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Holly Foster

John Hagan

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CRIMINOLOGY

MATERNAL AND PATERNAL IMPRISONMENT AND CHILDREN'S SOCIAL EXCLUSION IN YOUNG ADULTHOOD

HOLLY FOSTER* AND JOHN HAGAN**†

The United States has entered its fourth decade of high imprisonment levels. It is now possible to assess the impact of parental imprisonment on children who have completed the transition to adulthood. We elaborate the role of parental incarceration from a life course perspective on intergenerational social exclusion in young adulthood. The National Longitudinal Study of Adolescent Health [Add Health] representatively sampled the historically unique national cohort born in the 1980s, during the onset of mass incarceration. Four waves of the Add Health survey provide a

valuable moving window on incarcerated parents and the transitions of their children from adolescence, through school, to young adulthood. We focus on four young adult outcomes as indicators of social exclusion: personal income, household income, perceived socioeconomic status, and feelings of powerlessness. Our findings indicate that both maternal and paternal incarceration significantly contribute to young adult social exclusion among offspring in their late twenties to early thirties. Successful completion of college is a mediator of the exclusionary effects of maternal and paternal incarceration, reducing parental imprisonment effects 14%–50% (net of college completion of the mothers and fathers and a comprehensive set of further controls). This mediating college effect is consistent with other growing evidence of the salience of the college/non-college divide as an exclusionary barrier in American society. The implication is that prisons and schools are now strongly linked institutions in the intergenerational reproduction of American socioeconomic inequality.

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INTRODUCTION

From its beginning, American status attainment research has been concerned with intergenerational mobility and its implications for opportunity and inequality in future generations. Because the escalation of imprisonment in the United States during the 1980s and 1990s was so rapid, early research on American mass incarceration focused primarily on the diminished opportunities of the first generation of affected young men who themselves most directly experienced this imprisonment. In the 1980s and 1990s, incarceration rapidly threatened to become normative for highly disadvantaged males. The leading edge of research on this escalating use of

imprisonment documented that mass incarceration was a new and powerful engine of American male inequality[1] as well as social exclusion.[2]

However, with some exceptions,[3] few of the path-breaking first wave studies focused on women or children and the further effects of increasing imprisonment on their socioeconomic outcomes.[4] Within a generation, imprisonment became more common among disadvantaged women and for the children of economically marginalized parents.[5] Children are now at increased risk of maternal and paternal incarceration.[6] By the mid-1990s, the

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[1] *See* PEW CHARITABLE TRUSTS, COLLATERAL COSTS: INCARCERATION'S EFFECT ON ECONOMIC MOBILITY 12 (2010), *available at* http://www.pewtrusts.org/~/media/legacy/ uploadedfiles/pcs_assets/2010/CollateralCosts1pdf.pdf, *archived at* http://perma.cc/7FP8-VF34 (showing incarceration is linked to diminished earnings among former inmates); Becky Pettit & Bruce Western, *Mass Imprisonment and the Life Course: Race and Class Inequality in U.S. Incarceration*, 69 AM. SOC. REV. 151 (2004) (detailing inequality in the risks of imprisonment over the life course for males (e.g., African-American males are more likely to be imprisoned than to obtain a bachelor's degree)); Sara Wakefield & Christopher Uggen, *Incarceration and Stratification*, 36 ANN. REV. SOC. 387 (2010) (detailing literature on social inequality and incarceration, and arguing that incarceration is a contemporary source of social stratification and social inequality in society); Christopher Wildeman & Bruce Western, *Incarceration in Fragile Families*, 20 FUTURE CHILD. 157 (2010) (explaining that incarceration contributes to social inequality among men and among their families and may shape future race and class inequality in American society, as well as potentially lead to more crime). *See generally* BRUCE WESTERN, PUNISHMENT AND INEQUALITY IN AMERICA (2006) (detailing the diminished earnings of males following incarceration).

[2] BECKY PETTIT, INVISIBLE MEN: MASS INCARCERATION AND THE MYTH OF BLACK PROGRESS 33 (2012).

[3] *See, e.g.*, Minhyo R. Cho, *Short-Term Labor Market Outcomes of Female Ex-Offenders*, 12 INT'L REV. PUB. ADMIN. 133 (2007) (showing that incarceration may not adversely affect female employment post-release); Robert J. Lalonde & Rosa M. Cho, *The Impact of Incarceration in State Prison on the Employment Prospects of Women*, 24 .J. QUANTITATIVE CRIMINOLOGY 243 (2008) (showing employment chances of females may not be diminished by incarceration).

[4] *See* Wildeman & Western, *supra* note 1, at 165 (showing that most literature on incarceration consequences pertains to males, and noting the lack of research on the effects of incarceration on the earnings of adult women).

[5] *See* Bruce Western & Christopher Wildeman, *The Black Family and Mass Incarceration*, 621 ANNALS AM. ACAD. POL. & SOC. SCI. 221, 237 (2009) (providing statistics on children's chances of experiencing maternal and paternal incarceration by race and education level); Christopher Wildeman, *Parental Imprisonment, the Prison Boom, and the Concentration of Childhood Disadvantage*, 46 DEMOGRAPHY 265, 271, 273–75 (2009) (providing information on parental incarceration statistics among children with attention to race and education levels, and showing minority children are more likely to experience parental incarceration).

