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The Mass Incarceration of Parents in America: Issues of Race/ Ethnicity, Collateral Damage to Children, and Prisoner Reentry

Holly Foster and John Hagan
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What is This?

The Mass
Incarceration
of Parents
in America:
Issues of Race/
Ethnicity,
Collateral
Damage to
Children, and
Prisoner
Reentry

By
HOLLY FOSTER
and
JOHN HAGAN

The authors discuss social selection, stigmatization, and socialization/strain theoretical explanations for the intergenerational influences of parental incarceration on their children. Results with national survey data reveal that net of selection factors, paternal imprisonment decreases the educational attainment of children in emerging adulthood. While this pattern is found across race/ethnicity, the results in combination with disproportionate minority confinement suggest that parental incarceration is a mechanism of social exclusion of these groups. With data on Texas prisoners, the authors further find that about two-thirds of Hispanic fathers and about half of African American and Anglo fathers expect to live with their children and families when they return to their communities. This last finding suggests a broad foundation across racial/ethnic groups for the investment of resources in supporting the rehabilitation and reunification of these prospective families, for the welfare of the children, their parents, and the communities in which they live.

Keywords: parental incarceration; education; social exclusion; gender; race/ethnicity

The massive levels of imprisonment in American society stand out both cross-nationally and historically. The United States is a world leader, for example, with per capita incarceration levels six to ten times higher than in Europe (Garland 2001). U.S. rates have grown fourfold since the 1970s (Travis 2005; Western, Pattillo, and Weiman 2004). More than 751 inmates per 100,000 population, totaling two and a quarter million persons, were in state and federal prisons and local jails in 2006 (Sabol, Couture, and Harrison 2007). Together, these trends comprise the contemporary U.S. policy phenomenon of "mass incarceration" (Garland 2001).

A majority of U.S. inmates are parents (Mumola 2000). A small but growing research literature covers the intergenerational consequences of parental imprisonment for sons and daughters (Hagan and Dinovitzer 1999; Travis and Waul 2003). About six hundred thousand of

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the more than 2 million inmates, again mostly parents, are expected to leave prison and return to their families and communities each year, resulting in a second important research literature on prisoner reentry (Travis 2005). Because mass incarceration is disproportionately concentrated among disadvantaged groups (Pettit and Western 2004), collateral intergenerational consequences and issues of prisoner reentry cross-cut race and ethnicity as well as gender, leading to a third emerging research literature on the intersectionality of race/ethnicity and gendered aspects of mass incarceration in the United States.

About 3 million children have an incarcerated parent or one who has recently been released (Mumola 2000). African American children are most likely to have a parent in prison (7.5 percent), followed by Hispanic children (2.3 percent), and white children (1 percent) (Western, Pattillo, and Weiman 2004; see also Mumola 2000). By age fourteen, among children born in 1990, the cumulative risk of parental imprisonment is 25.1 to 28.4 percent for African American children and 3.6 to 4.2 percent for white children, or 6.8 times more likely in the former group (Wildeman forthcoming).

Americans rarely think of prison inmates—black or white, men or women—as parents. Travis and Waul (2003) began their recent survey of the literature on the

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Holly Foster is an assistant professor in the Department of Sociology at Texas A&M University. She studies social inequality as a cause and consequence of crime and deviance, as well as processes related to gender, delinquency, and mental health. Her publications include "Incarceration and Intergenerational Social Exclusion" (with John Hagan) published in Social Problems (University of California Press 2007).

John Hagan is MacArthur Professor of Sociology and Law at Northwestern University and a senior research fellow at the American Bar Foundation. He is the author of Mean Streets: Youth Crime and Homelessness (with Bill McCarthy; Cambridge University Press 1997), which received the C. Wright Mills Award; and Northern Passage: American Vietnam War Resisters in Canada (Harvard University Press 2001), which received a Guggenheim Fellowship and the Albert Reiss Award. His most recent book is Darfur and the Crime of Genocide (Cambridge University Press 2008), coauthored with Wenona Rymond-Richmond.

effects of parental imprisonment on children by noting that few studies have examined directly the effects on children of having incarcerated parents. Although there is an emerging literature on parental imprisonment and the social exclusion of children (Foster and Hagan 2007; Murray 2007), more extensive attention is given to other collateral consequences of mass incarceration.

