PARENTAL IMPRISONMENT, THE PRISON BOOM, AND THE CONCENTRATION OF CHILDHOOD DISADVANTAGE*

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Although much research has focused on how imprisonment transforms the life course of disadvantaged black men, researchers have paid little attention to how parental imprisonment alters the social experience of childhood. This article estimates the risk of parental imprisonment by age 14 for black and white children born in 1978 and 1990. This article also estimates the risk of parental imprisonment for children whose parents did not finish high school, finished high school only, or attended college. Results show the following: (1) 1 in 40 white children born in 1978 and 1 in 25 white children born in 1990 had a parent imprisoned; (2) 1 in 7 black children born in 1978 and 1 in 4 black children born in 1990 had a parent imprisoned; (3) inequality in the risk of parental imprisonment between white children of college-educated parents and all other children is growing; and (4) by age 14, 50.5% of black children born in 1990 to high school dropouts had a father imprisoned. These estimates, robustness checks, and extensions to longitudinal data indicate that parental imprisonment has emerged as a novel—and distinctively American—childhood risk that is concentrated among black children and children of low-education parents.

Rapid changes that occurred in the lives of American adults toward the close of the twentieth century also transformed the lives of their children. Driven by the increasing risk of being born outside of marriage or having parents divorce, growing up with a single parent emerged as a common experience for American children (see Ellwood and Jencks 2004). Changing family structure is not the only factor affecting the lives of children, however. The American experiment in mass imprisonment might also have altered the social experience of childhood for recent birth cohorts. Driven by a fourfold increase in the imprisonment rate (Garland 2001), parental imprisonment could have emerged as a historically novel—and distinctively American—form of childhood disadvantage.

If common, parental imprisonment could many have large-scale consequences. By exposing children to a parent's arrest, incarceration, and release—all of which are potentially traumatizing (Comfort 2007)—high levels of parental imprisonment could contribute to greater inequality in the social experience of childhood, for example. But do the consequences extend beyond childhood? Parental imprisonment's long-term influence on children is uncertain, but reviews (Comfort 2007; Hagan and Dinovitzer 1999; Murray and Farrington 2008) and research on the effects of incarceration on economic and family life suggest that parental incarceration might have long-lasting consequences for children (Braman 2004; Edin, Nelson, and Paranal 2004; Green et al. 2006; Grinstead et al. 2001; Johnson and Waldfogel 2004; Lopoo and Western 2005; Pager 2003; Western 2006; Western, Kling, and Weiman 2001; but see Comfort 2008; Kling 2006). Thus, parental incarceration, like divorce, may negatively affect the majority of children even

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though it does benefit some—especially children living with violent or abusive parents or with parents whose relationship is high in conflict (Amato, Loomis, and Booth 1995; see also Jaffee et al. 2003). If parental imprisonment is common, unequally distributed, and has negative consequences throughout the life course for children, then parental imprisonment contributes not only to greater inequality among adults, but to greater inequality among children as well.

Parental imprisonment is important not only for effects on inequality. Changes in the female incarceration rate explain 30% of the increase in foster care caseloads between 1985 and 2000 (Swann and Sylvester 2006); thus, high levels of parental imprisonment may also strain social service providers. Social service providers may experience these effects first, but the criminal justice system might bear this burden most profoundly. If parental incarceration increases children's subsequent criminality and risk of incarceration, high levels of parental imprisonment could elevate future crime and incarceration (Glueck and Glueck 1950; Hagan and Palloni 1990; Murray and Farrington 2005; Sampson and Laub 1993; West and Farrington 1977). These increases would be consequential not only for the criminal justice system; they could also compromise public safety.

Although parental imprisonment may have broad social implications, it is significant on the population level only if it is highly prevalent—at least among some groups of children—and no estimates of this risk currently exist. I use life-table methods and data from surveys of prison inmates, year-end counts of prisoners, the National Corrections Reporting Program, and the National Vital Statistics Registry to estimate the risk of parental imprisonment to age 14 for black and white children born in 1978 and 1990. I also estimate the risk of parental imprisonment for black and white children whose parents did not complete high school, completed high school only, or attended college. Results suggest that parental imprisonment has emerged as an important childhood risk, especially for black children. By 1990, the risk of parental imprisonment was greater than 25% for black children; for white children, the risk was 4%. Results also show class inequality in the risk of parental imprisonment and divergence between white children of college-educated parents and all other groups. White children born in 1990 to non-college-educated parents were almost twice as likely to experience parental imprisonment as their counterparts born in 1978; the risk grew only 20% for white children of college-educated parents. The deep disadvantage of black children of low-education parents is also clear; more than 1 in 2 black children born in 1990 to high school dropouts had a parent imprisoned. The results are robust to different estimation strategies, and the emergence of parental imprisonment as an important childhood risk is also demonstrated by using longitudinal data.