[6] *See* Candace Kruttschnitt, *The Paradox of Women's Imprisonment*, DAEDALUS, Summer 2010, at 32, 35 (discussing the importance of attending to the costs of incarcerating the growing group of female offenders in the population for families and communities, and specifically discussing literature that shows when fathers go to prison, children tend to live with the other parent, but when women go to prison, children go to other living arrangements,

children of the first wave of America's increasingly incarcerated parents were entering adolescence. Research revealed notable effects of parental incarceration on the antisocial behavior of their children.[7] Yet more work is now needed on the reproduction of socioeconomic inequality. The children of incarcerated mothers and fathers are now transitioning from adolescence into young adulthood. Three decades into the prison boom, we are just beginning to learn about the longer-term educational and occupational consequences for the children of imprisoned parents.

For example, researchers have found effects of paternal imprisonment on later adolescence and early adult social exclusion[8]—including homelessness,[9] political disenfranchisement,[10] and health care uninsuredness[11]—as well as educational attainment.[12] A further link has been found between recent paternal incarceration and child homelessness.[13] In this

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not with the other parent).

[7] *See* Joseph Murray et al., *Children's Antisocial Behavior, Mental Health, Drug Use, and Educational Performance After Parental Incarceration: A Systematic Review and Meta-analysis*, 138 PSYCHOL. BULL. 175 (2012) (synthesizing empirical data and showing robust effect of parental incarceration on children's antisocial behaviors); Michael E. Roettger et al., *Paternal Incarceration and Trajectories of Marijuana and Other Illegal Drug Use from Adolescence into Young Adulthood: Evidence from Longitudinal Panels of Males and Females in the United States*, 106 ADDICTION 121, 126 (2011) (showing paternal incarceration increases marijuana use among male and female offspring); Michael E. Roettger & Raymond R. Swisher, *Associations of Fathers' History of Incarceration with Sons' Delinquency and Arrest Among Black, White, and Hispanic Males in the United States*, 49 CRIMINOLOGY 1109 (2011) (showing paternal incarceration is associated with increased delinquency and risk of arrest among sons); Sara Wakefield & Christopher Wildeman, *Mass Imprisonment and Racial Disparities in Childhood Behavioral Problems*, 10 CRIMINOLOGY & PUB. POL'Y 793 (2011) (indicating that risks of behavior problems are greater among African-American children than white children due to racial inequality in imprisonment of fathers); Christopher Wildeman, *Paternal Incarceration and Children's Physically Aggressive Behaviors: Evidence from the Fragile Families and Child Wellbeing Study*, 89 SOC. FORCES 285 (2010) (detailing associations between paternal incarceration and children's aggressive behavior problems, particularly for sons).

[8] *See* Holly Foster & John Hagan, *Incarceration and Intergenerational Social Exclusion*, 54 SOC. PROBS. 399, 416–17 (2007) [hereinafter "Foster & Hagan 2007"]; Holly Foster & John Hagan, *The Mass Incarceration of Parents in America: Issues of Race/Ethnicity, Collateral Damage to Children, and Prisoner Reentry*, 623 ANNALS. AM. ACAD. POL. & SOC. SCI. 179, 185–86 (2009) [hereinafter "Foster & Hagan 2009"].

[9] Foster & Hagan 2007, *supra* note 8, at 413.

[10] *Id.*

[11] *Id.*

[12] Foster & Hagan 2009, *supra* note 8, at 185–86.

[13] Christopher Wildeman, *Parental Incarceration, Child Homelessness, and the Invisible Consequences of Mass Imprisonment*, 651 ANNALS. AM. ACAD. POL. & SOC. SCI. 74, 84, 86 (2014) (showing the risks of child homelessness connected to paternal incarceration, and this link for African-American children in particular).

Article, we explore maternal and paternal incarceration influences. Following leads in work on spillover effects from the prison to the community,[14] our research[15] has also extended work on educational outcomes by estimating school-level spillover effects of paternal incarceration. The latter refers to effects on children whose own parents were not incarcerated but who attend schools with high levels of parental incarceration. Building on the belated expansion of attention in the status attainment field to maternal effects,[16] our research additionally reports effects of the incarceration of mothers on the educational outcomes of their children.[17]

It is now possible to extend this work from adolescence into later adulthood by considering the personal and household earnings of the children of incarcerated parents. This attention to earnings parallels earlier work on the first generation of incarcerated adults. The importance of longitudinal research on the young adult children of incarcerated parents has been recently emphasized[18] and a study has recently found detrimental effects of maternal (but not paternal) imprisonment on the personal earnings and educational outcomes of children.[19] Here, we also consider maternal and paternal imprisonment, measured at both the individual and school levels, and we expand attention to adult forms of social exclusion ranging from personal and

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[14] *See generally* MEGAN COMFORT, DOING TIME TOGETHER: LOVE AND FAMILY IN THE SHADOW OF THE PRISON (2008) (showing how imprisonment of male partners affects women in the community); Robert J. Sampson & Charles Loeffler, *Punishment's Place: The Local Concentration of Mass Incarceration*, DAEDALUS, Summer 2010, at 20 (showing connections of incarceration for communities in terms of spillover influences and the spatial concentration of incarceration in communities); Wildeman & Western, *supra* note 1.

