

**FATHER ABSENCE AND YOUTH  
INCARCERATION**

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## FATHER ABSENCE AND YOUTH INCARCERATION

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## **Father Absence and Youth Incarceration**

### *Abstract*

This study measures the likelihood of incarceration among contemporary male youths from father-absent households, using data from the National Longitudinal Survey of Youth. Hypotheses test the contribution of socioeconomic disadvantage, poverty, family instability, residential adults in father-absent households, as well as selection bias. Results from longitudinal event history analysis show that while certain unfavorable circumstances, such as teen motherhood, low parent education, urban residence, racial inequalities and poverty, are associated with incarceration among father-absent youths, net of these factors, these youths still face double the odds of their peers. Nonetheless, youths from stepparent families are even more vulnerable to the risk of incarceration, especially those in father-stepmother households, which suggests that the re-marriage may present even greater difficulties for male children than father absence.

## **Father Absence and Youth Incarceration**

### **Introduction**

This study investigates whether growing up in a father-absent household increased the susceptibility of male youths to the high risk of incarceration in the United States in the eighties and early nineties. Given the prevalence of incarceration during this time period, and the corresponding large number of young men who experienced its negative impact, it is important to distinguish risk factors from early in life, separating actual risks from apparent risks for the chances of incarceration. High incarceration rates have had a particularly negative impact for urban minority youths (see Western 1999). While a larger proportion of high-risk youths spend their childhood in father-absent households than was the case in previous generations, they also confront many other challenges from growing up with socio-economic disadvantage. To inform public policy discussions of father absence, it is important to understand how family changes affect child welfare, but also to separate the effects of family changes from those of concomitant factors. This analysis uses empirical evidence from a national cohort of male youths to assess the contribution of father absence during childhood to the likelihood of youth incarceration.

Changes in non-marital fertility and divorce rates have increased the overall proportion of children living in father-absent households.<sup>1</sup> Minority children are even more likely to grow up in father-absent households since marriage rates are lower and fertility is higher among disadvantaged populations (National Center for Health Statistics 1993, U.S. Bureau of the Census 1992). A greater reliance on prisons for enforcement has augmented the risk of incarceration for young men, particularly for drug trafficking (see National Research Council

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<sup>1</sup>Divorce rates rose from 10.6 per 1,000 married women in 1965 to 20.9 in 1990 (National Center for Health Statistics 1995). Non-marital fertility rose from 26.4 per 1,000 unmarried women in 1970 to 43.8 in 1990 (National Center for Health Statistics 1993).

1993; Sullivan 1989). From 1980 to 1992 prison populations grew 142 percent, and the number of prisoners sentenced to over one year in jail increased by 168 percent, with drug offenders making up one-third of the increase (U.S. Department of Justice 1995).

The national patterns of father absence and youth incarceration, however, are large aggregates and may not be clearly connected to each other; they may result from either temporal coincidence or from additional related factors. National statistics of inmates do reveal that they are more likely than the general population to have grown up with only one parent (U.S. Department of Justice 1993), but since father absence and incarceration have common socioeconomic antecedents, it is highly possible that another formidable social factor be the driving force behind both patterns.

Those at highest risk of serious violent crime and incarceration are not all youths, but minorities who live in poor inner city communities<sup>2</sup> (MacKeller, Landis and Yanagista 1995, DiIulio 1994, 1996, Earls 1992). This same population is at greater risk for single parenthood as well (McLanahan and Sandefur 1994), so difficult circumstances, such as poverty or racial inequalities, are likely to account for both problems. This research studies a national male youth cohort, with an oversampling of disadvantaged groups, to try to determine whether father absence is an accurate predictor of incarceration during adolescence and young adulthood, or whether it is merely a correlate of other difficulties leading to incarceration. In addition, it investigates several aspects of childhood family disruption to see whether we can differentiate imperfect family circumstances from truly harmful ones that increase the risks of youth incarceration.

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<sup>2</sup>Men constitute over 90% of those charged with violent crimes and over 90% of the prison population. African Americans accounted for 43% of male inmates in 1990 (U.S. Department of Justice 1992a, 1993).

The topic of childhood family deficits and involvement with the criminal justice system has been the subject of a considerable body of past research that shows a link.<sup>3</sup> The nature of this link, however, may be different now that father absence has become more widespread and is not just affecting a small select group of children. Estimates from recent data can help to show whether the consequences of father absence are still visible once the group of children affected has grown to encompass a much greater proportion of the population. If past results were driven largely by selection effects of the relatively infrequent event of father absence, then we might not detect an association between father absence and incarceration now that it has become a more common event. Contemporary data can help to analyze these recent changes in the population affected by father absence and to corroborate whether past results still hold, as well as to answer certain questions that remained unanswered in previous research due to limitations with data sets.

Much of the criminological research on family and crime or incarceration relies on small and specially selected samples, so the findings may apply to a particular group, but would not be generalizable to the larger population. The analyses cited above are restricted to certain cities, racial groups, students (who have a lower likelihood of incarceration than drop-outs) or to a single point in time. It is difficult to find extensive data covering family life and incarceration, which is both longitudinal and generalizable to patterns throughout the United States. Most of the national repositories of criminal data do not have detailed family information, while the large national data sets with intricate family information do not have data on involvement with the criminal justice system. Even fewer national data sets track both family and incarceration over

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<sup>3</sup>See Glueck and Glueck 1950, Nye 1958, Hirschi 1969, 1991, Jensen 1972, Kornhauser 1978, Krohn and Massey 1980, Gove and Crutchfield 1982, Loeber and Stouthamer-Loeber 1986, Johnson 1986, 1987, Cernkovich and Giordano 1987, Dornbusch *et al.* 1985, Steinberg 1987, Wells and Rankin 1988, Larzelere and Patterson 1990, Mednick, Baker and Carothers 1990, McCord 1991, Haurin 1992, Sampson and Laub 1993, Sampson 1987, Matsueda and Heimer 1987, Warr 1993, Rankin and Kern 1994.

time so that the longitudinal sequencing of events can be distinguished, or the changing effects of family at different life stages can be measured. Very few longitudinal studies following the life course have addressed this question dynamically, and those that have tested the association between family patterns and delinquency show conflicting results (Hill and O'Neill 1993, Harris and Furstenberg 1995, Furstenberg and Teitler 1994, Heimer and Matsueda 1994).

To understand the interplay of family and socioeconomic factors, as well as the role of family alone, we use nationally representative panel data from the National Longitudinal Survey of Youth (NLSY). The NLSY is a national probability sample, so statistical generalizations can be made from observations on these individuals to other young people in the United States. The survey over-samples economically disadvantaged populations, as well as out-of-school teenagers, who have a greater likelihood of both father absence and incarceration. The over-sampling strategy allows us to compare the family context and incarceration outcomes of whites and minorities, poor and non-poor, while controlling for confounding influences, such as parents' education or urban residence. The survey covers one of the first youth cohorts to have experienced high levels of father-absence during childhood and burgeoning prison populations during adolescence and young adulthood, and follows them through the peak ages of offending into their thirties when criminal behavior wanes (see Hirschi and Gottfredson 1993, Shavit and Rattener 1988 for age patterns of crime).

Using longitudinal methods with the NLSY data, we trace detailed family histories from birth to detect the family factors that are associated with subsequent incarceration, sorting out family influences from other related socioeconomic factors. We then examine various aspects of father-absent families to see which difficulties may be linked to higher risks of incarceration and which are unrelated, including the lower income levels, the lack of stability, and the absence of

an adult male role model in the household.<sup>4</sup> We also ask about the role of other family members in a youth's chances of incarceration and the effects of growing up with relatives or in foster homes. Does a stepfather help to reconstitute the support available to children in two-parent homes, or destabilize the family situation further? Do grandparents make a difference in a father-absent household, and are numerous siblings particularly difficult to supervise?

### **Research Hypotheses on Father Absence and Youth Incarceration**

*The Common Background Hypothesis.* Before we test the particular ways in which family instability may influence the chances of youth incarceration, first we must investigate the possibility that it only appears to do so because it is closely connected to other predictors of incarceration. It is entirely plausible that factors confounded with single-mother households may put disadvantaged children at risk of larger societal problems. An analogous body of research on teen motherhood has shown that life difficulties (e.g. few life opportunities, poor schooling records, history of sexual abuse) explain the early timing of births as well as many of the “consequences” that we originally attributed to teen births (Geronimus and Korenman 1992, Luker 1996). Likewise, common correlates that underlie both father absence and chances of incarceration, such as isolation in poor inner-city minority communities, unemployment or truncated educations, may be causing us to see an apparent relation between the two (Wilson 1987, Jencks 1991, Massey 1995, Sullivan 1993).