THE PRISON BOOM AND THE RISK OF PARENTAL IMPRISONMENT

Two types of studies provide insight into the magnitude and social patterning of the risk of parental imprisonment. Mumola (2000) provided point-in-time estimates of the percentage of white and black children having a parent imprisoned, showing that 7.0% of black children and 0.8% of white children have a parent imprisoned at any time. Studies of the lifetime risk of imprisonment for adults also provide guidance for estimating the magnitude, rate of change, and disparities in the risk of parental imprisonment. The lifetime risk of imprisonment for American men more than tripled between 1974 and 1997: up from 2% to 7% (Bonczar 2003:7). These risks are distributed unequally by race and class. Black men born in 1965–1969 were 7 times more likely to have been imprisoned than white men; high school dropouts were 12 to 16 times more likely to go to prison than college-educated men (Pettit and Western 2004:162). Race and class inequality produced astonishingly high lifetime risks of imprisonment for black men with little schooling; nearly 60% of black male dropouts born in 1965–1969 had been to prison by 1999 (Pettit and Western 2004:162). Although lifetime risks of imprisonment for women were small compared with the risk for men, they more than doubled over this period; and research

indicates that imprisonment has become relatively common for black women with low levels of educational attainment (Bonczar 2003:8).

Unfortunately, neither type of estimate translates directly to the risk of parental imprisonment. Point-in-time estimates provide only a baseline against which to compare childhood risks of parental imprisonment. And estimates of the risk of parental imprisonment cannot simply be generalized from lifetime risks of imprisonment for adults. Because strong family ties discourage criminal activity, the risk of parental imprisonment could be smaller than the lifetime risk of imprisonment for all adults (Giordano, Cernkovich, and Rudolph 2002; Horney, Osgood, and Marshall 1995; Laub, Nagin, and Sampson 1998; Sampson and Laub 1990, 1993; Warr 1998). Racial disparities in the risk of parental imprisonment may also differ from racial disparities in the risk for all adults because the risk of parental imprisonment is influenced not only by contact with the criminal justice system but also by the timing of fertility and imprisonment (Ellwood and Jencks 2004; Morgan 2002:29).

CALCULATING THE RISK OF PARENTAL IMPRISONMENT

Life-Table Methods

In this article, I use life-table methods to calculate the cumulative probability of experiencing parental imprisonment by age 14 for black and white American children born in 1978 and 1990. Although life-table methods have traditionally been used to study demographic processes, such as fertility and mortality, they can also be used to study other aspects of social life (see Bumpass and Lu 2000; Pettit and Western 2004; Rank and Hirschl 1999).

Estimating the Number of Children Experiencing Parental Imprisonment

The key figure for estimating the cumulative risk of parental imprisonment is the number of children experiencing parental imprisonment for the first time at any age. Children experiencing parental imprisonment for the first time fall into two classes: children of never-incarcerated parents, and children of ever-incarcerated parents. While some parents experience their first imprisonment at the same time that their children first experience parental imprisonment, other children experience parental imprisonment for the first time even though their parents have been imprisoned at some point before they were born.

Unfortunately, the number of children experiencing parental imprisonment for the first time at any given age cannot be estimated by using only one data set. Therefore, I rely on three criminal justice data sets to estimate this number: the Surveys of Inmates of State and Federal Correctional Facilities (Bureau of Justice Statistics 1993, 1994, 1997, 2001, 2004a, 2007), the year-end counts of prisoners (Maguire and Pastore 2001; Pastore and Maguire 2003), and the National Corrections Reporting Program (Bureau of Justice Statistics 2004b). (For a full list of data sources used, see Table 1.)

The most important data for constructing the numerator are drawn from the surveys of inmates. Since 1978, representative surveys of state inmates have been conducted in 1979, 1986, 1991, 1997, and 2004; representative surveys of federal inmates were conducted in 1991, 1997, and 2004. State prisoners make up the majority of prisoners, so including federal prisoners negligibly changes inmate characteristics (Pastore and Maguire 2003:479). The surveys of inmates contain information about the prisoner's race and ethnicity, sex, education, all prior prison admissions and releases, current prison admission, number of children, and ages of children.

From the surveys of inmates, I estimate the proportion of prisoners in each survey who experienced imprisonment in the past year for the first time since the focal child was born. Using the 1997 survey as an example, children born in 1990 would experience parental imprisonment for the first time if their parent reported that they had a child who was 7

Table 1. Data Sets Used to Construct Estimates of the Risk of Parental Imprisonment

Data Set	Used to Calculate
Surveys of Inmates of State and Federal Correctional Facilities (1979, 1986, 1991, 1997, 2004)	Proportion of prisoners imprisoned in the past year for the first time since the child's birth
Sourcebook of Criminal Justice Statistics (2001, 2003)	Size of the year-end prison population
National Corrections Reporting Program (1983–2002)	Adjustment factor
Natality Detail File (1978, 1990)	Population at risk at birth
Life Tables of the United States (1978, 1990)	Child mortality

years old, that they had not been imprisoned since 1989 or had never been imprisoned, and that they had been imprisoned in the past year. No other children are considered as having experienced parental imprisonment for the first time. (This applies only to the birth cohort estimates.) The number of children experiencing this event at any age is constructed by weighting all cases and then multiplying the weighted percentage by the number of individuals surveyed. After this is estimated, the number of children experiencing this event can be estimated for children by race and parental education.