[15] John Hagan & Holly Foster, *Intergenerational Educational Effects of Mass Imprisonment in America*, 85 SOC. EDUC. 259 (2012) (showing influences of higher levels of paternal imprisonment in schools on children, including educational outcomes).

[16] *See* Matthijs Kalmijn, *Mother's Occupational Status and Children's Schooling*, 59 AM. SOC. REV. 257 (1994) (showing that maternal occupational status matters in addition to paternal occupational status in affecting children's educational attainment); Sylvia E. Korupp et al., *Do Mothers Matter? A Comparison of Models of the Influence of Mothers' and Fathers' Educational and Occupational Status on Children's Educational Attainment*, 36 QUALITY & QUANTITY 17 (2002) (finding that maternal education and occupational status influence children's educational attainments). As seen in these articles, the status attainment literature has shown a connection between parent and offspring socioeconomic status. This work is more recently extended from paternal to maternal influences.

[17] *See* John Hagan & Holly Foster, *Children of the American Prison Generation: Student and School Spillover Effects of Incarcerating Mothers*, 46 LAW & SOC'Y REV. 37 (2012) (studying a national sample and showing the detrimental influences of concentrated school levels of maternal and paternal incarceration for children).

[18] *See* PEW CHARITABLE TRUSTS, *supra* note 1, at 18, 21.

[19] *See* Christian Brown, Modern American Incarceration and Labor Economics 33, 36–37 (Aug. 2013) (unpublished Ph.D. dissertation, Middle Tennessee State University) (on file with the *Journal*).

household earnings, to perceived socioeconomic status, and to feelings of powerlessness at Wave IV of the National Longitudinal Study of Adolescent and Adult Health [Add Health].

Knowledge about intergenerational socioeconomic effects of parental imprisonment on adult children can fill an important gap. There is perhaps no more consequential and inadequately understood shift for American intergenerational social mobility and inequality in recent decades than the fivefold escalation in the incarceration of fathers and mothers. To ignore this kind of change in our national social reality is to engage in a "collective blindness" that "hinders the establishment of social facts, conceals inequality, and undermines the foundation of social science research." [20]

I. A LIFE COURSE PERSPECTIVE ON SOCIAL EXCLUSION

We broaden the status attainment paradigm by incorporating a life course perspective on social exclusion.[21] This focus builds on earlier work by us and others linking paternal incarceration to social exclusion.[22] The current analysis investigates connections between parental incarceration and child social exclusion, and includes potential maternal effects as well as the influences of schools.[23]

Social exclusion in adulthood "precludes full participation in the normatively prescribed activities of a given society and denies access to information, resources, sociability, recognition, and identity, eroding self-respect and reducing capabilities to achieve personal goals."[24] We draw on the focus in the crime and deviance literature on age-graded life course measures to operationalize social exclusion in young adulthood.[25] Social

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[20] PETTIT, *supra* note 2, at 3.

[21] For research on life course perspectives on social exclusion, see MATT BARNES, SOCIAL EXCLUSION IN GREAT BRITAIN 96–111 (2005); Caroline Dewilde, *A Life-Course Perspective on Social Exclusion and Poverty*, 54 BRIT. J. SOC. 109 (2003) (providing a framework for research on social exclusion from a life course perspective); Hilary Silver, *The Process of Social Exclusion: The Dynamics of an Evolving Concept* 9 (Chronic Poverty Res. Ctr., Working Paper No. 95, 2007) (discussing social exclusion in relation to the life course framework).

[22] *See* Foster & Hagan 2007, *supra* note 8, at 416–17; Joseph Murray, *The Cycle of Punishment: Social Exclusion of Prisoners and Their Children*, 7 CRIMINOLOGY & CRIM. JUST. 55 (2007) (discussing types of social exclusion and finding empirically that men in prison may not receive visits from their children and that their children may not know their whereabouts).

[23] Our analysis adds to research on child social exclusion including the work of BARNES, *supra* note 21 (investigating empirically social exclusion in Great Britain), and Nick Buck, *Identifying Neighbourhood Effects on Social Exclusion*, 38 URB. STUD. 2251 (2001) (linking social context to social exclusion).

[24] Silver, *supra* note 21, at 1.

[25] *See generally* ROBERT J. SAMPSON & JOHN H. LAUB, CRIME IN THE MAKING: PATHWAYS

exclusion is a multidimensional concept moving beyond financial disadvantage to include other forms of disadvantage.[26] Thus powerlessness is another dimension of adult social exclusion conceptualized in terms of limited social relationships. As noted in the social exclusion literature, this concept encompasses "inadequate social participation, lack of social integration, [and powerlessness]."[27] A life course perspective leads logically to an assessment of whether parental incarceration effects observed at earlier stages result in later exclusionary adult outcomes.

