evidence would be generalization of evidence from other absences (e.g., military service) to absence through imprisonment.

Evidence will also vary according to whether it assesses the effects of incarceration on the related social group (i.e., family or community) or simply on the individual, leaving one to infer the effects on the group. For example, prison has negative effects on the an individual's job future, but we can only infer how this affects the family unit. Finally, empirical evidence can offer varying degrees of support for causal statements. Here we are especially concerned that the other possible causes of negative consequences be taken into account. This would include problems of simultaneous causality between imprisonment and the demise of less coercive institutions of social control. There are few instances where existing evidence satisfies all of these conditions.

Economic institutions: Labor force participation and income

There is some evidence at the individual level that imprisonment reduces an inmate's connection to the labor force. Recidivism studies find that incarcerated offenders have lower levels of labor force participation and lower incomes than the nonincarcerated population with similar characteristics (Witte and Reid 1980). Moreover, length of time in prison is also negatively related to labor

force participation and income. Since these studies do not assess the labor force participation of inmates prior to incarceration, one cannot know whether the low employment and income is the result of incarceration or of preexisting characteristics of the incarcerated.

Panel studies of cohorts of convicted persons and population cohorts have also found negative effects of incarceration on income and attachment to the labor force, but some of this evidence is mixed. Using data from the National Longitudinal Survey of Youth (NLSY), Freeman (1992) found being incarcerated had large negative effects on employment and income. Waldfogel (1994) used data from probation officer reports on Federal offenders to assess the effects of incarceration on wages and employment. Comparing observations from the sentencing report prior to sentencing with postsentencing observations from probation reports, he found significant negative effects of incarceration on both employment and income. Nagin and Waldfogel (1995) found in a cohort of British youths that convictions were negatively related to employment but had a positive effect on wages in the short term. They attributed the positive effect on income and the negative effect on employment to result from former inmates taking jobs in "spot" labor markets where initial salaries are high but long-term potential is minimal. These spot labor markets are also characterized by considerable instability.

Although these findings seem to support the contention that incarceration can negatively affect economic institutions in communities, it is still quite a leap to say that incarceration has had these effects. First, some inconsistencies in the findings suggest that the negative effects of incarceration on income and labor force participation may be greatest for those groups with the lowest risk of incarceration, e.g., higher income offenders. Lott (1992) found that negative effects of incarceration on income were greatest for inmates with higher incomes prior to their incarceration. Waldfogel (1994) found that negative effects on employment and income were greatest for white-collar offenses such as fraud. This would make it unlikely that incarceration would have the negative influences on collectivities posited by Rose and Clear (1998a) and others. Second and more importantly, these studies use the individual as the unit of analysis, whereas theories that connect incarceration with the disruption of less coercive institutions of social control assume families and communities as the unit of analysis. The experience of individuals may or may not affect the social organization of collectivities. Although it makes sense that social disruption should be greatest in those places where individual disruption is greatest, this need not be the case. As Rose and Clear (1998a) point out, removing two persons from a community with dense social networks will not be as disruptive to social organization as removing two individuals from a community in which

the networks are less dense. In sum, evidence from individual-level studies of the influence of incarceration on economic institutions cannot be used to test the effects of incarceration on the social organization of families and communities. Community and family-level analyses are required.

Lynch and Sabol (1998a) examined the interrelationship of incarceration and labor force participation at the county level. They used the National Corrections Reporting Program (NCRP) data collected by the Bureau of Justice Statistics to estimate prison admission rates and release rates for counties in 1983 and 1990. Admissions to prison could have a positive effect on labor force participation if unemployed men were removed and a negative effect if employed men were removed. Releases from imprisonment were included along with admissions because they hypothesized that men tainted by imprisonment will have less success in the job market upon release. Census data in 1980 and 1990 were used to estimate labor force participation and demographic characteristics of the counties for 1983 and 1990. They estimated a pooled time-series regression model and a change model. The models predicted participation in the labor force for the county, using releases from prison as well as economic and demographic variables. Separate models were estimated for blacks and for whites, with the suspicion that higher rates of incarceration for blacks were much more likely to affect county-level labor force participation than for whites. In the pooled time-series model, offender release rates were negatively related to labor force participation and statistically significant for blacks (p=0.1) but positively related to labor force participation and statistically significant for whites (p=0.001).

Interpreting the results of these models is complicated by the fact that incarceration and employment can be reciprocally related. Incarceration can affect employment and employment can affect incarceration. In an effort to account for this nonrecursiveness, an instrumental variable was introduced—whether the State had introduced structured sentencing. This should be related to incarceration but should have nothing to do with employment. When the instrumental variable was introduced into the pooled time-series model, the effect of releases on labor force participation was negative and significant for blacks (p=<0.1) and insignificant for whites. When the instrument was included in the change model, similar effects were observed.