Each survey year provides information about only one specific age, however. (The year 1991 is the exception; it estimates the number experiencing parental imprisonment at age 13 for children born in 1978 and at age 1 for children born in 1990.) Because each survey provides only an estimate for one age, I interpolate between survey years to estimate the number of children experiencing parental imprisonment at each age between birth and age 14 (see Pettit and Western 2004). The number of children born in 1978 who experienced parental imprisonment is based on the 1979, 1986, and 1991 surveys; for children born in 1990, the number is based on the 1991, 1997, and 2004 surveys. Because interpolation may introduce error, I also include robustness checks—synthetic cohort estimates—to show that alternate methods produce similar results. Synthetic cohort (or period) estimates require only 1 year of inmate data and 14 years of vital statistics data.

Inmate surveys form the backbone of my estimate, but they are not without deficiencies. Because surveys are conducted early in the year, they underestimate the number of children experiencing parental imprisonment by the end of the year. To correct for this undercount, I multiply my estimate by the year-end prison population divided by the number of prisoners participating in the surveys of inmates (Maguire and Pastore 2001:503). Even in years not including federal prisoners in inmate surveys, this addition never increases the number by more than 15%. After federal prisoners are included in the surveys, this addition never increases the number by more than 4%.

Adjusting for prison growth makes the estimate more precise, but it is still imprecise. Because surveys of inmates are conducted at one point in time, they underestimate prison stays of less than one year. To accurately estimate how many children experienced parental imprisonment for the first time, I must also include short prison stays. The National Corrections Reporting Program provides information on all prison admissions and releases from 1983 to 2002 (Bureau of Justice Statistics 2004b). Using these data, I can estimate the proportion of first-time prison admissions released in less than one year. After I have this proportion, I can calculate the adjustment factor. The adjustment factor is the number of prison admissions divided by the number of admissions minus the number of prisoners who are released in less than one year. The adjustment factor displayed in this article replicates the adjustment factor shown in other research (Bonczar 2003; Pettit and Western 2004). Unfortunately, I cannot estimate an adjustment factor before 1983 and after 2002, so I use the 1983 adjustment factor for years before 1983 and the 2002 adjustment factor for years after 2002. The largest and smallest adjustment factors differ by only 10%, so

this extrapolation introduces minimal error. Including the adjustment factor increases my estimate by about 25%.

Estimating the Number of Children at Risk of Parental Imprisonment

Inmate surveys yield estimates of the total number of children having a parent sent to prison by age 14, but they alone cannot estimate the cumulative percentage of children having a parent imprisoned. To calculate this percentage, I need information about the 1978 and 1990 birth cohorts. Data from the National Vital Statistic's Natality Detail File provide this information (U.S. Department of Health and Human Services 2002). I also need to know how many of these children survived to each age. Data from the 1978 and 1990 American life tables provide information about child mortality (U.S. Department of Health and Human Services 1982:9–11, 1994:8–10). Knowing how many children survived to each age, I estimate the number of children at risk of parental imprisonment at any age by subtracting the number of children having experienced parental imprisonment from the number of children surviving to that age.

My analysis focuses on race and class inequality. Children from the 1978 and 1990 birth cohorts are coded as black if either parent is black and are coded as white if both parents are white. Coding children's race this way produces conservative estimates of racial inequality because it likely overestimates the size of white birth cohorts. Although almost all mothers reported their race, race is unknown for 11% of fathers in 1978 and for 15% of fathers in 1990. When paternal race is not reported, I assume that the child is the same race as that of the child's mother. This assumption likely has little effect on the results.

More data are missing on paternal education. In 1978, paternal education was missing 24% of the time; in 1990, paternal education was missing 22% of the time. I deal with missing data on father's education in three ways. First, I assume that fathers for whom data on education are missing are comparable to men of the same race who report education—that data are missing completely at random. This assumption likely overestimates paternal education because mothers may be less likely to report low paternal education than high paternal education. Second, I assume that fathers for whom data on education are missing have similar levels of education to the mothers of their children, which probably underestimates paternal education because mean paternal education exceeds mean maternal education (Table 2). A third method, used for estimates reported here, assumes that missing data on education fall halfway between what the first and second assumptions predict. Although estimates differ somewhat depending on how missing data are handled, the basic findings remain unchanged. Nonetheless, the level of missing data on paternal education indicates that findings about class inequality should be interpreted cautiously because changes in class inequality may be more pronounced than these estimates suggest.