Thus a life course perspective focusing on adult forms of social exclusion, intergenerational ties, and the role of historical time and place[28] organizes our investigation of the extent to which parental incarceration is part of intergenerational exclusionary processes. Research notes that "[s]ome studies define social exclusion as a downward spiral of cumulative disadvantage."[29] The Pew Center for Charitable Trusts similarly suggests that "[a]s a new generation of children are touched by the incarceration of a parent, and especially as those children feel the impact of that incarceration in their family incomes and their educational success, their prospects for upward economic mobility become significantly dimmer."[30] The literature we have reviewed implies a central mediating role of limited education in reducing intergenerational mobility. We examine these diminished socioeconomic and relational prospects with national longitudinal data below.

Finally, we also add to work on social exclusion and parental incarceration by measuring the school-level concentration of maternal and paternal incarceration. Prior work links attending a school with high levels of parental incarceration to reduced child educational outcomes, even when controlling for an individual child's experiences of parental incarceration.[31] A recent study also links neighborhood levels of incarceration to higher asthma prevalence, although in this study the neighborhood effect is

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AND TURNING POINTS THROUGH LIFE (1993) (providing a life course perspective on crime and deviance).

[26] *See generally* BARNES, *supra* note 21 (detailing the further measurement of social exclusion).

[27] Mark Shucksmith & Pollyanna Chapman, *Rural Development and Social Exclusion*, 38 SOCIOLOGIA RURALIS 225, 230 (1998).

[28] *See* Glen H. Elder, Jr., *The Life Course as Developmental Theory*, 69 CHILD DEV. 1, 3 (1998).

[29] Silver, *supra* note 21, at 12.

[30] PEW CHARITABLE TRUSTS, *supra* note 1, at 21.

[31] *See* Hagan & Foster, *supra* note 15, at 269, 271, 274, 276, 278; Hagan & Foster, *supra* note 17, at 53–54, 56–57 (linking both maternal and paternal incarceration in schools to children's educational outcomes).

explained by other contextual factors (while an individual level incarceration effect holds).[32] There is also evidence that area level deprivation is associated with consumption-based measures of social exclusion, net of numerous other factors.[33] Some research on social exclusion has tended to emphasize neighborhood deprivation effects,[34] while we suggest that elevated school incarceration rates may also be significant.

II. SOCIOECONOMIC EFFECTS OF THE MASS INCARCERATION OF PARENTS

The fundamental facts of mass incarceration in the United States are now well established. The massiveness is reflected by America's world-leading level of adult imprisonment;[35] its incarceration levels are six to ten times those of European nations.[36] The contemporary rate of imprisonment in the United States is about four to five times higher than it was in the 1970s.[37] Around two million persons—one in every one hundred adults—are incarcerated in U.S. state and federal prisons, and county and municipal jails.[38]

Although Americans may rarely think of the inmates in these correctional facilities—non-white or white, male or female—as parents, a majority of these prison inmates have children.[39] The number of incarcerated

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[32] Joseph W. Frank et al., *Neighborhood Incarceration Rate and Asthma Prevalence in New York City: A Multilevel Approach*, 103 AM. J. PUB. HEALTH e38, e42 (2013).

[33] Buck, *supra* note 23, at 2264.

[34] *Id.*

[35] *Highest to Lowest – Prison Population Total*, INT'L CTR. FOR PRISON STUDIES, http://www.prisonstudies.org/highest-to-lowest/prison-population-total?field_region_taxonomy_tid=All (last visited Mar. 10, 2015), *archived at* http://perma.cc/28RJ-C8GA. Although the United States leads the world in absolute number of individuals incarcerated, it ranks second to the Seychelles in the *rate* of incarceration. *Highest to Lowest – Prison Population Rate*, INT'L CTR. FOR PRISON STUDIES, http://www.prisonstudies.org/highest-to-lowest/prison_population_rate?field_region_taxonomy_tid=All (last visited Mar. 10, 2015*), archived at* http://perma.cc/P3HU-LRC2.

[36] PETTIT, *supra* note 2, at 11; David Garland, *Introduction* to MASS IMPRISONMENT: SOCIAL CAUSES AND CONSEQUENCES 1, 1 (David Garland ed., 2001).

[37] JEREMY TRAVIS, BUT THEY ALL COME BACK: FACING THE CHALLENGES OF PRISONER REENTRY xvii (2005); *see also* MARY PATILLO ET AL., IMPRISONING AMERICA: THE SOCIAL EFFECTS OF MASS INCARCERATION 5 (2004).