The results from this county-level analysis are not particularly robust, but they are consistent with the contention that incarceration can negatively affect the social organization of black communities and not white ones. The participation of black men in the labor force is lower in counties characterized by the tainting of large numbers of black men through incarceration. What was observed by Freeman (1996) and others at the individual level also holds at the county

level. It remains to be seen if these relationships hold at the community level, as Rose and Clear (1998a) have suggested.

Family formation

There is substantial literature that links the absence of men to declines in the number of two-parent families, but there is much less direct evidence that incarceration is a major factor in reducing the presence of men. Darity and Myers (1995) show that the ratio of unmarried men in the labor force or attending school to unmarried women is highly correlated with two-parent families. The effect of this marriageability ratio is much greater than the effects of welfare benefits in determining family structure. Kiecolt and Fossett (1995) found similar results in both individual and county-level analyses. The male-to-female ratio in a county had a strong positive effect on the marital status of females. In an analysis of data from 171 cities, Sampson (1995) found that the ratio of men to women had a large negative effect on single-parent households for blacks and a much smaller effect for whites. Sex ratios had more effect on family structure than did employment rates. Darity and Myers (1995) attribute the absence of men to higher rates of infant mortality among black men than women, high levels of mortality from violence and accidents, military service, and incarceration, but they do not include these factors in a model of sex ratios. Sampson (1995), too, refers to the role of incarceration in producing low ratios of marriageable men to women, but does not offer empirical evidence.

Lynch and Sabol (1998b) used county-level data to test the effects of admissions to and releases from prison on the percent of female-headed households. NCRP and census data in 1990, as well as lagged female-headship and incarceration rates, were used to predict the percent of female-headed families in 1990. They found that both the level of admissions and the level of releases were positively related to female-headship for blacks but not for whites. The greater the number of admissions to prison in a given county, the greater the number of families headed by single females. Similarly, the greater the number of releases, the greater the number of female-headed families. Recognizing that female-headship and incarceration can be reciprocally related, Lynch and Sabol again employed the state's structured sentencing policy as an instrumental variable (see previous Lynch and Sabol discussion under "Economic institutions: Labor force participation and

Incarceration would also increase female-headship by tainting persons released from prison and thereby reducing their prospects in the job market. As their employability declines, so does their attractiveness as a partner.

income"). Using data from 1983 and 1990 with a pooled time-series approach, they estimated a more complex version of this model and obtained similar results (Lynch and Sabol 1998a).

How incarceration affects the level of female-headship is not entirely clear. Consistent with Darity and Myers (1995) as well as Sampson (1995), Lynch and Sabol (1998a) hypothesized that admissions to prison would affect male/female ratios because large numbers of men were removed from the marriage pool. Incarceration would also increase female-headship by tainting persons released from prison and thereby reducing their prospects in the job market. As their employability declines, so does their attractiveness as a partner. In areas where high levels of unemployment persist, the norms of marriage formation may change so that marriage is no longer the expectation. The foregoing analyses suggest that the tainting effect of imprisonment is negatively related to labor force participation, albeit weakly (Lynch and Sabol 1998b). The supply of employed men, in turn, is negatively related to female-headship. Nonetheless, there is still a positive effect of incarceration on female-headship, even when the supply of employed men is included in the model (Lynch and Sabol 1998a). This suggests that removal has a direct effect on female-headship that is not mediated by the availability of employed men. This effect could occur through the simple availability of men regardless of their employment status. Alternatively, imprisonment can leave a taint that influences more than one's prospects in the labor market.

Family maintenance

Imprisonment can disrupt existing families and thereby contribute to the demise of less coercive institutions of social control. This disruption can be temporary, as when a parent is removed for several months and then returns to the family. Here the disruption derives from the absence and then the adjustment on return. The disruption could also be longer term when imprisonment leads to dissolution of the family. In this case, the disruption could persist unless or until the missing member is replaced.

Disruption means that many functions performed by the family are missed when a member of the family is removed. The physical and emotional needs of children, for example, may receive less attention when one of the parents is incarcerated.

There are numerous qualitative and clinical studies of the impact on children of incarcerating their mother (Bloom 1995; Johnston 1995a). These studies, which describe in detail the pains of imprisonment (both physical and emotional) on those left behind, often involve small and very selected groups of prisoners and

families. There have been fewer such studies on the effects on incarcerating men. At the other end of the evidence spectrum, surveys of inmates include minimal information on family disruption (e.g., divorce), but they are administered to large and representative samples of inmates.