Estimating the Risk of Parental Imprisonment

After I know the number of children experiencing parental imprisonment for the first time at any given age and the number of children at risk of experiencing that event at any given age, constructing a full life table is relatively straightforward because I can construct age-specific risks of first-time parental imprisonment. Although full life tables could be shown, I show only the cumulative risk of paternal, maternal, and parental imprisonment (by child's race and parental education) because doing so leaves more space to demonstrate the robustness of my results and to show results from extensions to longitudinal data.

Changing Parental Education of Children Born in 1978 and 1990

Table 2 presents the percentage of black and white children born in 1978 and 1990 to parents who did not complete high school, completed high school only, had no college experience, or had some college experience. The group of parents with no college experience

Table 2. Percentage and Number of Black and White Children Born in 1978 and 1990, by Parental Education

	Born in 1978				Born in 1990			
	Fathers		Mothers		Fathers		Mothers	
	%	*N*	%	*N*	%	*N*	%	*N*
White Children	100	2,630	100	2,630	100	2,840	100	2,840
All non-college-educated	61	1,604	71	1,867	55	1,562	59	1,675
High school dropout	23	605	32	841	17	483	23	653
High school only	38	999	39	1,026	38	1,079	36	1,022
Some college	39	1,026	29	763	45	1,278	41	1,165
Black Children	100	550	100	550	100	728	100	728
All non-college-educated	78	429	82	451	73	532	74	539
High school dropout	35	192	45	247	24	175	33	240
High school only	43	237	37	204	49	357	41	299
Some college	22	121	18	99	27	196	26	189

Note: The number of children is expressed in thousands.

Source: Natality Detail File from National Vital Statistics Registry (1978, 1990).

combines high school dropouts and high school graduates. Table 2 also presents estimates of the size of the 1978 and 1990 black and white birth cohorts.

Large racial inequalities exist in parental education. Black children have less-educated parents in both birth cohorts. Parental education grew substantially between 1978 and 1990. The percentage of black fathers who had not completed high school decreased by 31%, and 26% fewer white children had fathers who were high school dropouts in 1990 than in 1978. Educational attainment increased most for black parents, especially at the low end of the educational distribution. Low-education black parents in 1990 are a more select group than in 1978; and selection—rather than the rising rate of incarceration—may be increasing the risk of parental imprisonment. I reduce effects of selection bias by focusing on non-college-educated and college-educated parents. Black and white non-college-educated parents' share of the population shrank comparably, so focusing on these groups minimizes differences in selection bias. Although black children of high school dropouts are now more select, 1 in 4 black children born in 1990 had a father who did not complete high school.

RESULTS

The Risk of Paternal, Maternal, and Parental Imprisonment

Table 3 presents estimates of the cumulative risk of paternal, maternal, and parental imprisonment to age 14 for black and white children born in 1978 and 1990. The risk of paternal imprisonment was small for white children born in 1978—about 1 in 50—and grew modestly between 1978 and 1990. The risk of maternal imprisonment tripled for white children between 1978 and 1990 but was still quite small. The risk of parental imprisonment increased 60% during this period, but the risk of having either parent imprisoned for white children was still a relatively modest 1 in 25.

Racial disparities in imprisonment suggest that a larger percentage of black children will experience parental imprisonment. Black children born in 1978 had a 1 in 7 chance of having a father sent to prison by their 14th birthday. One in four black children born in 1990

Table 3. Cumulative Risk of Paternal, Maternal, and Parental Imprisonment by Exact Age for Children Born in 1978 and 1990, by Child's Age and Race

Age (years)	Paternal (%)	Maternal (%)	Parental (%)[a]
White Children			
Born in 1978			
Age 2	0.4	0.0	0.4 – 0.4
Age 6	0.9	0.1	0.9 – 1.0
Age 10	1.5	0.1	1.5 – 1.6
Age 14	2.2	0.2	2.2 – 2.4
Born in 1990			
Age 2	0.7	0.1	0.7 – 0.8
Age 6	1.5	0.2	1.5 – 1.7
Age 10	2.8	0.4	2.8 – 3.2
Age 14	3.6	0.6	3.6 – 4.2
Black Children			
Born in 1978			
Age 2	2.6	0.2	2.6 – 2.8
Age 6	6.8	0.5	6.8 – 7.3
Age 10	9.9	0.8	9.9 –10.7
Age 14	13.8	1.4	13.8 –15.2
Born in 1990			
Age 2	6.3	0.4	6.3 – 6.7
Age 6	14.9	1.4	14.9 –16.3
Age 10	20.2	2.5	20.2 –22.7
Age 14	25.1	3.3	25.1 –28.4

Note: The high estimate for the cumulative risk of parental imprisonment assumes that no children have both parents imprisoned; the low estimate assumes that all children experiencing parental imprisonment have both parents imprisoned.