[38] PEW CHARITABLE TRUSTS, ONE IN 100: BEHIND BARS IN AMERICA IN 2008, at 5 (2008), *available at* http://www.pewtrusts.org/~/media/legacy/uploadedfiles/wwwpewtrustsorg/reports/sentencing_and_corrections/onein100pdf.pdf, *archived at* http://perma.cc/6VDT-EF93; *see* PAUL GUERINO ET AL., BUREAU OF JUSTICE STATISTICS, NCJ 236096, PRISONERS IN 2010, at 1 (2011) (revised Feb. 9, 2012), *available at* http://www.bjs.gov/content/pub/pdf/p10.pdf, *archived at* http://perma.cc/Y763-HQ6B; Hagan & Foster, *supra* note 15, at 259; INT'L CTR. FOR PRISON STUDIES, *supra* note 35.

[39] CHRISTOPHER J. MUMOLA, BUREAU OF JUSTICE STATISTICS, NCJ 182335, INCARCERATED

parents has been increasing over time, as has the percentage of children with an incarcerated parent.[40]

About two million children have an incarcerated parent.[41] In 2000, African-American children were most likely to have a parent in prison (7.5%), followed by Hispanic children (2.3%), and white children (1.0%).[42] By age fourteen, among children born in 1990, the cumulative risk of parental imprisonment was 25.1%–28.4% for African-American children compared to 3.6%–4.2% for white children, or about seven times higher in the former group.[43] Together, these intergenerational trends trace the consequential retrospective and prospective dimensions of the contemporary U.S. policy phenomenon known as mass incarceration.[44]

This Article focuses on the interplay of parents, schools, and children as they individually and collectively experience incarceration. We focus on the educational process and schools more broadly as important institutional mechanisms through which the individual and spillover effects of maternal and paternal incarceration play out in the transitions of children through adolescence and early adulthood. The United States has entered its fourth decade of highly elevated imprisonment levels, and it is now possible to consider the impact of parental imprisonment on children from this era who have completed the transition to adulthood.

With worldwide and historic high levels of imprisonment in the United States, this is an important time to examine the spillover effects of heightened levels of vicariously experienced parental incarceration, including maternal incarceration, which has risen at an even higher rate than paternal incarceration. Over the last three decades, the imprisonment of women increased about sixfold, compared to threefold for men.[45] The majority of imprisoned women are mothers, and the number of imprisoned mothers has more than doubled in the years between 1991 and 2007.[46]

PARENTS AND THEIR CHILDREN 2 (2000), *available at* http://www.bjs.gov/content/pub/pdf/iptc.pdf, *archived at* http://perma.cc/8YZE-KPFC.

[40] LAUREN E. GLAZE & LAURA M. MARUSCHAK, BUREAU OF JUSTICE STATISTICS, NCJ 222984, PARENTS IN PRISON AND THEIR MINOR CHILDREN 1 (2008), *available at* http://www.bjs.gov/content/pub/pdf/pptmc.pdf, *archived at* http://perma.cc/2YEW-9SDU.

[41] *Id.*

[42] Bruce Western et al., *Introduction* to IMPRISONING AMERICA: THE SOCIAL EFFECTS OF MASS INCARCERATION 9 (Bruce Western et al., eds., 2004); *see also* MUMOLA, *supra* note 39, at 2.

[43] Wildeman, *supra* note 5, at 271.

[44] *See* Garland, *supra* note 36, at 1.

[45] Kruttshnitt, *supra* note 6, at 32–33.

[46] GLAZE & MARUSCHAK, *supra* note 40, at 2.

The little research that is available suggests mixed effects of the imprisonment of fathers and mothers on various child outcomes. A recent study comparing effects of maternal and paternal incarceration on children finds no cognitive differences at three years of age.[47] Yet other research finds correlations with child problems at school. Incarcerated mothers and substitute caregivers report that their children's school and learning difficulties are the most prevalent of their children's problems.[48] Parental incarceration correlates with children's lower school class rankings,[49] school failure and dropping out of school,[50] and truancy and failure to complete exams in the United Kingdom.[51] However, some important recent research finds maternal incarceration does not increase children's (kindergarten through grade eight) grade retention[52] or decrease elementary school children's math and reading standardized scores.[53] A national study found that paternal incarceration was positively associated with the probability of children being expelled or suspended from school, while maternal incarceration was only marginally related.[54] Furthermore, a meta-analysis found no evidence of the effects of parental incarceration on various child educational performance and cognitive ability measures.[55] However, reliance of past studies on primary and secondary school performance and ability measures, rather than the longer term graduation and credentialing process, makes the meaning of some of these results uncertain in terms of longitudinal life course consequences. Some experimental evidence suggests influences

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[47] Amanda Geller et al., *Parental Incarceration and Child Well-Being: Implications for Urban Families*, 90 Soc. Sci. Q. 1186, 1197–98 (2009).

[48] Barbara Bloom & David Steinhart, Nat'l Council on Crime & Delinquency, Why Punish the Children? (1993).

[49] Ann M. Stanton, When Mothers Go to Jail 91, 93 (1980).

[50] Ashton D. Trice & JoAnne Brewster, *The Effects of Maternal Incarceration on Adolescent Children*, 19 J. Police & Crim. Psychol. 27, 31 (2004).

