



National Partnership for
Reinventing Government
750 Seventeenth Street, NW
Suite 200
Washington, D.C. 20006

Voice 202 632-0150
Fax 202 632-0390
Web www.npr.gov

CC: Cynthia
Nice team effort on this one
USA seems re-engaged + did most of the work on getting this up + drafting memo!

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THE WHITE HOUSE
WASHINGTON

MEMORANDUM

TO: Federal Fatherhood Working Group Contact

FROM: Andrea Kane, President's Domestic Policy Council
Lisa Mallory, National Partnership for Reinventing Government

DATE: May 4, 1999

We have continued our commitment to strengthen fathers' involvement in their children's lives by promoting policies and initiatives that support families. Over the past year several cross-agency partnerships have been developed around important issues, including reauthorization of the Welfare-to-Work program with a stronger focus on fathers. In an effort to share our latest accomplishments and discuss future courses of action, please join us on May 14, 1999 at the White House Conference Center, 726 Jackson Place, N.W. from 10:00 – 11:30 a.m. in the Lincoln Room.

In order to document Administration-wide accomplishments related to Fatherhood, and in preparation for our meeting, please provide a brief 1-2 page summary of your agency's efforts to strengthen the role of fathers by addressing the following:

- (1) List one or two of your agency's key accomplishments from the past year;
- (2) Identify forthcoming studies or research coming out of your agency;
- (3) Identify upcoming events, conference, publications, or reports that your agency is involved in;
- (4) List one or two opportunities within your agency for cross-collaboration with other partners; and
- (5) List some ideas for future implementation.

Unless otherwise noted on the cover sheet of this facsimile, this document has only been faxed to you. We ask that you please coordinate with others within your agency. Also, please fax your summary ATTN: Lisa Mallory at (202) 694-0002 in advance of the meeting or bring the summary to the meeting on 5/14 along with 30 copies for attendees. *If you are unable to attend, fax your summary prior to the meeting.* Should you have any questions, please call (202) 694-0006.

File -
Fathers -
Data

C. Harper
- Lianne
Shumbier
- Cynthia
Price
Ann. Harper

FATHER ABSENCE AND YOUTH INCARCERATION

August 1998

Cynthia C. Harper, Ph.D. ¹
Sara S. McLanahan, Ph.D. ²

¹ Sociology Department, University of Pennsylvania

² Sociology Department, Princeton University

Correspondence: The correspondence author is Cynthia Harper, Sociology Department,
University of Pennsylvania, 3718 Locust Walk, Philadelphia, PA. Tel: 215-573-5173
e-mail: ccharper@pop.upenn.edu

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Francisco, CA.

Introduction

This study measures the association between childhood family instability and youth incarceration in the United States during the eighties and early nineties. The unexpected upsurge in youth offenses, at a time when overall crime fell, is often attributed to the increase in father absence, which has become particularly widespread among disadvantaged populations. National patterns show that in the wake of rapid family changes in the seventies, violent crime in the eighties and nineties rose sharply among youths, while it declined among adults over age 25 (U.S. Department of Justice 1995).¹ These patterns of increasing father absence and youth violence, 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, particularly homicide, are not all youths, but minority males who live in poor inner city communities² (MacKeller, Landis and Yanagista

¹Divorce 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).

From 1980 to 1990 the arrest rate for juveniles increased 27 percent for violent crimes and 87 percent for murders (U.S. Department of Justice 1992b).

²Men 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). A context of limited employment opportunities for young men, "easy" drug money, gang participation in the drug sales, access to weapons, and greater reliance on prisons to deal with drug trafficking have all augmented the risk of incarceration (see

absence, then we should see a weakened link between father absence and incarceration now that it has become a more common event. On the other hand, a strong association based on recent data, particularly after controlling for socioeconomic disadvantage, would be a sign that father absence can make a difference in youth's chances of incarceration, above and beyond the selection effects. In addition to the changes in the population affected by father absence, certain questions remain unanswered in previous research due to limitations with available data sets. It is difficult to find extensive information covering family life and crime or incarceration, which is both longitudinal and generalizable. 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 time so that the longitudinal sequencing of events can be distinguished, or the changing effects of family at different life stages can be measured. Much of the criminological research on family and crime 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 are less crime-prone than drop-outs) or to a single point in time. 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

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 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 concentrates crime in impoverished inner-cities (see Shaw and McKay 1942; McCarthy and Hagan 1995, Skogan

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.⁸ 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).⁹ 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.