Because women are most often the primary caregivers for children, it is broadly assumed that removing women with children will have disruptive effects on families, and qualitative studies support this contention. Because the number of women incarcerated is so small, however, it is not likely to be a major source of removal for women who are mothers. In 1998, there were 84,427 women in State prisons, compared with 1,218,000 men. The 1991 Survey of Inmates in State Correctional Facilities (SISCF) reported that about half of the female inmates were living with their children at the time of their admission. This reduces even further the potential impact of women's incarceration on family disruption. Thus, to establish that incarceration has a large disruptive effect on families, the incarceration of men must also be shown to have negative effects on families.

Laura Fishman (1990) studied the effects of incarceration on partners and families of male prisoners. Most of these women experienced severe financial problems as a result of their partner's incarceration. (A few, especially those whose partners were not working prior to imprisonment, were financially better off.) For those with children:

> [H]aving full responsibility of raising their children . . . was a severe hardship. . . . Most women with children complained about the task overload. Two parents are hardly enough to deal with many of the demands of childcare. Prisoners' wives often encountered a succession of days filled with too much to do. Unrelieved responsibilities can be particularly depleting if there is no one to attend to the wives' needs, i.e., no one with whom to talk. . . . Many wives reported that this often led them to despair. (pp. 197–199)

Fishman also reports that these women found some benefits in their partner's incarceration, specifically, increased autonomy and peace and quiet. Only 3 of her subjects (out of 30) ultimately filed for divorce. This suggests that while the disruption of families resulting from prison is substantial, it does not often result in dissolution of the union.

Fishman's work, however, is based on a group of 30 women in Vermont who were partners of inmates in State correctional facilities and who consented to speak with her. It is difficult to know whether the repercussions of imprisonment observed in this study represent that of all partners and families of prisoners. It seems unlikely that this group's experience would be similar to that of

black inmates and their families from large cities, for example. The process of adjustment may be similar, but the proportion experiencing specific outcomes (e.g., divorce) may be different. Moreover, this and other qualitative and clinical studies of the families of incarcerated persons do not include control groups or prior assessments of family functioning to isolate the effects of imprisonment from other disrupting factors (Lowenstein 1986; Sack 1977; Hairston 1998; Gabel and Shindledecker 1991).[6] This limits the utility of this evidence for establishing the unique contribution of incarceration to family disruption.

If we assume Fishman's picture of disruption is true, how large a group would be affected by this form of family disruption? How many prisoners are in some form of union or family that could be disrupted? If the bulk of inmates are single males, then relatively few families will be disrupted by a parent's imprisonment. The 1991 SISCF estimates that about 19 percent of the stock population of inmates were married and about 24 percent were separated or divorced. Stated differently, approximately 43 percent of the prison population has or could potentially experience family dissolution as a result of imprisonment (Lynch et al. 1994). This is a fairly large proportion of prisoners. If we look at family dissolution (divorced or separated) as a percentage of those eligible (married, divorced, separated), then 56 percent of ever-married prisoners are divorced. In the general population, the rate is about 17 percent. This difference can be due to the pains of imprisonment or to the greater instability of persons who become inmates relative to the rest of the general population.

Restricting our focus to marriage will understate the participation of inmates in families because many marital relations may not be formalized and there may be relations with children without spouses. Thirty-one percent of the male inmates in State facilities claimed to be living with their children at the time of their arrest. Because inmates were not asked about children, we do not know what percentage of inmates were living with their children at admission. More than 56 percent of State inmates in 1991 claimed they were contributing to the someone else's support during the month prior to their incarceration. These data provide a rough estimate of the proportion of prisoners whose removal could disrupt families—somewhere between 31 percent and 56 percent of prisoners. If we apply these proportions to the stock correctional population in 1998, some 400,000 to 658,500 families were possibly affected by the imprisonment of male partners on a given day.

The principal limitation of SISCF and other inmate surveys is their reliance on the perceptions of inmates and their ability to respond (Hairston 1995; Hunter 1984). There is reason to believe that in self-report surveys, inmates overstate or misstate their familial involvement and attachments (Johnston 1995a). This, in turn, can result in an overestimate of the disruption caused by imprisonment.

It would seem more appropriate to include both inmates and their families in studies of family disruption, but even in this case, there is substantial potential for ambiguity and inconsistency in characterizing disruption. Partners may legitimately disagree over the nature and frequency of family relations, and it is by no means certain that an "objective" assessment of family functioning can be obtained from the interview.

Qualitative studies of small groups of inmates and their families in combination with the inmate surveys suggest that a large proportion of the imprisoned population has family ties at the time of admission. The studies also suggest that imprisonment strains and, in some cases, disrupts those relationships. This makes more plausible the contention that incarceration has a prevalent negative impact on the families of inmates.