Racial inequality, combined with blocked opportunity, may also concentrate family instability and crime in the same disadvantaged minority population. Past studies have examined racial differences in family and crime, but results are contradictory, ranging from

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<sup>4</sup>Although patterns are changing, ninety percent of children living with one parent still lived with their mother in the early nineties (U.S. Bureau of the Census 1992).



similar effects for blacks and whites (McLeod, Kruttschnitt, and Dornfeld 1994, Wells and Rankin 1991), stronger effects for blacks (Matsueda and Heimer 1987) to no effects for blacks (Gray-Ray and Ray 1990, Farnworth 1984). Studies have also investigated whether *aggregate* family structure is a predictor of higher crime rates for African-Americans, under the theory of lowered neighborhood supervision and social disorganization, which concentrate crime in impoverished inner-cities (see Shaw and McKay 1942; McCarthy and Hagan 1995, Skogan 1990). However, these studies also show conflicting results. While some find support for the net effects of aggregate family structure (Blau and Blau 1982, Sampson 1987, Shihadeh and Steffensmeier 1994), others contend that community poverty, residential segregation, school dropout rates, and employment barriers are the important factors in the concentration of crime (Alba, Logan, and Bellair 1994, Massey and Shibuya 1995). Under the common background hypothesis, once we take into account these shared antecedents of father absence and incarceration, apparent risks for youths from father-absent families should diminish.

*The Low Income Hypothesis.* The differences we see in family patterns by race, however, or by any other background factors, may exist without accounting for any disparities in incarceration, since poverty may well be driving both phenomena. African American children are more likely than white or Hispanic children to live in single mother households, but at the same time, they are also far more likely to live in poverty.<sup>5</sup> We investigate poverty separately from other background factors since poverty and family structure have reciprocal effects: low income is associated with a greater likelihood of single motherhood, and in turn, single

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<sup>5</sup>Fifty-four percent of African American children were living in single-mother households in 1992 and over two-thirds of them were poor, while 18 percent of white children were in single-mother households, and slightly under half were poor (Bennett 1993).

motherhood --whether caused by nonmarital fertility or divorce-- also substantially increases the likelihood of poverty (Thomson *et al.* 1994, McLanahan and Casper 1995, Holden and Smock 1991).<sup>6</sup> As single mother households have become more numerous, poverty among children, especially minority children, has risen (Bennett 1993).

Poverty can increase the likelihood of incarceration by restricting life opportunities, including the quality of supervision in early childhood (daycare), the education available throughout childhood, the neighborhood the family lives in, and the higher education and job opportunities in early adulthood.<sup>7</sup> Studies have shown that the children with absent fathers are indeed less likely to pursue higher education (McLanahan and Sandefur 1994) and have fewer networks into the working world (Coleman 1988).<sup>8</sup> While poverty adversely affects all children, the low income hypothesis points out that it can be especially harmful in single-mother families, who may need extra resources with one adult in charge to organize for the care and supervision of children. Children from stepfather households, on the other hand, should be protected by their higher average incomes, although the income level may not compensate fully since financial support from stepfathers can be voluntary and is not likely to continue after age 18, as is the case with noncustodial fathers (Aquilino 1994). Children living with their fathers, but not mothers, also have higher average family incomes, which should serve to protect them.

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<sup>6</sup>Fifty percent of children living in single-mother households were below the poverty level in 1992, compared to only 10 percent of children living with both parents (U.S. Bureau of the Census 1992).

<sup>7</sup>According to opportunity theories of crime, low income represents a structural impediment for youths in the pursuit of conventional measures of success -high education or well-paid jobs. The inability to attain these socially shared goals leads youths to frustration, which increases criminal behavior (Merton 1957, Cohen 1955, Cloward and Ohlin 1960).

<sup>8</sup>During the time period studied, young men who did not receive higher education faced relatively worse job opportunities and higher incentives for crime (Freeman 1996, Grogger 1994).

*Family Stress Hypothesis.* The third explanation we consider is that family stress and instability, closely following a disruption, or after repeated disruptions, increases the likelihood of incarceration. Aside from any income deprivation, a child is bound to experience a period of emotional upheaval or in the least uncertainty in reaction to a recent disruption in the family. Furthermore, family conflict or emotional instability may increase around the time of a disruption. Criminal behavior, therefore, may intensify in the aftermath of a family disruption or with repeated disruptions and the likelihood of incarceration may increase. Although research has not established a consensus on timing effects (see Wells and Rankin 1991 for a meta-analysis or McLanahan and Bumpass 1988 and Chase-Lansdale *et al.* 1995 for child well-being), a disruption near the volatile adolescent years will make a larger difference for subsequent chances of incarceration than a disruption in early childhood, according to the family stress hypothesis. The residential instability that often accompanies family disruption and remarriage may also be responsible for a greater likelihood of youth incarceration, due to broken ties with schools, lower access to community resources or less cohesive neighborhood supervision. Residential moves, following family disruption, can affect long-run opportunities of children (Speare and Goldscheider 1987, Astone and McLanahan 1994).

*The Father Absence Hypothesis.* Children living in single-mother homes not only may have experienced the instability of family disruption, but on average they also receive less supervision or time with parents than children living in two-parent homes. In addition, they may have lower attachment to their non-residential fathers, which can affect their emotional stability as well as their opportunities in education or jobs, increasing their chances of incarceration.

This father absence hypothesis follows the social control theory of crime, which focuses on the importance of emotional attachments of parents and children, their time spent together, and the supervision of children, in the prevention of delinquent behavior (Hirschi 1969). Criminologists have also shown that family deficits may increase associations with delinquent peers (Warr 1993, Elliot *et al.* 1985), which leads to higher chances of incarceration.

Under a father-absence hypothesis, therefore, we would expect the children who never had residential fathers, *e.g.* those born to single mothers, to have the highest chances of incarceration. Unlike the family stress hypothesis, the father absence hypothesis predicts that experiencing father absence from early childhood onward would be more harmful than a family disruption during adolescence. Among the children with absent fathers, we would expect those who receive child support to be relatively better off since paying fathers are more likely to be connected to their children and interested in their welfare. Some evidence suggests that receipt of child support is associated with fewer behavioral problems, although it is not yet clearly demonstrated (Furstenberg *et al.* 1987, King 1994, Garfinkel and McLanahan 1990).

This research investigates whether an additional adult in the household is able to compensate for the lost supervision or support of a father. In terms of remarriage, some research has found that an additional adult in the household has beneficial effects for the child (White 1994, Furstenberg *et al.* 1987, Dornbusch *et al.* 1985). Under a father absence hypothesis, a stepfather in the household would help to fill the male adult role model, and serving as a protective effect against incarceration. However, it is not entirely clear whether remarriage helps to reverse a child's difficulties (Wells and Rankin 1991), and a few studies have shown that youths living with stepparents have higher rates of delinquency (Haurin 1992, Steinberg 1987, Johnson 1986). Most likely, stepparent situations work in different ways, depending on

the family; under the father absence hypothesis, in balance a stepfather would be associated with decreased behavioral problems.

We might also expect to see that extended family members who lend support and supervision in single-parent households, such as grandparents, would have a protective effect against incarceration. This protective effect may occur more frequently in African American families who are more likely to include grandparents<sup>9</sup> (Stack 1974, Glick 1988, McAdoo 1988, Hatchett *et al.* 1991). Although additional adults should help to mitigate problems of supervision in father-absent households, numerous children would exacerbate difficulties in supervision and reduce adult time with each child, therefore increasing the likelihood of crime; large family size is positively associated with crime (Nye 1958, Hirschi 1991, Tygart 1991, Sampson and Laub 1993).

*Selection Effects: Unmeasured Variables.* Even though we are able to investigate many aspects of the youths' lives, even the most extensive of surveys lacks sufficient data to include all possible variables. In this case, an omitted variable that is likely to play a role in the association of father absence and incarceration is emotional instability in the home environment, including conflict and domestic violence. Parent criminality, which is also likely to contribute youth incarceration (Mednick, Gabrielli and Hutchings 1984, Moffit 1987, Carey 1992, Brennan and Mednick 1993), may likewise increase the chances of father absence during childhood. We will investigate for biases in unobservable family variables that affect the estimates. A statistical correction for selection bias, however, does not solve the problem completely, and will therefore be considered as supplemental information.

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<sup>9</sup>Almost 12 percent of African American children under 18 were living with grandparents in 1992, compared to almost 4 percent of whites (U.S. Bureau of the Census 1992).

## Data

In order to test these hypotheses about the aspects of father absence that affect the likelihood of youth incarceration, this study uses data from the National Longitudinal Survey of Youth, one of the few longitudinal data sets with individual-level information on both family life and incarceration (Center for Human Research Resource 1994). The panel survey commenced in 1979 with a sample of 14 to 22 year olds (6,403 of whom are males), and has continued to re-interview the same group each year, covering the critical ages during the life course when the risk of incarceration emerges and then drops off. Since the respondents are surveyed annually, we have measures of life events at each age, and associate them with subsequent youth problems. Family structure measures are detailed each year from birth, and provide us with many different scenarios that change over time. For example, we can construct the sequence of events for an adolescent whose father left when he was 14, and then lived with his mother until age 16 when a stepfather joined the household -measuring the incarceration risk each family situation may pose for this adolescent up to young adulthood. The NLSY has notably low attrition. An analysis of the sample attrition that did occur shows that it is not likely to be a significant influence in the study results.<sup>10</sup> The variables used for this analysis are shown in Table 1.