[51] Joseph Murray & David P. Farrington, *The Effects of Parental Imprisonment on Children*, 37 Crime & Just. 133, 162 (2008).

[52] Rosa Minhyo Cho, *Impact of Maternal Imprisonment on Children's Probability of Grade Retention*, 65 J. Urb. Econ. 11, 18–19 (2009).

[53] Rosa Minhyo Cho, *The Impact of Maternal Imprisonment on Children's Educational Achievement: Results from Children in Chicago Public Schools*, 44 J. Hum. Resources 772, 787–88 (2009).

[54] *See* Rucker C. Johnson, *Ever-Increasing Levels of Parental Incarceration and the Consequences for Children*, in Do Prisons Make Us Safer? The Benefits and Costs of the Prison Boom 177, 196 (Steven Raphael & Michael A. Stoll eds., 2009).

[55] Murray et al., *supra* note 7, at 188; Joseph Murray et al., *Parental Involvement in the Criminal Justice System and the Development of Youth Theft, Marijuana Use, Depression, and Poor Academic Performance*, 50 Criminology 255, 279, 282 (2012).

of parental incarceration on teachers' perceptions of lower competence in school, an effect that may accumulate with time.[56]

The inconsistency of parental incarceration effects on children's educational outcomes may involve the age of the child and measurement of educational outcomes. Negative effects of parental imprisonment may accumulate and therefore be expressed more consistently at older ages and across a range of middle and later educational outcomes, like school dropout rates and educational attainment.[57]

Longitudinal research with designs that systematically vary the sampling of students and schools is required to trace potential impacts of maternal and paternal imprisonment across varied school settings and from childhood through adolescence into adulthood. Research on potential maternal and paternal imprisonment effects is both timely and overdue following decades of sentencing reform leading to steadily rising levels of imprisonment of mothers and fathers in America.

III. Orienting Hypotheses

We build on our previous work[58] by extending analyses of social exclusion further into the adult lives of the children of incarcerated parents. We posit that parental incarceration at both the micro/individual and macro/school levels will increase social exclusion by decreasing personal and household income and perceived socioeconomic status, while increasing feelings of powerlessness. We also propose a mediating pathway from micro and macro parental incarceration effects that operates through the diminished educational achievement of offspring to influence social exclusion outcomes in their adult years. Of course, in testing the predicted effects of paternal and maternal incarceration effects, we must take into account predisposing background factors such as parental education, alcoholism, neighborhood crime, and drug problems. These and other predisposing conditions at the individual and school levels are included in the models we estimate below.

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[56] Danielle H. Dallaire et al., *Teachers' Experiences with and Expectations of Children with Incarcerated Parents*, 31 J. Applied Dev. Psychol. 281, 287–88 (2010).

[57] *See* Rosa Minhyo Cho, *Maternal Incarceration and Children's Adolescent Outcomes: Timing and Dosage*, 84 Soc. Serv. Rev. 257, 270 (2010); Foster & Hagan 2007, *supra* note 8, at 414; Foster & Hagan 2009, *supra* note 8, at 185–86; *see also* Brown, *supra* note 19, at 33.

[58] *See* Foster & Hagan 2007, *supra* note 8, at 416–17.

IV. DATA AND METHODS

Research observes that social scientists and policy analysts have inadequately enumerated and explained the effects of mass incarceration policies, and that this contributes to our "collective blindness" about the effects of high rates of imprisonment in the United States.[59] However, an important exception to this generalization is the data collected in the ongoing National Longitudinal Study of Adolescent and Adult Health [Add Health].[60] The Add Health panel study has not only tracked respondents over time and inquired about parental incarceration, but it also has measured important intergenerational family, school, and work experiences that are indicated as important in the theory and research reviewed above.

The Add Health survey began in 1994 by sampling students in grades 7–12 in 132 U.S. schools.[61] Parents participated in one wave and students in four waves of data collection, most recently with a response rate of 80.3% at ages 24–32.[62] Add Health began at an opportune time for our purposes: it representatively sampled the historically unique national cohort born in the 1980s (i.e., during the onset of mass incarceration).

Add Health surveyed this cohort as adolescents in the mid-1990s and, with several waves of data collection, tracked and surveyed the transition of these adolescents into adulthood. When most recently surveyed in 2007–2008, this cohort's members were in their late twenties and early thirties. They were asked in Waves III and IV to report retrospectively on parental imprisonment. At Wave IV, nearly three thousand members (n=2926) of the cohort reported having mothers and fathers who had been incarcerated.[63]

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[59] PETTIT, *supra* note 2, at 90.

[60] *Id.* at 87.