Parochial institutions of social control

There is a great deal of evidence that the social organization of communities affects the level of crime (Bursik and Grasmick 1993). This evidence is detailed to the point that the influence of specific attributes of communities on crime has been documented. What is missing again is some direct evidence that incarceration has a negative effect on aspects of community organization (e.g., neighboring or willingness to engage in self-protection), net of other factors such as heterogeneity or mobility. Gottfredson and Taylor (1988) provide some evidence that incarceration is extremely clustered in urban areas and that this clustering is correlated with low levels of parochial control. Gottfredson and Taylor took a sample of prisoners returning from incarceration and identified those released to 90 Baltimore neighborhoods in their study. Their intent was to assess the effects of neighborhood on recidivism, but in the process they revealed a great deal about the effects of the return of offenders on community organization. First, they found that incarceration was highly clustered in Baltimore. Twenty-three of the sample neighborhoods had no returning offenders, and 5 percent of the areas contributed 26 percent of the offenders. Ten percent of the areas accounted for nearly 40 percent of the offenders. They also correlated the offender return rate with different measures of community organization. These measures included perceptions of the social climate, attachment to the community, expectations for the community, physical signs of incivility, physical problems, perceptions of social problems, fear of crime, perceptions of the crime problem, and reported restrictions on activity. All these community attributes except attachments were correlated with offender return rates in a manner that indicated low levels of community organization.

Gottfredson and Taylor (1988) predicted these various attributes of community organization in multivariate models that included a status scale,[7] a stability scale,[8] and the offender return rate. In every case, except for attachments to the community, the offender return rate had a statistically significant effect on these dimensions of community organization, net of the effects of status and stability. The offender return rate had the strongest effects on perceptions of the crime problem, residents' expectations for the neighborhood, and reported restrictions of activities.

Although these findings are suggestive, Gottfredson and Taylor did not design the research to assess the effects of incarceration on community organization and, consequently, the data have some serious limitations for this purpose. First, these are cross-sectional data, so it is impossible to disentangle the time ordering of offender return rates and the social organization of communities. Social disorganization can cause offending and thereby incarceration, and the return of offenders can cause social disorganization. Some would argue that having longitudinal data will not be sufficient for resolving this issue and that some instrumental variables are required to sort out the causal ordering problem.

Second, it is not clear that the sample was drawn and weighted to reflect the volume of incarceration return in the areas. The original intent of the study was to assess the influence of community structure on the recidivism of offenders, and for this purpose simply having offenders in these communities is sufficient. It was not as important to accurately reflect the level or the relative level of incarceration in an area. For the issues discussed here, however, this level of accuracy is required.

Finally, the investigation of the effects of incarceration on communities would be better investigated with data on admissions, releases, and the stock population. Returns to a community may accurately reflect the relative involvement of correctional agencies, or they may not. To the extent that the nature of crime differs across communities, length of stay in correctional facilities may also differ. Communities with longer lengths of stay may have fewer releases from incarceration in a given year, but more people incarcerated.

Summary

There is some evidence that the most recent increase in incarceration has been detrimental to less coercive institutions of social control. Much of this evidence, however, is indirect; that is, it is inferred from experiences similar to prison, such as the death of a parent or job-related absence. This inference can be problematic in that such absences are qualitatively different from imprisonment or occur disproportionately in populations quite different from those that

experience imprisonment. Those populations may have resources not available to the prison population or may be more traumatized by the absences than the population that experiences incarceration.

Another inferential problem results from combining studies of different parts of the causal process to speak about the whole process. In establishing the causal link between imprisonment, employment, and marriage formation, we use Freeman's work on incarceration and labor force participation and Darity and Myers' work on employment and family formation. Because these studies could be very different in their samples and other particulars, rather than combine their results, it would be better to observe the linkages in a single study.

Some direct evidence of the negative impact of incarceration is derived from very limited or selected groups. It is not clear, for example, that the pains of imprisonment experienced by Fishman's group of Vermont families would be similar to that of families in New York City or Washington, D.C. Moreover, it is not sufficient to know that incarceration has negative effects on the functioning of inmates' families, we must also establish that these negative effects are prevalent. If these effects are not prevalent, then they will not affect the social organization of areas and groups or threaten less coercive institutions of social control. Inmate survey data indicate that, prior to admission, many inmates are attached to families in some fashion. Although this suggests the prevalence of attachments (and their potential disruption), the survey does not (and perhaps cannot) provide data on the quality of the inmates' participation in family life.

Existing evidence for the negative effects of incarceration on institutions of social control has not yet convincingly isolated the effect of incarceration from all of the other forces battering these institutions. For example, a correlation between incarceration in a neighborhood and low levels of interaction or high levels of fear is not sufficient to argue that incarceration caused these things. A third factor, like crime, may be causing both incarceration and the absence of neighboring. These alternative explanations must be taken into account. In some cases, longitudinal data help, but this does not guarantee that the endogeneity problems are solved.