Sources: Surveys of Inmates (1979–2004), National Corrections Reporting Program (1983–2002), year-end counts of prisoners (1974–2004), and Natality Detail File (1978, 1990).

[a]In some cases, there appears to be no difference between the high and low estimates in the range. This occurs when there is a near zero risk of maternal imprisonment. Additional decimal places would remedy this problem, but they would also make the table more difficult to read.

had their father imprisoned. This 80% increase over 12 years corresponds with a yearly rate of growth of nearly 5%. This rate of growth is 50% greater than the rate of growth for the lifetime risk of imprisonment for black men born from 1945–1949 to 1965–1969 (Pettit and Western 2004:161). Raw differences in the risk of maternal imprisonment were smaller—up from 1 in 60 for children born in 1978 to 1 in 30 for children born in 1990. When these risks are combined, 14% to 15% of black children born in 1978 and 25% to 28% of black children born in 1990 had a parent imprisoned by the time the child was 14.

The estimates suggest three conclusions about race differences in the risk of parental imprisonment. First, blacks born in 1978 and 1990 were much more likely than whites to have a parent sent to prison. Second, racial disparities in the risk of parental imprisonment are roughly comparable to racial disparities in imprisonment rates and the lifetime risk of imprisonment, although racial disparities in the risk of parental imprisonment are

slightly smaller. Blacks born in 1990 are 6.8 times more likely to have a parent imprisoned than whites. Black men's incarceration rate is 7.3 times the rate for white men, and black men are 7.1 times more likely than white men to be imprisoned at some point (Pastore and Maguire 2003:505; Pettit and Western 2004:161). Third, parental imprisonment was uncommon for white children, but it was not uncommon for black children. In fact, black children born in 1990 were only slightly more likely to have a college-educated father (27%) than to have a father sent to prison (25%).

Estimates of the risk of parental imprisonment for black and white children underscore racial inequality, but they cannot shed light on class inequality. Table 4 reports the risk of paternal and maternal imprisonment for white and black children, by parental education. For white children born in 1978, the risk of paternal imprisonment is small regardless of paternal education. White children of high school dropouts had a 1 in 25 chance of having their father sent to prison. The risk shrinks to 1 in 50 for white children of high school–educated fathers and 1 in 70 for white children of college-educated fathers. Among white children, risks of parental imprisonment grew most for those with non-college-educated fathers. Although growth in the risk of paternal imprisonment was strong for white children of high school dropouts—up from 4.1% to 7.2%—growth was stronger for white children of high school graduates, more than doubling from 2.0% to 4.8%. For white children of college-educated fathers, the risk of paternal imprisonment grew only 21%. Class inequality in the risk of paternal imprisonment grew for white children; white children of college-educated parents experienced a minimal increase in the risk of paternal imprisonment, and all other white children experienced large increases.

Whites born in 1978 and 1990 had a small risk of maternal imprisonment. The risk of maternal imprisonment for white children born in 1978 to high school dropouts was 1 in 500. By 1990, the risk had grown to 1 in 100. Although this rate of growth is large, white children of low-education mothers continue to have little risk of maternal imprisonment. White children of college-educated mothers had even lower risk; about 1 in 300 of them had a mother imprisoned. The risk of maternal imprisonment is negligible for white children regardless of maternal education, even in the 1990 birth cohort.

Class inequality in the risk of paternal imprisonment was also large for black children. Black children born in 1978 to high school dropouts had a 22% chance of experiencing paternal imprisonment; about 1 in 10 black children of high school graduates and 1 in 14 black children of college-educated fathers experienced paternal imprisonment. The disadvantage of black children born in 1990 was even greater. Over one-half of black children born in 1990 to high school dropouts had their father imprisoned, up 130% since 1978. Because black children of high school dropouts are an increasingly select group, I compare children of college and non-college-educated fathers. By 1990, the risk for black children of non-college-educated fathers was 30%; this represents nearly a 100% increase in the risk of paternal imprisonment. About 13% of black children born in 1990 to college-educated fathers had a father sent to prison. Although these risks are dwarfed by the risk for black children of high school dropouts, they are much larger than the risk for comparable white children.

For blacks born in 1978, the risk of maternal imprisonment ranges from 1 in 100 to 1 in 50. By 1990, the risk of maternal imprisonment had increased substantially. For black children of high school dropouts, the risk of maternal imprisonment was 5.0%; the risk was 1 in 40 for black children of high school graduates. The rate of growth was larger for black children of low-education mothers than for high-education mothers, although black children of college-educated mothers also experienced substantial growth in the risk.