[61] KIM CHANTALA & JOYCE TABOR, CAROLINA POPULATION CTR., NATIONAL LONGITUDINAL STUDY OF ADOLESCENT HEALTH, STRATEGIES TO PERFORM A DESIGN-BASED ANALYSIS USING THE ADD HEALTH DATA 2–3 (1999), *available at* http://www.cpc.unc.edu/projects/addhealth/faqs/aboutdata/weight1.pdf, *archived at* http://perma.cc/E62D-5W3R; J. Richard Udry & Peter S. Bearman, *New Methods for New Research on Adolescent Sexual Behavior*, *in* NEW PERSPECTIVES ON ADOLESCENT RISK BEHAVIOR 241, 242–46 (Richard Jessor ed., 1998); *see* Michael D. Resnick et al., *Protecting Adolescents from Harm: Findings from the National Longitudinal Study on Adolescent Health*, 278 JAMA 823, 824 (1997).

[62] K.M. Harris et al., *The National Longitudinal Study of Adolescent Health: Research Design*, ADD HEALTH: THE NATIONAL LONGITUDINAL STUDY OF ADOLESCENT TO ADULT HEALTH (2009), http://www.cpc.unc.edu/projects/addhealth/design (last visited Nov. 29, 2014), *archived at* http://perma.cc/Y4RP-V8H4.

[63] K.M. HARRIS ET AL., ADD HEALTH, THE NATIONAL LONGITUDINAL STUDY OF ADOLESCENT HEALTH: WAVE IV SECTION II: PARENTAL SUPPORT AND RELATIONSHIPS, *available at* http://www.cpc.unc.edu/projects/addhealth/codebooks/wave4 (last visited Mar. 10, 2015), *archived at* http://perma.cc/S25C-7UA6 (Codebooks on file with the *Journal*).

Retrospective survey items can be effectively used to recreate cohorts' experiences of fertility, social mobility, and other salient behavioral events such as parental incarceration.[64] Add Health youth reported parental incarceration reliably: the correlation across waves in reported parental incarceration is .82 (p<.001; with new onset cases excluded at Wave IV). Overall, about 12% of the Add Health youth reported in Wave IV that their biological fathers had served time in jail or prison. About 2% of the same group reported their biological mothers had served time in jail or prison.

As we note next, the four waves of the Add Health survey provide a valuable moving window on incarcerated parents, adolescents, schools, neighborhoods, and educational and socioeconomic outcomes. These moving measures are summarized in Table 1 and described more fully in Appendix A, including the four individual-level indicators we describe first for socioeconomic inequality and powerlessness. These are the early adult social exclusion outcomes measured in Wave IV and analyzed in this Article.

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[64] John Hagan & Alberto Palloni, *Crimes as Social Events in the Life Course: Reconceiving a Criminological Controversy*, 26 CRIMINOLOGY 87, 94 (1988); *see* Alberto Palloni & Aäge Sørensen, *Methods for the Analysis of Event History Data: A Didactic Overview*, 10 LIFE-SPAN DEV. & BEHAV. 291, 293 (1990).

Table 1
Descriptive Statistics

	Mean	Std. Dev.	Range
School Characteristics (n=125 schools)			
Biological Father's Imprisonment	.16	.08	.01–.42
Biological Mother's Imprisonment	.04	.03	0–.16
Mean Household Income (000s of $)	46.02	11.92	24–111.37
Total Crime Rate	5539.08	2769.26	0–14124.13
Number of Full-Time Teachers	56.32	33.40	9–182
Average Daily School Attendance	4.21	.89	1–5
Size of School	2.09	.73	1–3
Type of School (1=Public)	.90	—	0–1
Urbanicity of School	1.86	.66	1–3
Percent African-American	.21	.27	0–.99
Individual Level Characteristics (n=4208)			
Biological Father's Imprisonment	.12	—	0–1
Biological Father Has College Education	.32	—	0–1
Biological Father's Alcoholism	.12	—	0–1
Perceived Closeness with Biological Father	4.44	1.05	1–5
Biological Father Smokes	.60	—	0–1
Biological Mother's Imprisonment	.02	—	0–1
Biological Mother Has College Education	.31	—	0–1
Biological Mother's Alcoholism	.01	—	0–1
Perceived Closeness with Biological Mother	4.55	.77	1–5
Biological Mother Smokes	.45	—	0–1
Gender[a]	.55	—	0–1
Hispanic[b]	.13	—	0–1
African-American	.15	—	0–1
Asian-American	.05	—	0–1
Other	.02	—	0–1
Age	15.17	1.56	11–20
Household Income (000s of $) (W1)	51.19	46.93	0–870
Two-Biological Parent Family	.72	—	0–1
Respondent Has College degree (W4)	.42	—	0–1
Individual Outcomes			
Personal Earnings (W4) (000s of $) (n=3518)	41.80	26.32	0–150
Household Earnings (W4) (000s of $)	67.62	38.16	2.50–150
Powerlessness (W4)	2.03	.54	1–5
Perceived Socioeconomic Status (W4)	5.23	1.64	1–10

Reference categories: [a]Female=1; Male=0; [b]Non-Hispanic White

Individual Outcomes: The Add Health cohort has aged sufficiently—into their late twenties and early thirties—that a series of benchmark measures can be regarded as identifying early trajectories of socioeconomic inequality and powerlessness, and more broadly, social exclusion. The four individual level early adult outcomes that we analyze are personal and household earnings, perceived socioeconomic status, and perceived powerlessness.