If the taint of imprisonment persists throughout a person's life, then the cumulative negative effect of incarceration will be massive.

The empirical evidence gathered to date does not link individuals and collectivities in ways that allow us to determine when negative outcomes occur. It is possible, for example, that a negative outcome for a family (e.g., the loss of a parent) has no effect or even a positive influence on the neighborhood. It is not clear

how to assess the overall impact of removal in this case. Moreover, a negative outcome for a collectivity, such as the destruction of a neighborhood, could be a positive outcome for persons who leave and settle elsewhere. Another variant on this problem is the case where a negative outcome for one individual (e.g., wife divorces inmate) is a positive one for another (e.g., wife finds better partner). Is this a positive or a negative outcome?

Similarly, some thought must be given to the duration of the effects of incarceration on individuals and on less coercive institutions of social control. The positive and negative effects of incarceration may be quite brief, or they may continue for a long period of time. The duration of effects can influence greatly any cost/benefit calculus with regard to imprisonment. If the taint of imprisonment persists throughout a person's life, then the cumulative negative effect of incarceration will be massive. If the taint lasts for only a year after release, then this cost of imprisonment may not be that great. Duration to onset is a more complex issue with regard to duration. Here negative (or positive) consequences of incarceration do not manifest themselves for some period after incarceration and even after release. It is important to identify these consequences, but it becomes increasingly difficult to attribute causality to incarceration as time passes. So, for example, a divorce that occurs 2 years after release may be difficult to link to the incarceration rather than to a number of factors taking place after incarceration.

What We Need To Know and How To Get It

The foregoing review of the literature on the impact of imprisonment (and particularly the effects of current correctional policies in the United States) on less coercive institutions of social control suggests that relatively little is known with certainty about the topic. We cannot say at this time whether the correctional policies of the past 15 years have been beneficial or detrimental for social control. Although some rudimentary theoretical models of the process have been proposed, many of the basic conceptual and operational definitions required to assess empirically the impact of imprisonment have not been developed. The information necessary to measure the impact of incarceration and to distinguish its effects from other factors influencing these institutions is in short supply. If we are to understand the role of imprisonment in social control, then we must evaluate the results of the unprecedented change in incarceration policy of the past 15 years. The rudimentary conceptual models that view imprisonment in relation to social control must be elaborated. More extensive data must be collected on prisoners, their families, and their communities to test these models.

Improving conceptual models of the effects of imprisonment on social control

Oddly enough, the conceptual models for the negative effects of imprisonment on less coercive institutions of social control are better developed than those for its positive effects. The single-minded focus on the link between incarceration and crime reduction has inhibited the development of more complex models of how crime reduction affects other institutions of social control such as families and communities. The crime reduction that occurs as a result of imprisonment may well encourage additional reductions by strengthening less coercive institutions of social control. The process by which this might happen is alluded to, but it has not become part of deterrence or incapacitation theory.

Some attention has been given to the effects of incarceration on less coercive institutions of social control directly (rather than through crime reduction) in studies of former inmates' labor force participation. The potentially positive implications of incarceration for families have not received as much scrutiny. It is possible that incarcerating specific people will improve the functioning of the inmate's family for reasons other than the reduction in crimes like interfamilial assault. The ways in which incarceration could strengthen families other than through crime reduction must be identified before they can be tested. The same is true for the potentially positive impact of incarceration on communities that are not mediated by crime reduction.

This new focus on imprisonment in the context of social control has even increased the demand for reconceptualizing the much-studied negative association between incarceration and crime. Nagin's (1998) call for greater specificity in deterrence research requires that studies of the incarceration-crime link must consider (1) the nature of the incarceration policy, (2) the specific type of criminal behavior to be deterred, and (3) the social context in which the sanction is imposed (e.g., perceived legitimacy of the sanction). This type of specificity will go a long way toward describing where incarceration is likely to lead to crime reduction, of what type, and for whom.

More thought must be given to the ways in which public controls like incarceration influence private and parochial controls.

Although theories about the negative effects of imprisonment on less coercive institutions of social control may be more developed than those on the positive effects, they are still in their infancy. Many of the basic terms and units in these theoretical frameworks have not been consistently defined. For example, defining a "negative effect" is essential to studying this issue. In particular, we must determine

how to reconcile negative outcomes for institutions or groups and positive outcomes for individuals. Earlier, we raised the example of the inmate whose imprisonment leads to divorce, to movement of his family out of the community, and later to marriage to a more stable partner. This could be a negative outcome for the inmate and the community but a positive one for the spouse and her family. Similarly, incarceration can contribute to the social disorganization of a particular community to the point where most of its residents move to better places. This could be good for families but bad for the community. Is this a net positive or negative outcome?