*Outcome Variable: Incarceration.* The longitudinal outcome measure is a time-varying

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<sup>10</sup>NLSY Retention Rates: 1979-80 (95.7%), 1980-81 (100.4%), 1981-82 (99.4%), 1982-83 (100.8%), 1983-84 (98.8%), 1984-85 Military subsample dropped (n=1079), 1985-86 (97.8%), 1986-87 (98.4%), 1987-88 (99.8%), 1988-89 (101%), 1989-90 (98.4%), 1990-91 Poor white subsample dropped (n=1643), 1991-92 (100%).

We tested for differences in baseline characteristics (for each variable in the analysis) of those lost-to-follow up and those who remained in the survey. We also tested for differences between the baseline and final sample. The only differences we found, however, result from the changes by design (due to NLSY funding). In the final year because the disadvantaged whites were dropped, the sample is characterized by fewer low-income whites, and has relatively more blacks, more urban residents, and more respondents in the Northeast.

yearly indicator of who is incarcerated at the time of the survey. The questionnaire item records place of residence as a *correctional institution*. Since the incarceration question is asked each year, it is a useful measure for longitudinal analysis, but it does have restrictions. First, the measure is more likely to capture spells lasting over a year than the short spells, thereby focusing more heavily on serious or repeat offenders. Additionally, and perhaps even more important for this analysis, incarceration is the end-point of a process in the criminal justice system, and certain individuals are more likely to reach that point than others. An incarceration measure gives us information on those who are more likely to be caught and indicted by the criminal justice system, which includes the more serious offenders, particularly repeat offenders and those with long sentences<sup>11</sup> (Canala-Cacho *et al.* 1996, Gove, Hughes and Geerken 1985). Although an incarceration measure does not characterize the typical offender, it is an important measure to take into account since it describes such a significant event marking the lives of the adolescents and young adults. Since the incarceration measure is longitudinal we can place this event sequentially in the life path.

However, to check for consistency in results, we also refer to analysis (presented elsewhere) on being stopped by the police, a more typical encounter with the criminal justice system occurring in an earlier stage in the process leading to incarceration. Twenty-seven percent of males in the NLSY self-reported that they were stopped by the police in the past year, in a cross-sectional unit on delinquency administered only once. Multivariate analysis of this

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<sup>11</sup>According to the National Crime Victimization Survey, violent crimes are more likely to be reported to the police than property crimes, and are more than twice as likely to end in arrest (U.S. Department of Justice 1994b). The violent offenders tend to have sentences longer than one year; figures from the Bureau of Justice Statistics show that violent offenders released in 1992 were sentenced on average to 89 months in prison, and served about half of that time (DiIulio 1996b).

cross-sectional data show that controlling for income, race, urban residence, as well as several other variables, youths from nonintact families are significantly more likely to be stopped by the police (see Harper 1996). These results help to inform interpretation of the longitudinal analysis on incarceration.

The likelihood of incarceration may not only depend on the pattern of offending, but also potentially on any biases in the criminal justice system, the most controversial issue being targeting by the criminal justice system.<sup>12</sup> If father absence is predictive of incarceration, but minorities are targeted by the police or during another stage of the criminal justice process, then incarcerated minorities may show a relatively weaker association between father absence and incarceration than whites. In interpreting the results, we will be alerted to this possibility if we find that father absence among blacks is a weaker predictor of incarceration than father absence among whites.

There is also a possibility of bias in the system against father-absent youths that we must consider (see Cicourel 1968), although this concern may not be as significant with contemporary data as it would have been with data from earlier generations. We explored this possibility in multivariate analysis reported elsewhere, and found that although nonintact family is strongly associated with being stopped by the police, the initial contact with the system, once youths are stopped by the police and charged, those from nonintact families do not face any greater chances of convictions and incarceration than other youths (Harper 1996). These results are inconsistent with bias toward stiff sentencing for offenders from nonintact families, which would have shown youths from nonintact families to have higher chances of incarceration, once they had been stopped by the police.

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<sup>12</sup>For accounts of the public debate, see Buttersfield 1996, Levy 1996.



*Explanatory Variables:* To test the hypotheses, youths who grew up in differing family circumstances are compared to each other. We measure the effects of father absence during childhood (which are time invariant measures, though the incarceration measure varies over time) as well as during adolescence (time-varying measures). We separate out different family configurations to assess whether the effects change, for example, in single-mother or stepparent households. For the common background hypothesis, the different family configurations are compared within mother's educational level, race,<sup>13</sup> and by teenage mother to test whether certain family configurations or the attributes common to these family types are associated with higher risks of incarceration. Aggregate measures of socioeconomic conditions surrounding the youths and their families are also included in the common background models: the percentage of female-headed families, unemployment rates, median family income, and median age of the population, which are all measured yearly on the county level.<sup>14</sup> Yearly measures for urban residence and region of residence are also included since crime rates are far higher in metropolitan areas<sup>15</sup> and in the West and South (U.S. Department of Justice 1992b).

For the low income hypothesis, yearly measures of family income<sup>16</sup> provide updated records of the financial means of the adolescents' families. Along with the family income, we

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<sup>13</sup>Categories measured are black, Hispanic, and non-black/non-Hispanic (which is largely white and will be referred to as such, since the only minority groups oversampled in the survey are black and Hispanic).

<sup>14</sup>These county-level variables are used, since the NLSY does not release data at the zip code or block level for confidentiality reasons. The difficulty with county measures is that they cover a mix of communities varying widely in living conditions.

<sup>15</sup>The 1991 crime rate in large metropolitan areas was 6,615 per 100,000 population, while in rural counties, it was only 2,105.

<sup>16</sup>Real income is used (as opposed to nominal), and the base year is 1990. In the regression analysis, income is measured in thousands.

also control for number of children in the family, as an indicator of how many dependents the family income covers. To test the childhood family stress hypothesis, we examine the effects of the timing of father's departure at different points during childhood (from birth, infancy to age 4, ages 5-9, ages 10-14) and the number of disruptions<sup>17</sup> during childhood on the subsequent likelihood of incarceration. These two family variables that are measured from birth come from retrospective items, and measure changes until age 14. We also test whether family instability combined with residential instability (two or more moves in the past year) is particularly harmful. The father absence models estimate the effects of spending many years in a father-absent family, as well as the contribution of child support.<sup>18</sup> We also examine whether it really is *father* absence that is associated with incarceration or the absence of any parent. We measure the possible protection against youth incarceration offered by additional adults in the household, by comparing single-parent with stepparent households, and also by examining households with grandparents. The number of siblings are measured to see whether single parents have particular difficulties with numerous children in the household. In all of the models, age is included as a measure of exposure to the risk of incarceration. In a final series of childhood models, we include a test score variable (from the Armed Forces Qualification Test) to assess the predictive power of family variables, once the individual cognitive ability of the child is taken into account.

Table 1 shows that nearly 90 percent of the youth cohort studied was born into mother-father households, but by the time they reach adolescence, only 60 percent are still living with

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<sup>17</sup>A disruption is defined as a *change*, so a child born to a single-mother household has not experienced any disruption, per se, until another adult enters the household or the child goes to live with other relatives or guardians.

<sup>18</sup>Child support includes only income. It misses in-kind support, and it cannot be distinguished from alimony income.

both parents. Most of the adolescents in nonintact families<sup>19</sup> live in single-mother households. When we compare the study sample across these variables by family type in adolescence, large differences are seen in the range of factors, with the youths from nonintact families noticeably less advantaged. Parent education level is lower, minorities make up a relatively large proportion of the nonintact families,<sup>20</sup> and teen motherhood is more common. Nonintact families also have more household members, including siblings and grandparents, but a median income less than half that of intact families. While 7.5 percent of all youths were recorded in the NLSY as incarcerated by the time they entered adulthood (data spanning 1980 to 1993), 13 percent of those who lived in nonintact families during adolescence experienced incarceration, as compared to five percent of those in intact families ( $X^2(1) = 123.5^{***}$ ). In the following section, we describe the methods used to assess whether this apparent difference by family type holds under more detailed analysis.

## **Analytical Method**

*Longitudinal Event History Analysis.* The principal methodology used is an age-based event history analysis, so that we can follow the dynamic life course of adolescents and incorporate characteristics that change over time (see Table 1 for time-varying and invariant covariates). A longitudinal approach makes it possible to provide estimates of a causal process that originates in the family and motivates the youth behavior, maintaining a temporal

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<sup>19</sup>An intact family is defined as a mother-father family, including biological and adoptive parents, from birth of the child until his age measured in the analysis. Nonintact family refers to other family types, although the authors recognize that it is not a precise description of all other types, and therefore separate out the different family types in analysis whenever possible.