Yet, it is also important for scholarly and policy reasons that Americans realize that most inmates are parents, that the imprisonment of parents likely impacts their children, that most inmates ultimately return to communities after serving sentences, and that we know little about how the reentry of former inmates to the community may impact their children. In this article, we first briefly review three theories that focus on selection, stigma, and socialization processes that may be involved in parental imprisonment and its connection to children. Second, we use data from the National Longitudinal Study of Adolescent Health (Add Health) to assess whether compelling empirical evidence shows that parental imprisonment has causal effects on children. Third, we use data from a Texas prison study to extend awareness of how often parents of prisoners were living with their children before arrest and whether they expect to do so again after release. These analyses encourage overcoming past stereotypes and suggest that much more support is required than is currently given to the families of prisoners. We demonstrate that this is an issue of society-wide rather than race-specific significance for Americans. Our findings raise important questions for further research.

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Three Intergenerational Theories of Parental Incarceration

The intergenerational connection between the incarceration of parents and their children can be seen as the culmination of stratification and status attainment processes that are explained in at least three distinct ways. This parental-child connection can be seen as culminating from (1) selection and self-control; (2) state sanction, dependence, and stigmatization; and (3) socialization and strain. Although we are particularly interested in the sociogenic processes (2 and 3), establishing their cumulative importance requires convincingly addressing the logically prior issue of selection and control that we discuss first.

Selection and self-control perspectives. Conventionally, selection and self-control hypotheses predict that exogenous processes predate and account for the endogenous and spurious correlation of paternal incarceration with intergenerational outcomes. These perspectives typically assert that the exogenous processes of biosocial selection and weak self-control render state-sanctioned parents and their children different from their counterparts who are not imprisoned. That is, selection and self-control hypotheses argue that incarcerated parents and their offspring are often jointly characterized by transmitted traits that predispose their fates, whether or not these parents are convicted and incarcerated for crimes.

Gottfredson and Hirschi (1990) identify these personally persistent predispositions as low self-control; Wilson and Herrnstein (1985) refer to them as high impulsivity and low conscience. While differing in the labels for the predispositions, these formulations agree that a stable and versatile range of socially disapproved and disadvantaging outcomes, including parental imprisonment and child problems, are products of common causes and resulting processes of self-selection. The result, as Gottfredson and Hirschi (1990, 119) observe, is that "people . . . sort themselves and are sorted [i.e., selected] into a variety of circumstances."

We use a propensity scoring method to assess the self-selection hypothesis. If a process of selectivity explains the relationship between parental incarceration and child problems in early adulthood, this would be an important finding in its own right. However, it would not necessarily imply an endpoint of inquiry. Rather, as Sampson and Laub (1997, 155) observe, "To assume that individual differences influence the choices one makes in life [i.e., in this case fathers' self-selection into behaviors causing imprisonment] . . . , does not mean that social mechanisms emerging from these choices can then have no social significance. Choices generate constraints and opportunities that themselves have effects not solely attributable to individuals."

In addition, it is important to emphasize that selection and self-control processes may operate differently within different groups of parents and children. This article gives special attention to Hispanic as well as African American parents and children. Past research by Palloni and Morenoff (2001) indicates that overall, Hispanic immigrants to the United States experience better health outcomes than native-born citizens. They speculate that this is because Hispanic immigrants are not randomly drawn from the origin population. On average, these immigrants may not only be healthier than the origin and receiving populations, but they also may be socially and psychologically advantaged by stronger family and community backgrounds. Background differences might therefore mitigate effects of parental imprisonment among Hispanic or Latino children. We focus on this possibility in the penultimate part of this article.