More thought must be given to the appropriate unit for any particular analysis. Rose and Clear (1998a) examine the effects of imprisonment at the community level because they are assessing the impact on "parochial" controls. Lynch and Sabol (1998a) examine the effects of incarceration on marriage pools at the county level. It would seem inappropriate to think of communities as marriage pools, as people generally look farther and wider for partners. Nonetheless, the county-level marriage pool can affect the level of single-parent families in a particular community area. To the extent that the countywide marriage pool shrinks the competition for partners, it may differentially affect community areas, producing higher levels in some communities and lower ones in others. The same can be said for the countywide labor markets. Models of the effect of incarceration on other institutions of social control must describe the interrelationship between more macro factors and communities so that these factors can be taken into account in testing the effects of incarceration. Having identified these macro factors will help not only in specifying the direct and indirect effects of incarceration on these other institutions of social control, it will also help in isolating the effects of incarceration from those of other factors. The social disorganization literature should be of some use here.

More thought must be given to the ways in which public controls like incarceration influence private and parochial controls.[9] Criminologists interested in the role of community social disorganization in producing crime have developed fairly elaborate models of how these less coercive institutions of social control work to reduce crime and disorder (Bursik and Grasmick 1993; Taylor 1999, 1996; Taylor and Covington 1988; Sampson, Raudenbush, and Earls 1997). In Rose and Clear's (1998a) adaptation of these models, the effects of incarceration on these private and parochial controls occur through increased heterogeneity and mobility in the area. The qualitative studies of inmate families (Fishman 1990) suggest that the influence of incarceration on families and communities is more direct. Spouses of inmates simply do not have the time or other resources to engage in private controls (of their children) or parochial controls (through voluntary associations). At a minimum, these studies suggest there is a direct

effect of public controls (i.e., incarceration) on private and parochial controls left behind. It would be useful to specify how this occurs and to incorporate these paths or relationships into Rose and Clear's model.[10]

Collecting more information on the effects of imprisonment

The complexity of the models relating incarceration to other institutions of social control will require the collection of data specifically designed for this purpose. These models are complex in that incarceration affects these other institutions in a number of sequential steps. Imprisonment, for example, is alleged to weaken families, which in turn weakens communities. Data must be collected on all of these steps. This also means that information must be collected on persons, families, and communities in a manner that allows these units to be associated with one another. Furthermore, many of the variables in the models (e.g., family disruption) are difficult to measure, and a great deal of information must be collected to accurately characterize the people, families, and communities involved. Isolating the effects of incarceration from the other factors affecting these people and places will require collecting additional information. Finally, the fact that many of the impacts of incarceration will not occur immediately makes it necessary to gather data on these units over time.

Collecting data on multiple units

One of the major problems with the evidence currently available is that few studies include all the information on all the units identified in conceptual models. This requires inferences from studies that examine similar phenomena (e.g., absence due to military service) or across studies done with different units of analysis (e.g., Freeman's (1992) study with NLSY and Lynch and Sabol's (1998b) study of counties). These inferences are often not warranted and weaken the evidence. Ideally data should be collected that include information on all relevant variables (and especially the incarceration) for a nested sample of communities, families, and persons.

Having nested samples is particularly important for associating individual-level experiences with the condition of collectivities. It is unclear, for example, whether the positive correlation between unemployment and incarceration that Lynch and Sabol (1998a) observe at the county level is simply an accumulation of tainted individuals or a change in the social organization of areas and families. In the latter case, young men who live in these areas but were not imprisoned would also be disadvantaged in the labor force because none of their networks include employed persons. Nested samples would facilitate disentangling these processes.

The selection of communities could begin with a listing of heavily populated counties because the majority of the prison population comes from such places. These counties could be arrayed in terms of their incarceration rates (admissions) from NCRP and grouped into three classes—high-, medium-, and low-incarceration counties. Several counties would be chosen from each group. Within the counties, community areas would be identified, using census data or community area data if available. A sample of admissions records would be obtained from the State correctional agency and geocoded into the various community areas. Community area incarceration rates would be computed and on the basis of those rates, high-, medium-, and low-incarceration communities would be identified. Communities could be selected from each group, with some oversampling of the high-incarceration areas. Ideally, there would be several jurisdictions in different States and several communities in each jurisdiction selected for additional investigation.

Once the communities are chosen, samples of housing units could be selected using an area frame. The residents of the selected housing units would constitute the families and persons to be studied.

Characterizing communities is particularly problematic because of the variable nature of this unit and the fact that data are not often collected on these units except in a few cities with established traditions of community areas. The usual solution to this problem is to aggregate census tract information to describe communities. Although this approach can provide good approximations of community, the decennial census limits both the range of data available and the periodicity of the data. The nested sample will help in this regard because responses of persons in those areas can be used to characterize these collectivities. Some cities, such as Chicago and Baltimore, have well-established traditions of community areas and neighborhoods that could provide additional useful information.