<sup>20</sup>38 percent of nonintact families are black, 18 percent Hispanic and 44 percent are white. Of the total sample, 27 percent is black, 17 percent Hispanic and 56 percent white (these figures of the total sample reflect the over-representation of African-Americans and Hispanics in the sample, which facilitates multivariate analysis).

sequencing of predictor and outcome variables. To follow the life course, we convert the survey data from year to age-based data, and then use discrete-time logistic models<sup>21</sup> to measure the effects of childhood family predictors on the probability of first incarceration at older ages (see Allison 1995). We use data from the youths who are under age 18 at the initial year of the survey, so that the explanatory variables characterize minors still under the care of their families or guardians.<sup>22</sup> At baseline, the youngest individuals of the youth cohort are 14 years old, so the time-varying explanatory variables range from age 14 to 17. For sequencing reasons, the incarceration measure is lagged one year, and follows individuals until they are censored or the survey ends, covering ages 15 to 30. At each successive age, only the individuals who are at risk of experiencing the event of first incarceration are included, so that incarceration is modeled as a non-repeatable event.<sup>23</sup> All observations are pooled into person-years for the regression analysis, and a time-varying variable for age is included. The time-invariant items, including childhood family information from birth to age 14, are measured at baseline or in retrospective questions.

The following model is estimated.

$$\text{logit}(p_{ia}) = \mathbf{x}_i' \mathbf{b} + \mathbf{x}_{i'a} \mathbf{b}$$

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<sup>21</sup>Logistic analysis is appropriate with these data because the time of entry or exit from an incarceration spell is not available, simply an indicator of whether the respondent is incarcerated at the time of the survey.

<sup>22</sup>We compared the sample under age 18 at baseline (n=2,846) to the sample aged 18 or over. The two age groups are similar on family type at birth, but by adolescence the younger sample has experienced more family instability and is more likely to reside in single-mother households. We estimated a model of family effects on incarceration, and found that interaction effects for the family variable and the older cohort are not significant.

<sup>23</sup>Problems with reverse causation or dependence of standard errors are avoided (see Allison 1995). No one in the sample of 14-17 year olds at baseline was incarcerated before age 14. Once an individual has been incarcerated, he is no longer at risk in the following age interval, and those who exit the survey before the end are censored as well.

where  $p_{ia}$  is the probability of being incarcerated for those aged  $a$  from the age interval  $a+1$  to  $a+14$ .

$I = 1 \dots N$  individuals

$a = 14 \dots 17$  years old

*Instrumental Variables Approach.* As in all analyses, we need to take into consideration the possible effects of omitted variable bias in our study design. A potential problem in modeling family type exogenously, as above, is selection bias from omitted variables (see Manski *et al.* 1992). Although the NLSY provides annual household information in great detail for many years, it does not have data for each aspect of family life. We do not have measures, for example, of parent criminality or family conflict,<sup>24</sup> which are likely to be correlated with both family structure and incarceration. We therefore supplement the longitudinal event history with an instrumental variables approach, to adjust the family structure measure for the possible influence of unobserved variables.

We estimate a bivariate probit model, to assess the extent of the correlation of the errors (*e.g.* effects from omitted variables). The model is estimated on the 14 to 17 year olds grouped together, using explanatory variables from the base-year (1979) and ever incarcerated (from 1980 to 1992) as the outcome variable. We selected two instrumental variables, to be used together in the bivariate probit, which are meant to predict family structure, but not to predict the

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<sup>24</sup>A measure of the family emotional context, however, can also bring problems of reverse causation, since the adolescents could determine both the explanatory variable, emotional context, and the outcome variable, likelihood of incarceration (see Liska and Reed 1985 and Thornberry 1987 for the advantages of a structural over a functional measure).

final outcome variable, incarceration: 1975 state divorce rates<sup>25</sup> (National Center for Health Statistics 1975, 1977) and educational heterogamy (mother's education higher than father's education).

In the bivariate probit model, a predicted value for family structure is estimated, including both instrumental variables and controls for mother's education, father's education, race, and region. Concurrently, the incarceration outcome is estimated, including the following variables: family structure, race, region, mother's education, father's education, number of siblings, test scores, and 1988 incarceration rates by state<sup>26</sup> (United States Bureau of the Census 1991). The correlation of error terms from the predicted family structure (with instruments) and the predicted incarceration is measured to assess the presence of omitted variable bias.

The two equations to predict family type and incarceration are estimated are as follows:

$$y_{i1} = \beta_1 \mathbf{x}_{i1} + e_{i1}$$

$$y_{i2} = \beta_2 \mathbf{x}_{i2} + e_{i2}$$

(see Greene 1993):

where  $y_{i1} = 1$  if family type is nonintact, and  $= 0$  if family type is mother-father,

$y_{i2} = 1$  if ever incarcerated from 1980-1992 and  $= 0$  otherwise,

individual observations on  $y_1$  and  $y_2$  are available for all I.

$[e_{i1}, e_{i2}] \sim$  bivariate normal (BVN)  $= [0, 0, 1, 1, ?]$ ,

$\text{Cov}[e_{i1}, e_{i2}] = ?$ .

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<sup>25</sup>We used 1975 as a middle date for divorce rates since the respondents in the sample were 14 to 17 in 1979. 1976 divorce rates are used for Indiana and Louisiana, since the 1975 divorce rates are missing for these two states.

<sup>26</sup>State incarceration rates include federal and state prisoners. We also ran models including state crime rates (total offenses known to police), 1980 and 1985, which gave similar results.

## Empirical Results

*Common Background Factors.* According to the common background hypothesis, the concentration of socioeconomic disadvantage among father-absent families explains why youths from these families have a greater likelihood of incarceration. Table 2 shows that indeed, the disadvantages of youths in nonintact families, including low parent education, teen motherhood, minority race/ethnicity, residence in urban areas, regional residence and residence in counties with a high percentage of female-headed households,<sup>27</sup> are also associated with a higher risk of incarceration. We use longitudinal multivariate models to test whether these common background factors are responsible for the higher incarceration among youths in nonintact families (Table 3).

The first and second models in Table 3 compare the incarceration odds of youths from various family types before and after the common background factors are held constant. The first model shows that before any of the markers of socioeconomic disadvantage are separated out, the bivariate association between nonintact family and incarceration is highly significant, with youths in single-mother and stepparent households, as well as those who do not live with their parents, facing incarceration odds three times as high as the youths in mother-father households. Youths in father-only households unexpectedly show no difference in odds of incarceration than those in mother-father households, though there are few observations. When common background factors are included in Model 2, the overall explanatory power of the model improves significantly (the difference in the model chi-square gives a goodness-of-fit test:  $X^2(12) = 83.1^{***}$ ), showing the importance of socioeconomic background for chances of

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<sup>27</sup>Most of the county measures (*i.e.* unemployment rate, median family income, median age of the population), however, are not associated with incarceration, which is likely to be due to the measurement unit in these data, the county, which is too large to capture community effects.

incarceration, including low mother's education, teen motherhood, minority race and Western region.

To assess whether these common factors are responsible for the strong association in the bivariate model, we compare the family variables in the two models. After controlling for common background, the predictive power of father-absent families for incarceration odds does diminish, for instance from 3.0 to 2.4 for youths in single-mother households and 4.6 to 3.4 for those living with no parents. Although the family effects decline, the isolation of the background factors does not efface the highly significant association between family type and incarceration. We tested interaction terms to see whether the background effects vary for certain family groups, and found background and family effects to be largely additive, other than for white nonintact families who have a significant interaction for the odds of incarceration (the odds on the interaction term is 2.016\*). That is, the differential between white youths in intact and nonintact households is larger than the differential between black youths in intact and nonintact households, holding all else constant. The common background hypothesis does not help to explain the disproportionate risks for whites from nonintact households, although a selection hypothesis may account for the finding since it is less common for whites to live in nonintact households.

*Low Income in Childhood Family.* According to the low income hypothesis, poverty explains the higher incarceration odds still apparent after controlling for common background factors, particularly for the youths in the families that are much more likely to be poor, that is the single-mother or relative's households. The median family income (\$1990) is only \$12,602 in single-mother households and \$13, 884 in relatives/other households as opposed to \$30,605 in



mother-father households. The other household types fall between these extremes (\$24,048 in single-father, \$25,379 in mother-stepfather and \$30,137 in father-stepmother). Large income differentials exist by race as well, and the lower income for blacks is likely to account for much of the racial differences we see in family patterns. However, the income differentials by race are not captured entirely by family structure; within household type, black incomes remain substantially lower. The median income in nonintact black families is \$12,242 whereas in comparable white families it is \$18,590. We have to control for income as well as race, therefore, in order to discern family effects on incarceration.

The third model in Table 3 shows that the lower income of nonintact families accounts for a significant component of the higher incarceration odds (a comparison of models 2 and 3 shows an overall improvement in the model fit as well:  $X^2(3) = 26.7^{***}$ ), but does not explain all of the family effects.<sup>28</sup> After controlling for income and family size, the coefficients decline for youths living with single mothers and for blacks, who are more likely to be living in these types of families.<sup>29</sup> In contrast, controlling for low income and family size does not decrease the incarceration odds for youths in stepparent households. The elevated odds in stepparent families compared to mother-father families suggests that factors other than income must share responsibility for the differences in incarceration by family type.<sup>30</sup>

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<sup>28</sup>Respondents typically report income measures with imprecision, so these estimates may have greater problems with error than estimates of other variables. McLanahan and Sandefur (1994) found that with the NLSY data income did not explain as much of the effects of childhood family structure on outcomes as it did with the PSID data, that has more detailed income information.