State sanction, dependence, and stigmatization. Beyond issues of selection, an alternative concern (e.g., Foster and Hagan 2007) is that the stigma of parental criminalization may be a source of child problems in its own right. Braithwaite (1989) notes that the stigma of imprisonment is intended to result in exclusion from the social group, and in the absence of efforts to encourage reacceptance and reabsorption, the stigma of imprisonment risks not only making parents into outlaws

but having the same impact on their children as well. The concern is that sequences involving stigmatization can be core components of downward family social and economic trajectories (Hagan and McCarthy 1997; Hagan and Palloni 1990). By definition, trajectories have momentum and direction, so that adolescents arrested in the context of families with official crime histories may have too few conventional opportunities to alter their lives through school, work, or other institutions emphasized in traditional occupational attainment models. The concern from the state sanction and stigmatization perspective is that sequences of intergenerational criminalization set in motion trajectories of exclusion rather than opportunities for reintegration. The result of such stigmatization is the culmination of disadvantage rather than advantage and, therefore, of detainment rather than attainment.

The cumulative persistence of this kind of exclusionary process is also described by the concept of state-dependency. This concept refers both to the tendency of behaviors such as delinquency and crime to reproduce themselves across time and to the possible role of criminal justice institutions (e.g., arrest, conviction, incarceration) in perpetuating such behaviors (Nagin and Paternoster 1991). The ambiguous double meaning of the term "state"—as behavioral event and as governmental legal intervention—is both ironic and important for our concerns.

Socialization and strain. Socialization and strain theories further emphasize the key intervening ways in which economic deprivation and family disruption lead to educational detainment and social exclusion in the transition to adulthood. Direct effects of economic and educational deprivation on children are emphasized in classical opportunity and strain theories of crime (Cloward and Ohlin 1960; Merton 1938), and the direct effects of family breakdown and disruption are central to Agnew's (1992) general strain theory. It follows that the absence of an incarcerated parent may involve not only the loss of income and education-related opportunities that the imprisoned parent may have provided (Braman 2002) but also the reduction in the input this parent makes to family life more generally.

Single-parent extended families or foster parents left to provide for children (following a resident parent's incarceration) may simply have less money and time to invest in children (McLanahan and Sandefur 1994). In turn, older children may have to assume unexpected responsibilities, for example, caring for younger children, and they may be diverted from school and into early or unplanned labor force participation to reduce demands on or to supplement household income. Thus, imprisonment may more deeply alter family and community life than often realized, straining relationships and breaking apart "fragile families" (Western and McLanahan 2000).

Agnew's (1992) general strain theory directs attention to further intrafamilial stresses provoked by imprisonment, release, and reincarceration. Families often decompose and reconstitute with surrogate parents and new stepparents in response to parental departures and returns to and from prison, instigating what some have called family churning processes (Travis 2005). Absence of the biological father may therefore be a key variable from a socialization and strain perspective. Absence of the biological mother often produces special problems that require resorting to extended family member parenting and foster parenting. Crucially, socialization and strain perspectives view these variables as limiting possibilities for

educational attainment, which becomes a pivotal mechanism in the culmination of forces leading to the exclusion of the child from conventional society.

Because we regard educational attainment as a pivotal mechanism in the culmination of disadvantaging forces leading from parental incarceration to intergenerational social exclusion, we next present analyses of educational outcomes in a sample that includes children of imprisoned parents. We use a propensity scoring approach to assess the selection/self-control perspective relative to the stigma/state dependency and socialization/strain perspectives. Our purpose is to convincingly establish that parental imprisonment has *causal* effects on child outcomes through mechanisms identified in the latter two approaches that operate above and apart from selectivity/ self-control factors that lead to parents' being imprisoned in the first place.

Selection, Stigma, and Cumulative Strain Effects of Parental Imprisonment

We first empirically assess the potential role of social selection by investigating the putative causes of parental imprisonment that might also cause child educational outcomes using the Add Health data. The Add Health survey began in 1995 with adolescents sampled from grades seven to twelve nested within 132 schools (Chantala and Tabor 1999; Harris et al. 2003). By using systematic sampling methods and implicit stratification, the Add Health research design ensures the national representativeness of this sample (Harris et al. 2003). The study included a school survey, and students were sampled from this component to participate in an inhome survey. The third wave of data (2001-2002) followed up respondents at an average age of twenty-one years (Harris et al. 2003; Udry 2003). Nearly 15 percent of the Add Health youth reported that their biological fathers "had served time in jail or prison" or 11 percent of the sample analyzed in these analyses (see descriptive statistics in Appendix A). More specifically, in the full sample nearly 20 percent of the African American fathers and 18 percent of the Hispanic fathers were reported to have been in jail or prison, compared to about 12 percent of the Anglo fathers.