Following units over time

Collecting data on persons, families, and communities over time helps to identify impacts of incarceration that are not immediate and to isolate the effects of incarceration from other factors affecting persons, families, and communities. The disruption caused by removal (if any) should vary with the length of the absence. We see in the inmate survey data that a greater proportion of long-sentenced prisoners than short-sentenced prisoners are divorced. Some effects, such as the loss of income, may occur immediately, but other outcomes, such as problems with child supervision or alienation of affection, may take longer to manifest themselves. Conversely, those who remain behind may adjust over

time to the absence of the person so as to minimize disruption. Identifying these effects of imprisonment requires longitudinal data on persons, families, and communities. Whatever the trajectory and duration of disruption, it will need to be assessed using such longitudinal data.

Longitudinal data will also help isolate the effects of incarceration because it facilitates separating the effects of inherent or relatively fixed differences between individuals from the influence of experiences such as incarceration. If persons are employed, experience a period of incarceration, and are later unemployed, then one has a much stronger argument that incarceration (and not inherent abilities) accounts for the later unemployment. Since persons and families will not be randomly assigned to incarceration, there will be some selectivity in the experiencing of incarceration, but having individuals from the same areas should account for most of this selectivity.

Following people is difficult, especially young and mobile populations. Following collectivities is even more complex because their nature and composition can change and it becomes unclear when the old group disappears and a new group is formed. If, for example, the wife and three young children of an inmate remain in their home, but the teenage daughter goes to live with her boyfriend, should the spouse and young children be followed and not the teenage daughter, or should all members of the original household be followed? Following everyone would be desirable, but this would quickly lead to a much larger and expensive data collection as families subdivide repeatedly.

Some thought must be given to the length of time that units will be followed and the time between observations. As previously noted, some effects will not be observed for several months or years. If the average sentence served by persons exiting State prisons is approximately 2 years, then it would be necessary to follow persons, communities, and families for substantially more than 2 years to get enough persons entering and leaving prison to observe the impact on these units. The longer the period of the study, the greater the attrition, so some compromise must be reached between the duration of the study and the attrition.

Using multiple approaches to measure complex concepts

Assessing the health of less coercive institutions of social control is extremely complex. Evaluating the level of social disorganization in a community, for example, requires extensive information on patterns of interaction among individuals in that area. One way to obtain this information is to ask individuals in the community to report on the frequency of their interaction in the area and with persons in the area. This will provide a picture of communities in terms of the robustness and the nature of the interaction in the areas. It is not clear how

well this approach might identify changes in the patterns of interaction, which would lead to changes in the level of informal controls. An alternative method would be to identify the patterns of interaction among residents using network techniques. Here community residents would report specifically on their interactions with others in the area. Those named by the respondent would, in turn, be asked about their interaction with other community members. From these interviews, actual networks of interaction would be identified and, presumably, the effect of removing a given individual would be seen more readily. On the other hand, network approaches would be more costly and difficult to conduct. It may be worthwhile to use both approaches because not identifying effects of incarceration due to the bluntness of particular measures would be a disaster.

The prescriptions for data collection presented thus far seem to assume the use of surveys of community residents as well as whatever archival data are available on people, families, and communities. Although surveys are useful, they depend on the motivation and candor of the respondent and are not necessarily well suited for characterizing collectivities. Consequently, it may be wise to include field workers in the communities to provide a more qualitative picture of the level of social disorganization and other attributes of the communities. They may well identify changes in the social organization of these areas that are not readily apparent from surveys and archival data.

Conclusion

The prospect that concentrated increases in incarceration could have negative consequences for less coercive institutions of social control and thereby increase crime has been raised with increasing frequency in the past 5 years (Lynch and Sabol 1992; Rose and Clear 1998a; Sampson 1995; Darity and Myers 1990, 1995). Elaborate conceptual models have been developed to describe the process by which incarceration would have these consequences. These models posit negative effects on families, neighborhoods, and communities that would reduce private, parochial, and public control in residential areas. The result would be increases in crime in those areas.

There is good empirical evidence to support some portions of the model. Levels of female-headship in areas have been shown to influence the supervision of young males and the level of crime (Sampson 1987, 1995). Labor force participation and sex ratios in communities have been shown to influence female-headship (Kiecolt and Fossett 1995; Testa and Krogh 1995; Darity and Myers 1995). One component of the model missing until recently was direct evidence that incarceration affected female-headship, labor force participation, and sex ratios in communities. This evidence has begun to appear. Admissions and

The massive increases in incarceration of the recent past were undertaken with only a rudimentary understanding of their possible repercussions, and we still do not know what they will be.

releases from incarceration at the county level have been shown to be related to increases in unemployment and in female-headship, net of other relevant factors. These effects are much stronger for blacks than for whites. More must be done to test the robustness of these relationships at different levels of aggregation, but there is enough evidence now to warrant this additional study and enough evidence to question whether it is appropriate any longer simply to assume positive crime reduction effects of incarceration.