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

⁸According 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).

⁹Studies have shown that 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).

disruptions affect the emotional attachments of parents and children and the time they have to spend together, as well as their supervision, which in turn increases the risk 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 also leads to higher chances of incarceration.

Under a father-absence hypothesis, therefore, we would expect the children who never had residential fathers to have the highest chances of incarceration. After the children born to single mothers, those who had a residential father for at least part of their childhood would have intermediate levels of incarceration, while those who live with their fathers for all of their childhood would have the lowest levels. Unlike the family stress hypothesis, the father absence hypothesis predicts a disruption in early childhood would be more harmful than a 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 clear-cut at this point (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 would serve as a protective effect against incarceration. However, it is not entirely clear whether remarriage

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.

Another unobservable that we must take into account in measuring the likelihood of incarceration is the highly controversial issue of targeting by the criminal justice system.¹¹ 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 must be alerted to this possibility if we find that father absence among blacks is a weaker predictor of incarceration than father absence among whites.

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, so we can observe the critical ages during the life course when criminal behavior 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

¹¹For accounts of the public debate, see Buttersfield 1996, Levy 1996).

measure focuses more heavily on the serious offenders since it catches those incarcerated at the time of the annual survey, and is therefore likely to miss many of the short spells, while it captures all of the spells that last more than one year. And if incarceration is under-reported in the survey, we can expect the measure we have to concentrate even more heavily on the serious and frequent offenders.

Explanatory Variables: To test the hypotheses, youths who grew up in varying family circumstances are compared to each other. In addition to father-absent families, we separate out other variations to assess whether a missing father has different effects than other family situations, such as a father-stepmother household. For the common background hypothesis, the different family configurations are compared within mother's educational level, race,¹⁴ 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.¹⁵ Yearly measures for urban residence and region of residence are also included

¹⁴Categories 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).

¹⁵These 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.

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 (ages 14 to 17), only 60 percent are still living with both parents. Most of the adolescents in nonintact families 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,¹⁹ 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. Thirteen percent of the adolescents in nonintact families at age 14 are incarcerated by the time they enter their thirties, 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 Methods

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

¹⁹38 percent of nonintact families are black, 18 percent Hispanic and 44 percent are white. Twenty-seven percent of the total sample 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.

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 family conflict, which is likely to be correlated with both family structure and incarceration.²² 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 final outcome variable, incarceration: 1975 state divorce rates²³ (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,

²²A 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, criminal behavior (see Liska and Reed 1985 and Thornberry 1987 for the advantages of a structural over a functional measure).

²³We 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.

with a high percentage of female-headed households,²⁴ 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 more than 200 percent higher than do 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 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

²⁴Most 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.

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.²⁵ 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.²⁶ In contrast, controlling for low income and family size does not decrease the incarceration odds for youths in stepparent households. The elevated odds in stepfather families compared to mother-father families suggests that factors other than income must share responsibility for the differences in incarceration by family type.²⁷

Family Stress Hypothesis. We therefore examined the family variables more closely for signs of instability or stress as a catalyst of serious criminal conduct. 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 to explore the family stress hypothesis in Table 4, and in order to focus on the different specifications of the family variables, we only present the family coefficients,

²⁵Respondents 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.

²⁶The 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.

²⁷Income 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.

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 family disruptions. 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 can compensate for an absent father. We also question whether it is the absence of a father that makes a difference for the chances of incarceration, or the fact that either parent, be it a father or a mother, is not in the home.