To address the effects of parents who are "selected" into imprisonment being different from unimprisoned parents in other socially harmful ways that disadvantage child outcomes, we use propensity scoring methods (Becker and Ichino 2002; Rosenbaum and Rubin 1983) and design-based survey-adjusted analyses (Chantala and Tabor 1999) to account for the multistage sampling design of Add Health. Propensity score matching reduces bias in the estimation of "treatment effects" in nonexperimental studies such as sample surveys (Becker and Ichino 2002; Rosenbaum and Rubin 1983). Unlike experiments, survey respondents are not randomly assigned to treatment and control conditions. By matching respondents on their propensity for paternal incarceration, the role of extraneous sources of uncontrolled heterogeneity is reduced if not eliminated. The premise is that propensity scoring allows differences (e.g., in child educational outcomes) between otherwise similar treatment and control groups to be persuasively interpreted as causal effects (Becker and Ichino 2002).

TABLE 1
AVERAGE TREATMENT EFFECTS (ATT) OF PATERNAL INCARCERATION
ON SCHOOLING OUTCOMES AND EDUCATIONAL ATTAINMENT
IN THE TRANSITION TO ADULTHOOD

	ATT (Bootstrap SE)	T-Value
Overall high school GPA (transcript data)	102 (.040)	-2.530
Treatment $n = 1,171$ Control $n = 6,772$	202 (002)	2.401
Respondent's highest level of education (wave 3) Treatment $n = 1,171$	203 (.082)	-2.481
Control $n = 6,829$		

NOTE: GPA = grade point average

We build on previous analyses of the Add Health survey by Foster and Hagan (2007), which focused on the relationship between parental incarceration and educational attainment. Propensity analyses (Becker and Ichino 2002; Frisco, Muller, and Frank 2007) are newly used here to establish "balance" between "treated" and "control" cases—reflected in no significant differences on the key covariates of biological father's education, alcoholism, and smoking and father's reported social bond with the adolescent child—using eleven blocks of scores (Becker and Ichino 2002). After further applying nearest-neighbor matching methods (Becker and Ichino 2002; Frisco, Muller, and Frank 2007), we matched treated and control observations in terms of paternal propensity for incarceration and computed the difference in the educational outcomes between the treated group with imprisoned fathers and the matched group of control respondents.

Table 1 presents the average effect of treatment (ATT)—father's imprisonment—for (1) high school cumulative GPA (measured with newly and separately acquired school transcript data) (Riegle-Crumb et al. 2005) and (2) respondent's self-reported years of education attained at wave 3. The ATT averages treatment/control differences. These differences are indicated in Table 1 by the ATT on cumulative GPA of –.102 and on respondent's highest level of completed education of –.203.

Following Molnar et al. (2005), in Table 2 we also estimate the effect of our focal independent variable—father's imprisonment—on respondent's education level net of individual propensity scores and other covariates. These survey adjusted analyses use a longitudinal sampling weight adjusted for school transcript nonresponse. The results of model 1 indicate that analyzed in this way, the bivariate effect of biological father's incarceration on adolescent's highest years of education attained is also negative and significant (b = -.72, p < .001). Although this effect is reduced by the inclusion of an individual-level propensity score (model 2), it remains significant and negative (b = -.37, p < .001). We interpret this as a measure of the effect of father's imprisonment that is net of father's selective propensity for such an outcome.