This approach to the evaluation of incarceration policy is growing in popularity, but it has not been fully elaborated theoretically or fully tested empirically. Much more theorizing must be done regarding the interrelationship between incarceration and other institutions of social control. The conditions under which incarceration will be supportive of less coercive institutions of social control as well as the conditions under which it will be detrimental to these institutions must be specified. Similarly, these theories must identify how and when other institutions of social control will increase the effectiveness of incarceration and when they will not.

Much more empirical testing of existing theories must be undertaken. To date, only the parts of models associating incarceration with other institutions of social control. These tests have generally examined the effects of incarceration at the level of communities, families, or persons, but seldom at all of these levels. Most importantly, these studies have generally failed to isolate the effects of incarceration from the other influences on these other institutions of social control.

We have described in the foregoing section some of the conceptualization and data collection required to develop this new and promising approach to assessing incarceration policies. It is urgent that we take this opportunity to better understand the role of incarceration in social control. The massive increases in incarceration of the recent past were undertaken with only a rudimentary understanding of their possible repercussions, and we still do not know what they will be. There is some reason to believe that we will continue to have very high incarceration rates for the foreseeable future. If this is not warranted for social control purposes, then it will be important to reverse this policy, if for no other reason than it is an unnecessary abridgement of the rights of a large number of citizens. It is important to demonstrate empirically the impact of incarceration on social control in a manner sufficiently complex to be persuasive.

Notes

1. Underclass status was assessed in terms of participation in the primary institutions of social control, including family, educational institutions, labor force, and the economy. An underclass scale was developed in which persons with a high school degree were given a 1 and those without a degree were given a –1; persons who were married, separated, divorced, or widowed received a score of 1, and those never married received a score of –1; those not in the labor force at the time of arrest (for the commitment) were given a –1, persons in the labor force were given a 1, and those retired, keeping house, or attending school were scored as 0; those unemployed for less than a year were given 1, and those unemployed for more than a year were given a –1; those with income below poverty level were scored as –1, and those above the poverty level were given a 1. These scores were summed to form an underclass scale. The resulting scores ranged from +5 to –5. Persons with positive scores were considered non-underclass and those with negative scores were considered underclass.

2. These rates are computed for the adult male prison population only. Females are excluded from the numerators and denominators.

3. This was done using data from the National Corrections Reporting Program (NCRP) on admissions to prison in specific counties. Although not all counties and States are included in the data, the counties included account for about 90 percent of the correctional population on a given day. NCRP includes a record for each admission and release in a given year. This record includes information on the age, race, and commitment offense, as well as the county in which the inmate was convicted.

This information was used to estimate admissions for whites and blacks for drug crimes and crimes of violence. The information on counties was used to distinguish between PMSAs and MSAs. The former are extremely large metropolitan areas such as New York or Los Angeles, and the latter include smaller metropolitan areas such as Hartford or Pittsburgh. Blumstein and others had speculated that there was a diffusion in the drug trade and the violence attendant to it, such that larger places would experience these disruptions first, then they would spread to smaller areas. Distinguishing incarceration trends by size of place will allow us to see if this has affected the use of incarceration over time (Lynch, Sabol, and Shelley 1998).

4. There is also evidence that the impact of incarceration is greatest in highly clustered areas in central cities. Gottfredson and Taylor (1988) have shown that a few neighborhoods in Baltimore contributed the bulk of prison inmates from the city. In Washington, D.C., less than 20 percent of the ZIP Codes accounted for approximately 70 percent of the persons sentenced to incarceration between 1993 and 1998.

5. Some have studied the effects of arrest practices and policing strategies on the social organization of communities and crime (Skogan 1990; Moore 1996; Sampson and Cohen 1988) but not the effects of incarceration on community institutions per se.

6. For a good review of this literature, see Johnston (1995b).

7. The status scale included the mean housing value for the area, income, type of employment, and education.

8. The stability scale included married couple households, one-unit housing structures, and owner occupancy.

9. There has been more interest in examining the effects of police policies on communal institutions of social control, but much of this work has examined satisfaction with the police rather than changes in institutions of social control in these communities (Sampson and Cohen 1988; Skogan 1990; Sherman 1995).

10. The effect of incarceration on private and parochial controls could be accommodated in Rose and Clear's model under the concept of "human social capita." In this case, it will be important to define the various dimensions of human social capital that are affected by incarceration and which, in turn, influence private and parochial controls.

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