Pettit and Western (2004:162) found that racial inequality in the lifetime risk of imprisonment held constant from 1979 to 1999 but that class inequality grew. Table 3 provides evidence for growing racial inequality in the risk of parental imprisonment. The evidence for growing class inequality is weaker, as shown in Table 4. Class inequality in the risk of

Table 4. Cumulative Risk of Paternal and Maternal Imprisonment by Exact Age for Children Born in 1978 and 1990, by Child's Age, Child's Race, and Parental Education

	White Children				Black Children			
	Paternal (%)		Maternal (%)		Paternal (%)		Maternal (%)	
Age (years)	1978	1990	1978	1990	1978	1990	1978	1990
All Non-College-Educated								
Age 2	0.6	1.0	0.0	0.1	3.1	7.8	0.2	0.5
Age 6	1.4	2.7	0.1	0.3	7.9	18.5	0.5	1.6
Age 10	2.1	4.3	0.1	0.5	11.4	24.6	0.9	2.8
Age 14	2.9	5.6	0.2	0.8	15.6	30.2	1.5	3.6
High School Dropout								
Age 2	0.9	1.4	0.0	0.1	5.2	14.3	0.2	0.5
Age 6	2.2	3.7	0.1	0.4	13.2	33.3	0.7	2.0
Age 10	3.3	5.8	0.2	0.7	17.7	42.7	1.2	3.8
Age 14	4.1	7.2	0.2	1.0	22.0	50.5	1.9	5.0
High School Only								
Age 2	0.4	0.9	0.0	0.1	1.2	4.6	0.1	0.4
Age 6	0.9	2.3	0.1	0.3	3.7	11.3	0.3	1.3
Age 10	1.3	3.6	0.1	0.4	6.4	15.8	0.5	2.0
Age 14	2.0	4.8	0.2	0.7	10.2	20.4	0.9	2.6
Some College								
Age 2	0.1	0.2	0.0	0.0	0.8	2.4	0.1	0.3
Age 6	0.4	0.7	0.1	0.1	2.2	6.9	0.3	1.1
Age 10	0.8	1.2	0.1	0.2	3.6	10.6	0.5	1.9
Age 14	1.4	1.7	0.2	0.3	7.1	13.4	1.2	2.6

Sources: Surveys of Inmates (1979–2004), National Corrections Reporting Program (1983–2002), year-end counts of prisoners (1979–2004), and Natality Detail File (1978, 1990).

parental imprisonment clearly increased for whites. However, class inequality in the risk of parental imprisonment has not grown among blacks as it has for whites. Instead, the effect of rising incarceration rates has been broadly shared among all black children. Although class inequality among black children has not increased, the disadvantage of black children of high school dropouts in the 1990 birth cohort is pronounced. Combining the risks of maternal and paternal imprisonment shows that as many as 55.5% of black children born in 1990 to low-education parents experienced parental imprisonment. Even when compared with black children of high school graduates, these risks are quite pronounced.

Period Estimates

Constructing birth cohort estimates required interpolating between survey years. Interpolation potentially introduces error, so I check robustness by constructing period estimates. I provide period estimates for 1979, 1986, 1991, and 1997. I do not provide estimates for 2004 because the little information available about fathers in recent birth records makes it impossible to do so without introducing substantial error into the estimates.

Table 5 compares period estimates with birth cohort estimates. Period estimates confirm the initial findings. The only major difference is the dip in the risk of parental imprisonment

Table 5. Cumulative Risk of Paternal and Maternal Imprisonment by Exact Age Using Real and Synthetic Cohorts for Black and White Children, by Parental Education

	Birth Cohort		Period			
Cumulative Risk	Born in 1978	Born in 1990	1979 Rate	1986 Rate	1991 Rate	1997 Rate
Paternal Imprisonment (%)						
White children						
All non-college-educated	2.9	5.6	1.9	2.9	4.2	4.6
High school dropout	4.1	7.2	2.9	5.2	5.1	5.9
High school only	2.0	4.8	1.4	1.6	3.7	4.2
Some college	1.4	1.7	0.5	1.0	1.3	1.4
Black children						
All non-college-educated	15.6	30.2	9.3	16.4	29.8	26.8
High school dropout	22.0	50.5	12.9	23.9	40.1	43.1
High school only	10.2	20.4	5.9	8.4	22.5	19.0
Some college	7.3	13.4	5.7	8.3	16.6	11.4
Maternal Imprisonment (%)						
White children						
All non-college-educated	0.2	0.8	0.1	0.2	0.4	0.6
High school dropout	0.2	1.0	0.2	0.3	0.4	0.8
High school only	0.2	0.7	0.1	0.2	0.4	0.5
Some college	0.2	0.3	0.0	0.1	0.2	0.3
Black children						
All non-college-educated	1.5	3.6	1.0	1.5	2.5	4.3
High school dropout	1.9	5.0	1.2	2.1	3.0	5.9
High school only	0.9	2.6	0.9	0.7	1.9	3.0
Some college	1.2	2.6	0.8	0.7	1.9	2.0

Note: Real cohort figures use three surveys of inmates and one year of vital statistics data; synthetic cohort figures use one survey of inmates and 14 years of vital statistics.