We next add a key adolescent economic covariate to our substantive model, the strain introduced by low family income (b = -.56, p < .001), along with a host of adolescent characteristics. We find again that the effect of paternal incarceration is

SURVEY-ADJUSTED ORDINARY LEAST SQUARES (OLS) RECRESSION OF RESPONDENT'S YEARS OF EDUCATION (WAVE 3) ON PARENTAL INCARCERATION AND CONTROLS (N = 5,051)TABLE 2

	1	63	3	4
Biological father characteristics Ever incareated	-0.72*** (.10)	0) -0.37**** (.10)	0.24 *** (.09)	-0.18** (.07)
Propensity for incarceration Adolescent sociodemographics Age (wave 1)		-2.04	-2.30 $(.20)$ 0.28 $(.03)$	0.31 **** (.02)
African Americanª Hispanic			0.03 (.17)	0.52****(.11) 0.20 (.15)
Other non-Hispanic Gender ^b			0.23* (.13) -0.31**** (.06)	0.20^* (.11) 0.06 (.05)
High income (upper 25 percent) ^c Low income (lower 25 percent) AHAA high school transcript data			0.79*** (.08)	0.54*** (.07)
Overall GPA				1.17*** (.05)
Constant R^2	13.41***	13.72*** (.09)	9.45*** (.38)	5.39**** (.35)
F	F(1, 127) 54.40***	F(2, 126) 64.60***	F(9, 119) 46.49*** F(10,	F(10, 118) 94.32***

NOTE: AHAA = The Adolescent Health and Academic Achievement study; GPA = grade point average

a. Reference category: non-Hispanic white.

b. Female.

c. Middle 50 percent of the household income distribution (wave 1).

 $^{^*}p < .10. \ ^{**}p < .05. \ ^{***}p < .01. \ ^{***}p < .001.$

reduced (to b=-.24, p<.01), but also that the parental incarceration effect nonetheless remains robust in its negative influence on educational attainment. Finally, we include the transcript-based measure of respondent's cumulative high school GPA. This final model explains 41 percent of the variance in educational attainment in early adulthood. Nonetheless, we still find a robust negative effect of paternal incarceration on years of education obtained net of these controls for income and cumulative GPA (b=-.18, p<.05). We interpret these results as a cautious and conservative confirmation of the harmful effects of the stigma as well as cumulative economic and educational strain imposed by paternal incarceration, net of selection processes that may also lead to fathers' being imprisoned. Interaction effects between parental imprisonment and race/ethnicity are nonsignificant. The results therefore suggest a generic intergenerational process across race/ethnicity. However, in additive combination with patterns of disproportionate minority confinement, the results also indicate a cumulative process that leads to further disproportionate social exclusion of minorities.

From Collateral Consequences to Prisoner Reentry

Selection processes may not only influence the imprisonment of fathers but also whether these fathers live with their families and children before imprisonment and whether they expect to live with them upon release from prison. We noted above what has been called "the Hispanic paradox" of better health outcomes among Hispanic immigrants compared to native-born citizens in the United States. We further noted Palloni and Morenoff's (2001) research indicating that the explanation of this paradox may be that Hispanic immigrants are "selected" groups from their countries of origin and advantaged in social as well as other ways. We now explore this possibility and others involving the intersectionality of gender and race/ethnicity in relation to imprisonment and subsequent prospects of prisoner reentry to their communities and families.

Our argument is that the issue of prisoner reentry into families is especially important in policy terms because of the evidence we have presented above that imprisonment of fathers has harmful effects on the educational outcomes of their children that potentially can be mitigated by rejoining families. Considerable evidence also indicates that rejoining families reduces recidivism among these returning prisoners (e.g., Holt and Miller 1972; Waller 1974). Visher and Courtney (2006, 7) offer important corroborative evidence on this issue in a recent Urban Institute report. They found that prisoners anticipating release acknowledged how important families can be to staying out of prison but that they did not fully realize how important this was until they were back in the community for a few months. Visher and Courtney report that when asked what factors were most important to their success a few months after release, "the largest percentage (26 percent) identified support from family as the most important thing that had kept them out of prison," and "an additional nine percent named seeing their children." Furthermore, "the things they had anticipated as being most influential [i.e., before release], such as employment, housing, and drug use, were viewed as much less important (8, 7, and 4 percent, respectively)."