<sup>29</sup>The odds of blacks decline after controlling for income, reflecting the disproportionate influence of poverty among blacks. Note that mother's education is no longer significant when income and family size are added to the model, since mother's education is correlated with both.

<sup>30</sup>Income was interacted with family variables to see whether family has varying effects for different groups, but results show that in the multivariate models, income operates additively.

*Family Stress Hypothesis.* We therefore examined the childhood family variables more closely for signs of instability or stress as a precursor to incarceration. According to the family stress hypothesis, the youths who have experienced recent disruptions or repeated disruptions in their families would face higher chances of incarceration. We specified childhood family in several different ways in Table 4 to explore the family stress and father absence hypotheses, and in order to focus on the many different specifications of the family variables, we present only the family coefficients, although all control variables (mother's education, teenage mother, race, urban residence, region, %female-headed households, family income, family size, age) are included in the models. All models retain the time-varying adolescent family variable from the previous set of models, but collapse the answer categories (mother/father, mother, father, mother & stepfather, father & stepmother, relatives/other) to a simple coding of mother/father *v.* other where possible, in order to emphasize the other family traits being tested in each model. In cases where a difference between these categories is again relevant, as in the single *v.* stepparent model, appropriate changes have been made in the coding of answer categories.

The first incarceration model we test for the family stress hypothesis is a timing model (see Table 4, Model 1). According to the stress hypothesis, a disruption closer to the adolescent ages would be a stronger predictor of incarceration than a disruption during early childhood. However, contrary to the stress hypothesis, results from this model show that departures occurring just before adolescence do not have any greater impact than departures in early childhood. In fact, the youths who appear to show an additional risk of incarceration are those who never had a father in the household.

The family stress hypothesis predicts that repeated disruptions are associated with increased odds of incarceration, and youths born to single mothers may be at higher risk of

incarceration because they experience a greater number of disruptions, among other factors. When modeled as the only family variable, the number of family disruptions during childhood is associated with higher chances of incarceration, but when it is considered together in a model with time-varying measure of family type during adolescence, it does not help to explain why youths in nonintact households face higher odds (Table 4, Model 2).

Does residential instability aggravate an already difficult situation for children from nonintact families, or are the effects of residential moves lost amidst those of other family changes? Results show that although nonintact families have higher residential instability on average (5 percent of single-mother families and 12 percent of step-families, compared to 3 percent of mother-father families), the youths from nonintact families that are residentially unstable do not have significantly higher odds of incarceration than the youths from nonintact families that are more stable (Table 4, Model 3).

*Father Absence.* There are many different aspects of growing up in a father-absent household that can affect a child's future. In the above sections, after filtering out background factors, we measured the influence of income deprivation and instability/stress that can accompany father absence. In this section, we look at the father-absent households closely again, asking how duration in a father-absent family matters, and whether any support from the non-residential father or from other household members, such as stepparents or grandparents, can compensate for an absent father. We explore the additional supervisory challenge that numerous children might present in single-parent households. We also question whether the absence of any parent makes a difference for incarceration odds, or whether father absence in particular makes a difference.

Under the father absence hypothesis, a child born to a single mother or who experiences

father-absence from early in life would have the highest chances of incarceration, due to the many years spent in a father-absent household. However, father absence from early childhood also leaves a longer exposure time to the risk of numerous parental disruptions during childhood, so we estimated a model that adjusts the length of time a child lives in a father-absent household for number of disruptions.<sup>31</sup> Aside from the time-varying measure of family type in adolescence, only the coefficient on father absence since birth remains significant, suggesting that these youths fall into a separate risk category, and their higher risks are not simply due to the number of years spent in father absence nor to the fact that they have a longer time to experience more disruptions (Table 4, Model 4). We examine other aspects of the father-absent household below to try to ascertain which childhood family factors exacerbate or decrease odds of incarceration.

We tested the father attachment and male role model hypothesis by measuring whether the receipt of child support or an additional adult in the household could reverse the odds for children in single-parent households. Children who receive some child support, however, are not significantly different from the other children in nonintact families who do not receive any support; both groups of children are at highly elevated risks of incarceration (Table 4, Model 5).<sup>32</sup> Nor does the entry of a stepparent into the household compensate for an absent parent. Youths living in stepparent families face odds of incarceration 2.9 times as high as those in mother-father households, whereas youths in single-parent families face odds roughly 1.9 times as high

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<sup>31</sup>We collapse the coding in the timing of father's departure variable, since the previous model with this variable does not show a difference between different age groups in childhood.

<sup>32</sup>The estimates for child support are not precise for many reasons: they do not measure who gets paid consistently; some child support goes directly to the government and mothers (and their children) may not be aware when fathers have paid; and child support legislation has been rapidly changing over the time period studied.

(Table 4, Model 6a). The odds of youths in stepparent families are significantly higher than those in single-parent families ( $p = 0.05$ ). The results show that on average, the extra supervision or support that a stepparent might bring to a household does not eliminate problems that remarriage might engender such as conflicts or divided loyalties. The odds for youths from stepparent families are similar to those from youths who do not live with any parents, although these children, in addition to not having any parents care for them, are selected for more difficult family circumstances. In contrast, the model with an interaction term for a grandparent residing in nonintact households shows no such adverse effect in the youth's chances of incarceration (Table 4, Model 6b).

Incarceration odds might be elevated in single-mother households, according to the father-absence hypothesis, because a large number of children may tax the parent's ability to care for them. These results show, however, that the supervisory challenge posed by numerous children in a household does not account for the different incarceration chances in single and dual-parent families. A greater number of siblings is associated with higher incarceration odds, but the effects are additive (as shown by the significant main effects and insignificant interaction term), and operate proportionately in each family type, including in a mother-father household (see Table 4, Model 6c).

Does it matter which parent is absent from a household? Although father absence is associated with widespread child poverty and is far more common (87 percent of youths in nonintact families live in father-absent families in this sample, or 75 percent if stepfathers are included as fathers), we also conducted a check of whether simply the absence of a parent matters, whether that parent is a father or mother. A review of the models presented in Tables 3 and 4 show that although the general concept of father absence captures part of the problem, it is

too simplistic to reveal the varied risk situations. Father absence is descriptive of the risk situations for the youths in single-mother households who face elevated incarceration odds. Those living with just their fathers, on the other hand, appear to fare as well as those living with both parents. However, the concept of father absence does not help to describe the higher risks of youths who live in stepparent families, and especially the few in father-stepmother households who fare dismally compared to those in mother-father families, with an incarceration odds of 3.7 (see Table 3, Model 3). These results that show an elevated incarceration odds in father absent households as well as in stepparent households suggests that while father absence may translate into higher incarceration odds in certain cases, even greater risks may be posed by the reconstitution of households.

*Selection Effects: Unmeasured Variables.* Selection bias is a sizeable concern for this research question, so in the series of family models we added a control for the individual cognitive ability of the youth, as an additional check on the estimates of father absence. Test scores serve as a control for individual differences in that they capture innate abilities, though they also vary significantly by socioeconomic differences, and the race, teen mother, and income variables have weaker direct effects and are not consistently significant when test scores are added to the model.<sup>33</sup> In contrast, the family variables remain virtually the same and are highly significant predictors of incarceration, after controlling for individual cognitive scores. Some interesting differences we do see however, after controlling for test scores, are that the number of disruptions during childhood become significant, as do the main effects of residential instability.

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<sup>33</sup>The correlation between income and test scores is relatively high, at 0.4, as is the correlation between race and test scores. These cognitive measures pick up much of the underlying effects from income and racial inequalities.

Additionally, grandparents residing in nonintact households have a significant protective effect against youth incarceration, as shown in the significant interaction term (see Table 5).

We can only take these results from the longitudinal event history as suggestive since the models cannot capture all possible influences, even with controlling for many influences on incarceration. To assess whether unmeasured factors are associated with the incarceration outcome through the family measures, we estimated an instrumental variables model. As required for estimation with this type of model, the two instrumental variables significantly predict nonintact family structure, but are not associated with the final outcome, incarceration.<sup>34</sup> Results of the bivariate probit show that the correlation of error terms from the two equations that estimate family structure and incarceration does not come close to significance (Rho=-0.29, t-stat=-0.81), which suggests that the family structure measure may be adequate to predict incarceration (Table 6).<sup>35</sup> Were an influential omitted variable predicting both family structure and incarceration, then the correlation should be both larger and significant. Although instrumental variable models can only provide an additional piece of information since the results depend on the instruments used, we find that while unobserved heterogeneity may be present in the previous models, we do not necessarily improve upon the estimates by using this control for unobserved heterogeneity.<sup>36</sup>

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<sup>34</sup>	<b>Nonintact Family</b>		<b>Incarceration</b>	
<b>Instrumental Variables</b>	<u>Coef.</u>	<u>t-ratio</u>	<u>Coef.</u>	<u>t-ratio</u>
Educational heterogamy	0.398	(3.68)***	0.140	(0.82)
Divorce rates	0.053	(2.02)*	0.011	(0.28)

<sup>35</sup>The coefficient on nonintact family structure actually increases in the bivariate probit estimates, but it loses significance because the standard error increases (t = 1.56).