First, after taking into account low income and instability, do the children who live in father-absent households the longest still have the worst outcomes? Under the father absence hypothesis, a child who experiences disruption early in life would have the highest chances of incarceration, due to the many years spent in a father-absent household. The model measuring the likelihood of incarceration by the number of years spent in a nonintact family shows that for each year spent in a nonintact family, the odds of incarceration rise five percent (Table 4, Model 4). When we adjust the years in nonintact family for the number of disruptions during that time, we find that the number of years spent in a nonintact family still remain significant, which suggests that there is a lasting effect of father absence above and beyond the disruptive instability and stress.

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

those living with both parents (Table 4, Model 7).

Incarceration odds might be elevated in single-parent households, according to the father-absent hypothesis, since a large number of children would tax the parent's ability to care for them. The variable measuring the number of siblings in the household shows that a greater number of siblings is associated with higher odds of incarceration, but the effects of numerous siblings are additive, and operative proportionately in each family type (see Table 3, Model 3). The supervisory challenge posed by numerous children does not appear to result in significantly higher incarceration odds in single-mother families than in other families, although the single-mother families do have a higher average number of siblings than the intact families, and thus incur the additive effects more often.

Omitted Variable Bias. We can only take these results from the longitudinal event history as suggestive since the models can not 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.²⁹ 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 ($Rho=-0.29$, $t\text{-stat}=-0.81$), which suggests that the family structure measure

²⁹ The two instrumental variables used significantly predict nonintact family structure.

	Coefficient	t-ratio
Educational heterogamy	0.108	(3.68)***
Divorce rates	0.053	(2.02)*

cognitive scores.³³ An interesting difference we do see however, after controlling for test scores, is that grandparents residing in nonintact households have a protective effect against youth incarceration (the interaction term for grandparents in nonintact households is significant at the 0.05 level as shown in Table 4).

Summary and Discussion of Findings

This study investigates whether father absence during childhood may have influenced the likelihood of incarceration of a contemporary youth cohort. It follows the family history of young male adults from birth through adolescence to ascertain any relation with subsequent incarceration. Although incarceration plays a part in only a small minority of lives, the results from longitudinal nationally representative data show that the youths who experienced family disruption are at higher risk of incarceration during the eighties and early nineties. These results do not suggest that each and every child would have improved life chances by growing up in a mother-father household, rather they show the overall effects of father absence on a large sample of adolescents. There will still be certain cases when the absence of a father from a child's life helps to stabilize the home environment, by decreasing conflict or violence. And there will be many cases when a stepfather can help to re-construct a more solid family life than existed beforehand. Furthermore, these results are suggestive, rather than definitive since the estimates

³³ **Odds of Incarceration, before and after including Test Scores**
(controlling for all other variables)

	Before	After
Single-parent	1.93***	1.90***
Stepparent	2.92***	2.71***
Relatives/Other	2.99***	2.61***

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 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 just as 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. We identified sources of change in a child's life that are associated with higher odds of incarceration. Family disruptions during early childhood have a lasting impact into adolescence and early adulthood, and are associated with higher chances of incarceration than disruptions that occur during the delinquent-prone adolescent years. Children born to single mothers show the highest odds; the effects of longer 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). Early disruptions also leave a longer exposure time to the risk of numerous parental disruptions during childhood.

The analysis showed that controlling for instability, the longer the children live in father-absent households the higher are their odds of subsequent incarceration. The results also suggest that father absence has a more significant impact on a child's chances for incarceration than mother absence does, though mother absence is not a family circumstance faced by many children today. We tested if alternative ways of providing support for a child may serve to protect against incarceration when a parent is absent from the household. Receipt of child

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

Outcome Variable	Percent or Mean Value	Time-Varying Variables
First Incarceration in each age interval, ages 15 to 30	0.7%	X
Family Variables		
Family Type in Adolescence		X
<i>Mother-Father</i>	61.6%	
<i>Mother</i>	24.5%	
<i>Father</i>	3.3%	
<i>Mother&Stepfather</i>	5.1%	
<i>Father&Stepmother</i>	1.6%	
<i>Relative</i>	2.7%	
<i>Foster Care</i>	0.4%	
<i>Other</i>	0.8%	
Timing of First Family Disruption (for those with a disruption)		
<i>From birth</i>	15.4%	
<i>Infancy - age 4</i>	7.2%	
<i>Ages 5 - 9</i>	15.8%	
<i>Ages 10 - 14</i>	27.5%	
<i>Over age 14</i>	34.2%	
Mean Number of Family Disruptions ¹ (for those with a disruption)	1.5	
Residential Instability <i>2 or more moves in past year</i>	4.9%	X
Mean Years in Nonintact Family ¹ (for those with a disruption)	9.5	
Receipt of Child Support (of nonintact)	15%	X
Grandparent in Household	6.2%	X
Mean Number of Siblings	3.8	