To assess the gender and race/ethnicity intersectionality of living with family and children before and after prison, we analyze data compiled for the former Texas Commission on Alcohol and Drug Abuse by the Public Policy Research Institute of Texas A&M University. This project involved face-to-face interviews with a sample of male and female inmates in 1998 and 1999 (Crouch et al. 1999; Mullings, Pollock, and Crouch 2002). The sample was drawn from newly arrived inmates to intake facilities for the Texas Department of Criminal Justice Institutional Division and State Jail Division. Virtually all prisoners in Texas pass through these facilities, yielding a representative sample. Male respondents were sampled off lists from the facilities, and every female prisoner was sampled unless prevented by medical or security concerns. Response rates among groups ranged from 73 to 86 percent. The full sample includes 1,295 men and 1,198 women, of whom 675 are fathers and 785 are mothers of minor children. Descriptive statistics from this study are presented in the Appendix.

The most striking findings are that Hispanic fathers are so strongly linked to their families and children and that African American and Anglo fathers are so similar to one another in expecting to have this link to families and children after leaving prison.

The patterns are most predictable in terms of gender. As expected in terms of traditional gender roles, Figures 1 and 2 show that both before and after imprisonment, mothers (58 and 76 percent) are much more likely than fathers (38 and 56 percent) to have been living and to expect to live with their children. However, when the intersectionality of gender and race/ethnicity is taken into the account, the results become more telling. For example, before and after imprisonment, Hispanic fathers (51 and 67 percent) are about as likely as Anglo mothers (51 and 72 percent) to have been living and to expect to live with their children. Hispanic mothers (61 and 78 percent) are almost identical to African American mothers (63 and 78 percent) to have been living and to expect to live with their children. Meanwhile, Anglo (36 and 49 percent) and African American (32 and 54 percent) fathers are similar in having been living and expecting to live with their children. The most striking findings are that Hispanic fathers are so strongly linked to their families and children and that African American and Anglo fathers are so similar to one another in expecting to have this link to families and children after leaving prison. Overall, about half or more of all fathers expect to live with their families and children after leaving prison.

FIGURE 1
PREDICTED PROBABILITIES OF CHILD LIVING WITH INCARCERATED PARENT VERSUS OTHER PARENTAL FIGURE UPON ARREST

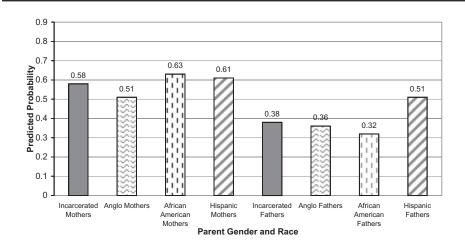
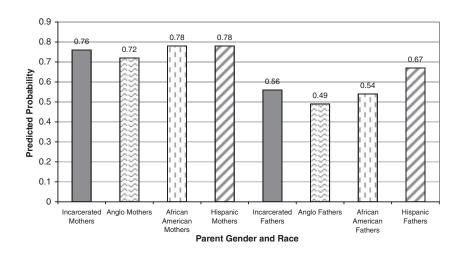


FIGURE 2
PREDICTED PROBABILITIES OF PARENTAL EXPECTATIONS
OF LIVING WITH CHILD ON RELEASE



Conclusion

The historically and cross-nationally high reliance on mass incarceration in response to crime in the United States has several implications that are not well recognized. First, this mass incarceration policy results in the imprisonment of American parents. Second, assuming that the Texas prison survey reported in this article is representative, well over half of all incarcerated parents and more than three-quarters of incarcerated mothers expect to return to their children and families when they leave prison. Third, there are both similarities and differences across racial/ethnic groups, with more than two-thirds of Hispanic fathers and about half of both African American and Anglo fathers expecting to return to their children and families when they leave prison. This last finding contradicts harsh stereotypes that confront African American fathers who are sent to prison and underlines a broad foundation across racial/ethnic groups for the investment of resources in encouraging and supporting the rehabilitation and reunification of parents and prospective families, for the welfare of both the children and their parents.