<sup>36</sup>We also estimated sibling models to control for unobserved heterogeneity in the family (logits, conditioned on the household), and found that although the coefficient on nonintact is

## Discussion

Incarceration became an increasingly likely event in the lives of urban minority male youths during the eighties and nineties. This research investigates a national male youth cohort to determine, as the overall risk of incarceration rose, whether father absence elevated the chances of certain youths even higher. Among this cohort, father absence is hardly an unusual situation, affecting a sizeable proportion of youths. Public policy concern is that this prevalence of father absence may signify a greater number of youths living in high-risk family situations. It is necessary to distinguish, when the stakes are as high as incarceration, whether this be the case or whether the apparently elevated risks of youths from these families are actually due to other related factors. Results from longitudinal nationally representative data show that although youths from father-absent households no longer represent an unusual family situation, there remains a significant divide between their incarceration outcomes and those of youths who grow up in a household with both of their parents.

We found that much of this divide can be attributed to the disadvantage that tends to accompany both father absence and incarceration. Father absence is more common among disadvantaged populations who contend with myriad socioeconomic difficulties such as teen motherhood, low education, urban residence, and racial inequalities. While these conditions frequently co-occur and contribute to higher risks of incarceration, results show that they do not fully explain the deleterious effects of childhood family instability. After controlling for these socioeconomic factors, children who grow up in nonintact households appear to be at

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positive, it loses significance (coef: 0.176  $t=0.38$ ). However, over 95 percent of the observations were lost since incarceration is an infrequent outcome. A sibling test is less than ideal for this question as well since even the sibling in the pair who made it past age 17 before the family disruption occurred would presumably feel the destabilizing effects in the subsequent years when incarceration is measured, albeit not as strongly.



significantly higher risk than their peers of being incarcerated by young adulthood.

In the analysis of background factors common to both father absence and incarceration, we found a racial difference of stronger family structure effects for whites. Although whites have a lower likelihood of growing up in a father-absent household than blacks, results show that for those relatively few whites that do, living in a father-absent household is associated with a disproportionately increased risk of incarceration. A selection hypothesis may help in interpretation of this result. Since whites are less likely to live in nonintact households, those who do may be selected for particularly difficult family circumstances. It is also possible that, aside from any pre-existing difficulties leading to a nonintact family, certain patterns characteristic of white nonintact families exacerbate difficulties for children, such as the greater frequency of remarriage, the lower likelihood of grandparents living in the household, or other family factors that remain unmeasured. Alternatively, the significant interaction term for white youths may be an artifact of unmeasured traits in the criminal justice system: if whites are less likely to be caught and incriminated by the justice system (so those who are incarcerated are the more severe cases), then the family effects for whites may appear to be larger than they actually are.<sup>37</sup>

This study measured several aspects of childhood family instability to differentiate the merely problematic from the truly detrimental for the chances of incarceration. The first aspect was the low income of single-mother households, since many children live under these circumstances. We found family income levels in the survey population of single-mother households to be half that of two-parent households, and that the poverty of these households does play a sizeable role in the likelihood of incarceration. Poverty does not explain all of the

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<sup>37</sup>These data do not help to discern whether or not targeting occurs, however.

variation in incarceration, however, even in single-mother families. Furthermore, income levels are high on average in stepparent families, but youths in these families are likely to be incarcerated.

After measuring the impact of poverty, we looked to family instability and stress as additional contributors to the higher chances of incarceration of youths in disrupted families. The number of disruptions during childhood was significant in certain models, but not in all, and does not explain the strong father absence effect, where the children born to single mothers show the highest odds. The effects of father absence for children with never-married mothers are likely to be reinforced by adverse selection effects (never married mothers come from a more disadvantaged population on average than divorced mothers). Contrary to the research hypotheses, the empirical analysis did not show frequent residential change to be responsible for the higher risk of children from nonintact families, nor did it show disruptions in early adolescence to be any more risky than those in childhood. Receipt of child support does not appear to make a significant difference for incarceration odds, although these estimates should be seen as preliminary, given the limitations of the child support information. We also found that the small number of youths living in single-father households are not at any greater risk than those in mother-father households. The single fathers may represent special situations, in which the fathers are particularly suited to caring for their children.

An examination of different living situations shows that youth in stepparent families, both mother-stepfather and father-stepmother, face the highest risks. Although we hypothesized that remarriage of the custodial parent might help a child by providing household income, adult supervision or a role model of the opposite sex, the presence of a stepparent on average does not improve a child's situation. To the contrary, youths in stepparent households face incarceration

odds almost three times as high as those in mother-father families, and significantly higher than those in single-parent households. Results from this study suggest that children in stepparent families confront difficulties leading to serious problems in adolescence and young adulthood. Research has shown spousal conflict, family violence and child abuse to be more common in stepparent families than in mother-father families (see Daly and Wilson 1988). Further research is needed to investigate the specific risk of stepchildren to family conflict and/or abuse and subsequent incarceration. In contrast to the situation with stepparent households, these results show that residential grandparents -who would be less likely to have conflicting interests over a child's welfare- in nonintact families may help to improve the youths' chances of avoiding incarceration.

While we hypothesized that the selection effects on children from father absent households could be responsible for higher chances of incarceration, the checks that we were able to compute through longitudinal event history analysis and instrumental variables modeling show that the association between father absence and incarceration does not appear to be due solely to the selection effects of the youths who grow up in father-absent families, nor to the confounding factors measured in the analysis. We found certain results, however, such as the high incarceration odds for children born to single mothers or those who do not live with any parent, which may reflect selection for greater disadvantage. Nevertheless, we also found other significant results in the analysis, namely the elevated odds for youths from stepparent families, which would not be due to similar selection for disadvantage. To the contrary, these children are relatively well off on average. The stepparent finding is also inconsistent with the selection hypothesis that parent criminality is behind the apparent association between father absence and incarceration, since the effects would not be higher in stepparent families. While the omitted

variable, conflict, is clearly an important predictor of family disruption, we would not expect it to act selectively as a predictor of who chooses to remarry. We hypothesize that any additional conflict in stepparent families would be a result of the reconfiguration, rather than a predictor.

## **Summary and Conclusion**

In the current social context where incarceration marks the lives of a large proportion of minority youths, this study seeks to identify which family situations may increase vulnerability and which may offer protection or merely a neutral influence. It follows the family history of a male youth cohort from birth through adolescence to ascertain any relation with subsequent incarceration. Results show that while children in single-mother households, particularly those born to single mothers, have higher chances of incarceration, those in stepparent families fare even worse.

These findings suggest that while father absence may be problematic for children, marriage does not necessarily represent improved chances for children. Indeed, having grandparents in the household, rather than stepparents, may prove more helpful in protecting against youth incarceration. Marriage is frequently held as a preferred state for children in father-absent households, but these results show marriage does not help to prevent incarceration unless it is between the two parents of the child; otherwise, children in single-parent households fare relatively better. These findings suggest that policy discussions of marriage should take into account its varying effects on the welfare of children, particularly for those children born to single mothers who already face myriad risks.

**Table 1. Descriptive Statistics of NLSY Adolescent Sample (aged 14-17): Means and Proportions**

	Percent or Mean Value	Measurement of Variables
<b>Ever Incarcerated, ages 15-30</b>	7.5%	time-varying <sup>1</sup>
<b>Childhood Family Variables</b>		
Family Type in Adolescence		time-varying <sup>2</sup>
<i>Mother-Father</i>	61.6%	
<i>Mother</i>	24.5%	
<i>Father</i>	3.3%	
<i>Mother &amp; Stepfather</i>	5.1%	
<i>Father &amp; Stepmother</i>	1.6%	
<i>Relative/Foster Care/Other</i>	3.9%	
Father Absence (Timing of Departure) <sup>3,4</sup>		retrospective item, 1988
<i>From birth</i>	9.6%	
<i>Infancy - age 4</i>	5.3%	
<i>Ages 5 - 9</i>	8.2%	
<i>Ages 10 - 14</i>	7.3%	
Number Family Disruptions <sup>3,4</sup>	1.6	retrospective item, 1988
Residential Instability (2 or more moves)	4.9%	time-varying
Receipt of Child Support <sup>3</sup>	15%	time-varying
Grandparent in Household	6.2%	time-varying
<b>Common Background Variables</b>		
Mother's Education (years)	10.8	baseline
Teenage Mother (under 18 at 1 <sup>st</sup> birth)	10.1%	baseline