Table continues

¹ By age 14

Table 2. Socioeconomic Background Factors: Associations with Nonintact Family and Incarceration^a

	NONINTACT FAMILY			INCARCERATION		
	Yes	No	Significance ^b	Yes	No	Significance
SOCIO-ECONOMIC BACKGROUND						
Mother's Education (High School+)	48.6%	62.6%	***	40.7%	57.5%	***
Teenage Mother						
<i>Under age 18 at 1st birth</i>	13.0%	7.1%	***	20.4%	9.2%	***
<i>Under age 20 at 1st birth</i>	22.0%	13.2%	***	29.8%	16.4%	***
Race			***			***
<i>White</i> ^c (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	77.7%	76.2%	**	84.1%	76.7%	**
Region			***			*
<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%	
County-Level Variables						
Mean Unemployment Rate	7.7	7.5	***	7.4	7.6	
Mean % Female-headed Households	12.0	10.8	***	12.3	11.2	***
Median Family Income (\$1990)	32,230	33,028	***	32,675	32,726	
Median Age Population	28.4	28.3	***	28.2	28.3	
Number of Observations (person years)	34,031			34,017		

^a First time incarcerated

^b 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 4. Effects of Family Structure on Incarceration^{a,b}: Testing the Stress and Father Absence Hypotheses

FAMILY STRESS HYPOTHESIS			
	<i>Odds Ratio</i>	<i>(z-score)</i>	<i>Model Chi-Square</i>
1) Timing of First Disruption			$X^2(22) = 203.06$
<i>None</i> ^r			
<i>From birth</i>	3.505***	(5.49)	
<i>Infancy - Age 4</i>	2.667**	(2.95)	
<i>Ages 5 - 9</i>	2.687***	(4.25)	
<i>Ages 10 - 14</i>	2.536***	(4.48)	
<i>Over age 14</i>	2.548***	(5.13)	
2) Number of Family Disruptions	1.321***	(4.14)	$X^2(18) = 169.84$
3) Disruption with Residential Instability^c	1.416	(1.31)	$X^2(19) = 197.87$
<i>Disruption without residential instability</i> ^r	—	—	
FATHER ABSENCE HYPOTHESIS			
4) Years in Nonintact Family	1.056***	(5.02)	$X^2(18) = 179.10$
5) Receipt of Child Support in Nonintact Family	0.960	(-0.15)	$X^2(18) = 186.56$
<i>No Child Support in Nonintact Family</i> ^r	—	—	
6) Additional Adult in Household			$X^2(19) = 192.41$
Stepparents			
<i>Mother-Father</i> ^r			
<i>Single Parent</i>	1.929***	(4.21)	
<i>Stepparent</i>	2.924***	(4.93)	
<i>Relatives/Other</i>	2.992***	(4.54)	
Grandparents in Nonintact Household^d	0.427	(-1.73)	$X^2(19) = 189.31$
<i>(With Test Score in Model)</i>	-1.030*	(-2.09)	
7) Absence of Either Parent			$X^2(19) = 189.70$
<i>Mother-Father</i> ^r			
<i>Father Absence</i>	2.190***	(5.15)	
<i>Mother Absence</i>	1.718	(1.84)	
<i>Absence of both Parents</i>	3.056***	(4.63)	

^a First time incarcerated

^b Control variables: mother's education, teenage mother, race, urban residence, region, %female-headed household, family income, family size (#siblings).

^c Residential instability: 2 or more moves in past year.

^d Interaction Term

^r Reference category

*p<0.05

**p<0.01

***p<0.001

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