Sources: Surveys of Inmates (1979–2004), National Corrections Reporting Program (1983–2002), year-end counts of prisoners (1979–2004), and Natality Detail File (1965–1997).

between 1991 and 1997 for black children, using period estimates. This small dip is likely due to improving economic conditions. Birth cohort estimates are also slightly larger than period estimates, but these differences are not large. Because period estimates are conservative when the risk of an event is growing quickly, these differences are of little concern. My estimates are robust to estimation strategies.

Applications to Longitudinal Data

I further supplement my analysis by estimating the risk of parental incarceration to age 5 using the following data sets: the National Longitudinal Survey of Youth, 1979 (NLSY79; Bureau of Labor Statistics 2002); the National Longitudinal Survey of Youth, 1997 (NLSY97; Bureau of Labor Statistics 2005); and the Fragile Families and Child Wellbeing Study (see especially Reichman et al. 2001). I estimate the risk of parental incarceration to age 5 because the NSLY97 and the Fragile Families and Child Wellbeing Study contain information only to this age.

All three longitudinal data sets should produce higher estimates than estimates derived from the surveys of inmates because they measure parental incarceration, which includes having a parent sent to jail, rather than parental imprisonment, which includes only prison. One can also expect the NLSY97 and Fragile Families and Child Wellbeing Study to produce larger estimates because the children in these studies were born later and were likely to be born to parents at higher risk of incarceration: many are young, unmarried, and reside in urban areas. Estimates from the NLSY97 underestimate racial inequality in the risk of parental incarceration because black men are more likely than white men to be missing in household-based surveys (Hernandez and Brandon 2002). Fragile Families should underestimate racial inequality less because mothers also report on paternal incarceration.

Table 6 presents estimates of the risk of parental imprisonment for children in three longitudinal data sets. The risk of parental incarceration in the NLSY79 is somewhat larger than estimates of the risk of parental imprisonment for the 1978 birth cohort. Estimates using data from the NLSY97 also show the large risk of paternal incarceration for black

Table 6. Cumulative Risk of Paternal and Maternal Imprisonment or Incarceration by Age 5 for Black and White Children, by Parental Education

	Surveys of Inmates		NLSY79,	NLSY97,	Fragile Families,
Cumulative Risk (%)	Born in 1978	Born in 1990	Born in 1979–1986	Born in 1997–2000	Born in 1998–2000
Paternal Imprisonment					
White children					
All non-college-educated	1.2	2.4	2.9	9.8	21.6
High school dropout	1.9	3.2	5.8	15.6	30.8
High school only	0.8	2.0	1.1	0.0	15.4
Some college	0.4	0.5	0.3	0.0	3.2
Black children					
All non-college-educated	6.8	16.3	11.7	34.6	31.4
High school dropout	11.4	29.5	20.6	38.8	42.3
High school only	3.0	9.8	5.5	19.4	25.6
Some college	1.9	5.9	1.7	0.0	15.7
Maternal Imprisonment					
White Children					
All non-college-educated	0.1	0.2	0.3	1.2	6.4
High school dropout	0.1	0.3	0.4	0.0	8.0
High school only	0.1	0.2	0.2	2.0	5.4
Some college	0.0	0.1	0.0	0.0	1.5
Black children					
All non-college-educated	0.4	1.3	0.7	1.8	4.9
High school dropout	0.6	1.6	1.6	2.9	6.7
High school only	0.2	1.1	0.0	0.0	3.2
Some college	0.2	1.1	0.0	0.0	1.9

Notes: The NLSY79, NLSY97, and Fragile Families data measure incarceration. Estimates based on surveys of inmates measure imprisonment.

Sources: Surveys of Inmates (1979–2004), National Corrections Reporting Program (1983–2002), year-end counts of prisoners (1979–2004), Natality Detail File (1978, 1990), NLSY79, NLSY97, and the Fragile Families and Child Wellbeing Study.

children of low-education parents; by age 5, nearly 40% of black children of high school dropouts had their father incarcerated. White children of high school dropouts are also at substantial risk of parental incarceration, but their risk is only 40% the risk for black children. (Children of high-education parents in the NLSY97 appear to have no risk because of the small number of young, high-education parents.) The final estimates come from the Fragile Families and Child Wellbeing Study. These estimates show a high risk of parental incarceration, especially for white children. These estimates demonstrate that American children—especially those born to unwed parents, in urban areas, or to young parents—have a high risk of parental incarceration. Even when black and white children have similar parents, however, racial inequality persists.