Table continues

<sup>1</sup> The outcome variable for longitudinal analysis is: *First Incarceration at each age*, varying from age 15 to 30 (mean = 0.7%)

<sup>2</sup> Time-varying *explanatory* variables vary from age 14 to 17 (see p. 18 text)

<sup>3</sup> For those in nonintact families

<sup>4</sup> By age 14

**Table 1 continued. Descriptive Statistics of Sample**

<b>Common Background Variables</b>	Percent or Mean Value	Measurement of Variables
Race/Ethnicity		baseline
<i>White</i> (non-black, non-Hispanic)	55.8%	
<i>Black</i>	26.9%	
<i>Hispanic</i>	17.3%	
Urban Residence	76.5%	time-varying
Region		time-varying
<i>Northeast</i>	20.1%	
<i>North Central</i>	25.6%	
<i>South</i>	35.8%	
<i>West</i>	18.5%	
Unemployment Rate (county)	7.2%	time-varying
Female-headed Households (county)	11.3%	time-varying
Median Family Income (\$1990 county)	32,765	time-varying
Median Age Population (county)	28.2	time-varying
<b>Income</b>		
Median Family Income (\$1990)	23,404	time-varying
Family Size (# siblings)	3.8	
<b>Individual Controls</b>		
Test Scores (Armed Forces Qualification Test)	34.2	time-varying
Age	21.2	time-varying <sup>5</sup>
Number of Observations (person years)	34,031	
<b>Descriptive Statistics for non-NLSY variables in</b>		
<b>Instrumental Variables Models</b>		
State Divorce rates (per 1,000 population)	4.9	1975
State Incarceration rates	250.4	1988
(Federal and State prisoners per 100,000 population)		

<sup>5</sup>Variables (explanatory and outcome) are organized by age, so age ranges 14-30. Mean age explanatory vars=15.8.

**Table 2. Socioeconomic Background Factors that Predict both Nonintact Family and Incarceration<sup>a</sup>**

	NONINTACT FAMILY			INCARCERATION		
	Yes	No	Significance <sup>b</sup>	Yes	No	Significance
<b>SOCIO-ECONOMIC BACKGROUND</b>						
Mother's Education (High School+)	48.6%	62.6%	p=0.000***	40.7%	57.5%	p=0.000***
Teenage Mother						
<i>Under age 18 at 1<sup>st</sup> birth</i>	13.0%	7.1%	p=0.000***	20.4%	9.2%	p=0.000***
Race			p=0.000***			p=0.000***
<i>White<sup>f</sup></i> (non-black, non-Hispanic)	42.9%	63.7%		32.3%	56.0%	
<i>Black</i>	38.7%	19.6%		46.5%	26.6%	
<i>Hispanic</i>	18.4%	16.7%		21.1%	17.3%	
Urban Residence	77.7%	76.2%	p=0.001**	84.1%	76.7%	p=0.006**
Region			p=0.000***			p=0.034*
<i>Northeast</i>	20.3%	19.4%		18.7%	19.8%	
<i>North Central</i>	22.5%	27.5%		18.7%	25.7%	
<i>South</i>	39.3%	35.5%		40.2%	36.9%	
<i>West</i>	17.8%	17.5%		22.3%	17.6%	
<b>County-Level Variables</b>						
Mean Unemployment Rate	7.7	7.5	p=0.000***	7.4	7.6	p=0.357
Mean % Female-headed Households	12.0	10.8	p=0.000***	12.3	11.2	p=0.000***
Median Family Income (\$1990)	32,230	33,028	p=0.000***	32,675	32,726	p=0.916
Median Age Population	28.4	28.2	p=0.000***	28.2	28.3	p=0.958
Number of Observations (person years)			34,031			34,031

<sup>a</sup> First time incarcerated

<sup>b</sup> Pearson's Chi-Square tests of significance for categorical variables and t-tests for continuous variables.

\*p<0.05

\*\*p<0.01

\*\*\*p<0.001

**Table 3. Effects of Family Structure on Incarceration<sup>a</sup>: Testing the Common Background and Low Income Hypotheses**

(estimates of incarceration odds from logistic regression analysis)

	FAMILY TYPE		COMMON BACKGROUND		LOW INCOME	
	Model 1		Model 2		Model 3	
<b>Childhood Family History</b>	<i>Odds</i>	(z)	<i>Odds</i>	(z)	<i>Odds</i>	(z)
Family type in Adolescence						
<i>Mother &amp; Father<sup>f</sup></i>	—	—	—	—	—	—
<i>Mother only</i>	3.029***	(7.61)	2.380***	(5.66)	2.069***	(4.53)
<i>Father only</i>	1.266	(0.56)	1.069	(0.157)	0.998	(1.82)
<i>Mother &amp; Stepfather</i>	3.141***	(4.69)	2.805***	(4.19)	2.711***	(4.04)
<i>Father &amp; Stepmother</i>	3.802***	(3.59)	2.838*	(3.56)	3.697**	(3.46)
<i>Relatives/Other</i>	4.605***	(6.69)	3.382***	(5.12)	3.005***	(4.55)
<b>Common Background Factors</b>						
Mother's Education			0.950*	(-2.29)	0.987	(-0.54)
Teenage Mother (<18 at 1 <sup>st</sup> birth)			1.621*	(2.51)	1.481*	(2.03)
Race						
<i>White<sup>f</sup></i>			—	—	—	—
<i>Black</i>			2.173***	(4.60)	1.757**	(3.22)
<i>Hispanic</i>			1.167	(0.71)	1.058	(0.26)
Urban Residence			1.371	(1.69)	1.463*	(2.04)
Region						
<i>Northeast<sup>f</sup></i>			—	—	—	—
<i>North Central</i>			1.024	(0.11)	1.012	(0.53)
<i>South</i>			1.017	(0.09)	0.993	(-0.50)
<i>West</i>			1.600*	(2.17)	1.640*	(2.28)
% Female-headed Households (county)			1.002	(0.89)	1.002	(1.00)

Table continues.



**Table 3 continued. Effects of Family Structure on Incarceration<sup>a</sup>: Testing the Common Background and Low Income**

**Hypotheses** (estimates of incarceration odds from logistic regression analysis)

	FAMILY TYPE		COMMON BACKGROUND		LOW INCOME	
	Model 1		Model 2		Model 3	
	<i>Odds</i>	(z)	<i>Odds</i>	(z)	<i>Odds</i>	(z)
<b>Economic Deprivation</b>						
Family Income (in '000s)					0.986**	(-3.01)
Family size (# siblings)					1.081**	(3.37)
<b>Age</b>	1.002	(0.12)	1.002	(0.13)	1.004	(0.26)
Model $X^2$ (degrees of freedom)	$X^2(6)=86.7***$		$X^2(18)=169.78***$		$X^2(21)=196.53***$	
Observations <sup>b</sup> (person years)	34,031		33,876		33,832	

<sup>a</sup> First time incarcerated

<sup>b</sup> Missing observations for explanatory variables set to a constant and flags included in regressions. Missing observations that do not vary on the incarceration outcome (as is the case for urban, region, family size) drop out of regressions, so samples sizes vary slightly when these variables are in the models.

<sup>r</sup> reference category

\*p<0.05

\*\*p<0.01

\*\*\*p<0.001

**Table 4. Effects of Family Structure on Incarceration<sup>a,b</sup>: Testing the Stress and Father Absence Hypotheses**

(estimates of incarceration odds from logistic regression analysis)

FAMILY STRESS HYPOTHESIS	Odds	(z)	Model $X^2$ (degrees of freedom)
<b>Model 1: Timing of Father's Departure</b>			$X^2(22)=193.96^{***}$
<i>No departure</i>	—	—	
<i>From birth</i>	1.681**	(2.68)	
<i>Infancy-Age 4</i>	1.404	(1.26)	
<i>Ages 5-9</i>	1.324	(1.23)	
<i>Ages 10-14</i>	1.391	(1.39)	
<b>Family type in Adolescence</b>			
<i>Mother &amp; Father<sup>f</sup></i>	—	—	
<i>Other</i>	1.791**	(3.39)	
<b>Model 2: Number of Family Disruptions</b>			$X^2(19)=189.80^{***}$
<b>Family type in Adolescence</b>			
<i>Mother &amp; Father<sup>f</sup></i>	—	—	
<i>Other</i>	1.991***	(4.42)	
<b>Model 3: Residential Instability</b>			$X^2(21)=201.12^{***}$
<i>1 move (past year)</i>	1.289	(1.50)	
<i>2 or more moves (past year)</i>	2.139	(1.86)	
<b>Interaction instability &amp; nonintact family</b>	0.570	(-1.05)	
<b>Family type in Adolescence</b>			
<i>Mother &amp; Father<sup>f</sup></i>	—	—	
<i>Other</i>	2.338***	(5.68)	

Table continues.

<sup>a</sup>First time incarcerated<sup>b</sup>Control variables: mother's education, teen mother, race, urban, region, % female-headed household, family income, family size.