Beyond this, our research indicates a number of issues that warrant further research. First, while we have found strong evidence that the imprisonment of fathers has negative causal consequences for children, we have also found that we need to better understand the selection processes that distinguish those who are imprisoned and how this influences whether they expect to live with their families and children on release from prison. Second, the evidence we have found of causal effects of parental imprisonment further underlines the need to better understand the processes involved, including stigmatization and state dependence and socialization and strain. We have demonstrated that economic disadvantages are a part of this picture, but there is much more to be learned about the disadvantaging processes involved. Third, we need to more fully understand what the broader consequences of parental imprisonment are for children. We have focused in this article on educational outcomes. We have increasing reason to believe that the educational process is a key to understanding longer-term outcomes of parental imprisonment on children. However, these longer-term outcomes likely involve a number of forms of social exclusion, from joblessness to disenfranchisement. Finally, we need more research to sort out the broader range of costs and benefits of parents returning to their families and children, for both parents as well as their children. More than a quarter million parents annually will be "coming home" from prison for the foreseeable future. We are only beginning to understand the ramifications of this reunification process.

(continued)

APPENDIX DESCRIPTIVE STATISTICS

A. Incarcerated Mothers and Fathers with Minor Children (≤18) in Texas	Mothers $(n = 785)$, $M(SD)$	Fathers $(n = 675)$, $M(SD)$	Range	Variable Description
Hispanic African American White	.15 (.36) .46 (.50) .39 (.49)	.28 (.45) .41 (.49) .30 (.46)	0-1	Parental report of race/ethnicity
Child age Child gender	8.99 (5.03) 47 (.50)	7.94 (5.39) 7.49 (.50)	$0-18 \\ 0-1$	Years Female = 1
Child lived with parent upon arrest	.56 (.50)	.41 (.49)	0-1	For up to eleven children, the parent was asked of each: "Was she/he living with you before you were arrested this last time?" $1 = yes$, $2 = no$. If no, the follow-up question was asked: "Where was the child living?"
Child lived in other arrangement upon arrest Child lived with other relative upon arrest Child lived with other parent upon arrest Incarcerated parent's expectations	.10 (.30) .15 (.36) .18 (.39)	.03 (.17) .04 (.20) .52 (.50)	0-1 0-1 0-1	
Parental expectation to live with child upon release	.75 (.73)	.56 (.50)	0-1	"Do you expect him/her to live with you when you get out of prison?" $1 = yes$; $0 = no$
B. Add Health Respondents $(n=5,051)$	$M\left(SD\right)$	Range		Variable Description
Biological father's incarceration	.11 (.32)	0-1		"Has your biological father ever served time in jail or prison?" 1 = yes
Biological father's education Adolescent social bond to biological father	5.56 (2.38) 4.15 (1.09)	1-9		Full variable description in Foster and Hagan (2007). Full variable description in Foster and Hagan (2007).

APPENDIX (continued)

B. Add Health Respondents $(n = 5,051)$	M(SD)	Range	Variable Description
Biological father was ever a smoker	.61 (.49)	0-1	Combined score from residential biological father and nonresidential biological father information on "Has your biological father ever smoked cigarettes?" 1 = vee
Paternal propensity for incarceration	.12 (.12)	.0270	Propensity score for paternal incarceration derived from above four paternal factors
Respondent's education (wave 3)	13.33 (1.81)	6-22	"What is the highest grade or year of regular school completed?"
Cumulative GPA	2.66 (.83)	0-4	AHAA transcript recorded high school GPA
Age (wave 1)	15.45(1.60)	12-20	Years
Non-Hispanic white	.74 (.44)	0-1	Self-reported race/ethnicity with Hispanic precedence in coding system
African American	.11 (.31)	0-1	•
Other non-Hispanic	.06 (.23)	0-1	
Hispanic	.09 (.29)	0-1	
Gender	.50(.50)	0-1	Male = 1
Upper 25 percent of income	.21 (.41)	0-1	
Lower 25 percent of income	.22 (.42)	0-1	

AHAA: The Adolescent Health and Academic Achievement study; GPA = grade point average.

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