DISCUSSION

Life-table estimates of the risk of parental imprisonment for black and white children born in 1978 and 1990 show pronounced race and class inequality in the risk of parental imprisonment. Black children born in 1990 were nearly 7 times more likely to have a parent sent to prison than white children; children born in 1990 to high school dropouts were 4 times more likely to have a parent sent to prison than children of college-educated parents. In addition, race and class inequality in the risk of parental imprisonment grew, although class inequality grew only for white children. The combination of race and class inequality in the risk of parental imprisonment profoundly affected black children of high school dropouts. Over one-half of these children born in 1990 had a parent sent to prison. Period estimates support similar conclusions, demonstrating the robustness of the estimates. Estimates generated using longitudinal data confirmed racial disparities in the risk of parental incarceration, even when black and white parents are very similar. Taken together, these estimates suggest that parental imprisonment has emerged as a novel—and distinctively American—form of childhood disadvantage. Even though having a parent imprisoned will likely never be as common as growing up poor or growing up with a single parent (see Bumpass and Lu 2000; Rank and Hirschl 1999), it is still an important form of childhood disadvantage that has population-level consequences.

Growing racial inequality in the risk of parental imprisonment is especially surprising. Because racial inequality in the risk of imprisonment has not grown for adults (Pettit and Western 2004), how could inequality in the risk of parental imprisonment have increased? There are a number of possible explanations. First, the age of black parents could have increased more slowly than the age of white parents. This would exacerbate inequality because the risk of imprisonment is largest for adults during their 20s but then declines quickly (Pettit and Western 2004). Data from the Natality Detail File suggest that white children did experience more relative increase in the mean age of their parents. White children born in 1990 had parents who were 2 years older than those born in 1978; black children born in 1990 had parents who were 1 year older than those born in 1978. Racial inequality in the risk of parental imprisonment could also have grown because of more rapid changes in family structure among African Americans. Because marriage diminishes crime (Giordano et al. 2002; Horney et al. 1995; Laub et al 1998; Sampson and Laub 1990, 1993; Warr 1998), if the proportion of time that black children lived with married parents decreased faster than it did for white children, that could explain some of the increasing racial inequality. Estimates of the proportion of time up to age 16 that black and white children spent with married parents show more decline for black children than for white children. Black children spent 41% of their first 16 years with married parents in 1980–1984 but 16% in 1990–1994; white children spent 83% of their first 16 years with married parents in 1980–1984 and 80% in 1990–1994 (Bumpass and Lu 2000:38). Changes in the timing and context of child rearing contributed to growing racial inequality in the risk of parental imprisonment, although changes in family structure may have had larger effects because of the more pronounced racial differences in that area.

The causes of growing racial inequality in the risk of parental imprisonment—and growing class inequality among white children—merit attention. But the consequences of growing inequality in the risk of parental imprisonment are also important. What are possible consequences of growing inequality in the risk of parental imprisonment? Probably the most obvious consequence is that black children and children of low-education parents—and especially black children of low-education parents—now experience an event unknown to advantaged children: having a parent go to prison. Furthermore, this event may be traumatic at numerous stages: seeing a parent arrested, visiting a parent in prison, and having a parent return to the household (Comfort 2007). Even if parental incarceration has no negative long-term effects, the emergence of this new event in the life course of disadvantaged children merits consideration.

But what if parental incarceration is not only a traumatic experience for children but also disadvantages them? Although it is unclear whether parental incarceration helps, harms, or has no effect on children—research in this area is, after all, still in its infancy—it is tempting to consider what the implications would be if parental incarceration disproportionately touched the lives of minority children and children of low-education parents and further disadvantaged them. Should parental incarceration disadvantage children, mass imprisonment would almost certainly exacerbate social inequality among children. Growing inequality in the risk of parental imprisonment would have consequences not only for social inequality among children but also for social inequality among these children in adulthood. By disadvantaging children already at high risk for poor outcomes because of the other disadvantages they faced before having a parent imprisoned, parental imprisonment would emerge as a new mechanism through which race and class inequality grow (Foster and Hagan [2007] offer an example).

Possibly even more important than growing race and class inequality is the potential influence of parental imprisonment on children's crime and contact with the criminal justice system in adulthood. If parental imprisonment promotes crime, which it may or may not, then high rates of parental imprisonment would contribute to high rates of crime (Glueck and Glueck 1950; Hagan and Palloni 1990; Murray and Farrington 2005; Sampson and Laub 1993; West and Farrington 1977). The consequences of this increase in crime among children would be twofold. First, increased criminality among an already disadvantaged population would almost certainly lead to increased crime in the long run, which has clear implications for public safety. Second, high levels of criminal activity among the children of the prison boom would almost certainly lead to higher levels of incarceration among an already at-risk population. By promoting incarceration among the children of the prison boom, parental imprisonment may have the potential to lay the foundation for an enduring form of inequality in which the imprisonment of the disadvantaged is transmitted from one generation to the next.

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