\*p&lt;0.05

\*\*p&lt;0.01

\*\*\*p&lt;0.001

**Table 4 continued. Effects of Family Structure on Incarceration<sup>a,b</sup>: Testing the Stress and Father Absence Hypotheses**

FATHER ABSENCE HYPOTHESIS	Odds	(z)	Model $X^2$ (degrees of freedom)
<b>Model 4: Timing departure &amp; Number disruptions</b>			$X^2(21)=195.00^{***}$
<b>Timing of Father's Departure</b>			
<i>No departure<sup>f</sup></i>	—	—	
<i>From birth</i>	1.569*	(2.20)	
<i>Infancy-Age 14</i>	1.167	(0.66)	
<b>Number of Family Disruptions</b>	1.115	(1.08)	
<b>Mother-Father Household in adolescence<sup>f</sup></b>			
<i>Other</i>	1.783**	(3.37)	
<b>Model 5: Receipt of Child Support</b>			$X^2(18)=186.56^{***}$
<i>Mother &amp; Father Household<sup>f</sup></i>	—	—	
<i>Receipt of Child Support</i>	2.292**	(3.05)	
<i>No Child support</i>	2.201***	(5.38)	
Test of difference for receipt of child support:	p=0.88		
<b>Models 6(a-c): Other Household Members</b>			
<b>a) Stepparents</b>			$X^2(19)=192.41^{***}$
<i>Mother-Father<sup>f</sup></i>	—	—	
<i>Single Parent</i>	1.929***	(4.21)	
<i>Stepparent</i>	2.924***	(4.93)	
<i>Relatives/Other</i>	2.992***	(4.54)	
Test of difference for <i>single</i> and <i>stepparents</i> :	p=0.05*		
<b>b) Grandparents in nonintact families (interaction)</b>			$X^2(19)=189.41^{***}$
Grandparents (main effect)	1.848	(1.62)	
<b>c) Number sibs in single-parent families (interaction)</b>			$X^2(20)=193.69^{***}$
Number of siblings (main effect)	1.104**	(3.36)	

**Table 5. The Consideration of Test Scores on the effects of Family Structure on Incarceration<sup>a,b</sup>**  
(estimates of incarceration odds from logistic regression analysis)

	FAMILY MODELS			
	Without Test Scores		With Test Scores	
<b>Model 1: Family type in Adolescence</b>				
<i>Mother &amp; Father<sup>f</sup></i>	—	—	—	—
<i>Mother only</i>	2.069***	(4.53)	2.048***	(4.46)
<i>Father only</i>	0.998	(1.82)	0.941	(-0.14)
<i>Mother &amp; Stepfather</i>	2.711***	(4.04)	2.443***	(3.62)
<i>Father &amp; Stepmother</i>	3.697**	(3.46)	3.872***	(3.55)
<i>Relatives/Other</i>	3.005***	(4.55)	2.626***	(4.01)
<b>Model 2: Timing of Father's Departure</b>				
<i>No departure</i>	—	—	—	—
<i>From birth</i>	1.681**	(2.68)	1.732**	(2.82)
<i>Infancy-Age 4</i>	1.404	(1.26)	1.598	(1.74)
<i>Ages 5-9</i>	1.324	(1.23)	1.524	(1.84)
<i>Ages 10-14</i>	1.391	(1.39)	1.747*	(2.33)
<b>Family type in Adolescence</b>				
<i>Mother &amp; Father<sup>f</sup></i>	—	—	—	—
<i>Other</i>	1.791**	(3.39)	1.610**	(2.77)
<b>Model 3: Number of Family Disruptions</b>				
	1.153	(1.86)	1.249**	(2.85)
<b>Mother-Father Household in Adolescence<sup>f</sup></b>				
<i>Other</i>	1.991***	(4.42)	1.829***	(3.88)
<b>Model 4: Residential Instability</b>				
<i>1 move (past year)</i>	1.289	(1.50)	1.312	(1.60)
<i>2 or more moves (past year)</i>	2.139	(1.86)	2.589*	(2.32)
<i>2 or more moves*other family (interaction)</i>	0.570	(-1.05)	0.447	(-1.50)
<b>Mother-Father household in Adolescence<sup>f</sup></b>				
<i>Other</i>	2.338***	(5.68)	2.264***	(5.46)

<sup>a</sup>First time incarcerated

<sup>b</sup>Controls included: mother's education, teen mother, race, urban, region, %female-headed household, family income and size.

**Table 5 continued. The Consideration of Test Scores on the effects of Family Structure on Incarceration<sup>a,b</sup>**

FAMILY MODELS				
	Without Test Scores		With Test Scores	
<b>Model 5: Timing departure &amp; Number disruptions</b>				
<b>Timing of Father's Departure</b>				
<i>No departure<sup>f</sup></i>	—	—	—	—
<i>From birth</i>	1.569*	(2.20)	1.583*	(2.25)
<i>Infancy-Age 14</i>	1.167	(0.66)	1.269	(1.00)
<b>Number of Family Disruptions</b>	1.115	(1.08)	1.180	(1.56)
<b>Mother-Father Household in Adolescence<sup>f</sup></b>				
<i>Other</i>	1.783***	(3.37)	1.600**	(2.74)
<hr/>				
<b>Model 6: Receipt of Child Support</b>				
<i>Mother-Father<sup>f</sup></i>	—	—	—	—
<i>Receipt of Child Support</i>	2.292**	(3.05)	2.496**	(3.34)
<i>No Child support</i>	2.201***	(5.38)	2.085**	(5.01)
<hr/>				
<b>Model 7: Additional Adults in Household</b>				
<b>(A) Stepparents</b>				
<i>Mother &amp; Father<sup>r</sup></i>	—	—	—	—
<i>Single Parent</i>	1.929***	(4.21)	1.898***	(4.09)
<i>Stepparent</i>	2.924***	(4.93)	2.710***	(4.57)
<i>Relatives/Other</i>	2.992***	(4.54)	2.611***	(3.99)
<hr/>				
<b>(B) Grandparents in Nonintact Families</b>				
<i>Grandparents</i>	0.427	(-1.73)	0.357*	(-2.09)
<b>Mother &amp; Father Household in Adolescence<sup>r</sup></b>	—	—	—	—
<i>Other</i>	2.364***	(5.77)	2.291***	(5.57)

<sup>a</sup>First time incarcerated

<sup>b</sup>Controls included: mother's education, teen mother, race, urban, region, %female-headed household, family income and size.

<sup>r</sup> Reference category

\*p<0.05

\*\*p<0.01

\*\*\*p<0.001

**Table 6. Instrumental Variable Approach: Bivariate Probit Estimates of Incarceration**

	<b>Coefficient</b>	<b>t-ratio</b>
<b>Constant</b>	-0.825**	(-7.00)
<b>Educational Heterogamy</b>	0.406**	(3.75)
<b>State Divorce Rates</b>	0.054*	(2.07)
<b>Race</b>		
<i>White<sup>r</sup></i>	—	—
<i>Black</i>	0.707**	(9.17)
<i>Hispanic</i>	0.058	(0.47)
<b>Mother's Education</b>		
<i>Below High School<sup>r</sup></i>	—	—
<i>High School</i>	-0.448**	(-5.54)
<i>Above High School</i>	-0.471**	(-3.81)
<b>Father's Education</b>		
<i>Below High School<sup>r</sup></i>	—	—
<i>High School</i>	0.447**	(5.35)
<i>Above High School</i>	0.016	(0.13)
<b>Region</b>		
<i>Northeast<sup>r</sup></i>	—	—
<i>North Central</i>	-0.258**	(-2.94)
<i>South</i>	-0.213*	(-2.09)
<i>West</i>	0.104	(0.86)
<b>Constant</b>	-2.187**	(-11.77)
<b>Race</b>		
<i>White<sup>r</sup></i>	—	—
<i>Black</i>	0.198	(0.98)
<i>Hispanic</i>	0.038	(0.23)

Table continues.

**Table 6 continued. Instrumental Variable Approach: Bivariate Probit Estimates of Incarceration**

	<b>Coefficient</b>	<b>t-ratio</b>
<b>Mother's Education</b>		
<i>Below High School</i> <sup>r</sup>	—	—
<i>High School</i>	0.098	(0.84)
<i>Above High School</i>	0.076	(0.43)
<b>Father's Education</b>		
<i>Below High School</i> <sup>r</sup>	—	—
<i>High School</i>	-0.258*	(-2.29)
<i>Above High School</i>	-0.196	(-1.21)
<b>Region</b>		
<i>Northeast</i> <sup>r</sup>	—	—
<i>North Central</i>	0.044	(0.31)
<i>South</i>	0.037	(0.28)
<i>West</i>	0.301	(1.94)
<b>Number of Siblings</b>	0.035*	(1.98)
<b>Test Scores</b>	-0.478**	(-6.46)
<b>State Prison Rates</b>	0.036	(1.20)
<b>Nonintact Family Structure</b>	0.943	(1.56)
<i>Intact</i> <sup>r</sup>	—	—
<b>Rho (1,2)</b>	-0.288	(-0.81)
Observations	2,665	

\*p < 0.05

\*\*p < 0.01

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