At Wave IV, the average personal earnings are under $42,000 and the average household earnings are about $68,000. We follow the convention of analyzing the income outcomes in logged thousands of dollars.

Perceived socioeconomic status is measured by asking respondents to imagine themselves on a ten-step ladder reflecting "where people stand in America" in terms of money, education, and respected jobs, with the average reported rank just over five. This measure parallels the perception of social status scales.[65]

Powerlessness is measured with a five-item scale ranging from "there is little I can do to change important things in my life" to "there is really no way I can solve the problems I have." Scholars note that there is considerable overlap in measures of powerlessness, mastery, personal autonomy, personal efficacy, and instrumentalism, as well as fatalism and perceived helplessness.[66] So while we refer to the items in this scale as measuring a sense of powerlessness, a broader range of meanings may be involved. Our interpretation is that this scale indicates structural and subjective dimensions of inequality, powerlessness, and social exclusion among young adults in American society.

Individual-level Characteristics: We have already introduced the individual level reports of biological father and mother incarceration. For each biological parent, we also include measures reported in the Wave I parent survey of education, alcoholism, smoking, and perceived closeness with the child. We further include Wave I measures of whether the two biological parents were present in the family, the household income, as well as the gender, age, and Hispanic, African-American, Asian-American, or

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[65] *See* Elizabeth Goodman et al., *Adolescents' Perceptions of Social Status: Development and Evaluation of a New Indicator*, 108 PEDIATRICS e31, e33 (2001); Elizabeth Goodman et al., *Perceived Socioeconomic Status: A New Type of Identity that Influences Adolescents' Self-Rated Health*, 41 J. ADOLESCENT HEALTH 479, 482 (2007).

[66] *See* Jay R. Turner & Patricia Roszell, *Psychosocial Resources and the Stress Process*, *in* STRESS AND MENTAL HEALTH 179, 181 (William R. Avison & Ian H. Gotlib eds., 1994). *See generally* JOHN MIROWSKY & CATHERINE E. ROSS, SOCIAL CAUSES OF PSYCHOLOGICAL DISTRESS (2d ed. 2003) (general resource on these various forms of psychosocial resources and adversities).

other racial/ethnic identity of the child. The inclusion of family household income at Wave I is a useful way of controlling for significant unmeasured background sources of socioeconomic inequality and powerlessness in our models below.

We give particular attention to educational attainment of parents as predisposing factors and of their children as a key mediating variable, focusing on college completion for fathers and mothers at Wave I and for their children at Wave IV. As scholars note in their work on punishment and inequality, a sharpened non-college/college divide emerged with the dramatic expansion of postsecondary education following World War II.[67] By 1950, 30%–35% of persons age twenty-five and over graduated from high school, while by 2000 nearly the same proportion were now graduating from college, and nearly 80% were now graduating from high school.[68] College graduation is replacing high school completion as the newly salient pathway to adult socioeconomic achievement.

School Characteristics: It is necessary to modify the classical status attainment paradigm by incorporating the effects of a national policy of mass incarceration.[69] Some scholars argue that it is necessary today to incorporate into this theoretical and empirical paradigm the influence of parental imprisonment and the ways in which it operates through the educational experiences of children—net of family relationship and resource factors. Research suggests the educational attainment of the children of incarcerated parents is a key mediating influence on their occupationally based adult socioeconomic outcomes.[70] We assess the statistical significance of this mediational influence below with an asymptotic interval test[71] and an interactive calculation tool.[72]

Since schools are the institutional transmitters of educational attainment, it is essential to include the macro- as well as micro-level

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[67] *See* WESTERN, *supra* note 1, at 30–31; Hagan & Foster, *supra* note 15, at 265; Hagan & Foster, *supra* note 17, at 47–48.

[68] NICOLE STOOPS, U.S. CENSUS BUREAU, EDUCATIONAL ATTAINMENT IN THE UNITED STATES: 2003, at 2 (2004), *available at* http://www.census.gov/prod/2004pubs/p20-550.pdf, *archived at* http://perma.cc/2GG8-N7S8.

[69] *See* Foster & Hagan 2007, *supra* note 8, at 399–400.

[70] *See id.* at 417–18.

[71] *See generally* Michael E. Sobel, *Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models*, 13 SOC. METHODOLOGY 290 (1982) (explaining the tests for assessing the significance of indirect effects).

[72] Kristopher J. Preacher & Geoffrey J. Leonardelli, *Calculation for the Sobel Test: An Interactive Calculation Tool for Mediation Tests*, QUANTPSY, http://quantpsy.org/sobel/sobel.htm (last visited Oct. 18, 2014), *archived at* http://perma.cc/LG73-KKCZ (calculation tool for running the Sobel test).

influences of these institutions in our models. Macro-institutional contexts are acknowledged influences on processes of social exclusion over the life course.[73] Scholars increasingly are tracing connections between state-based punishment regimes and schools. Many urban schools actually incorporate features more often associated with prisons in their everyday practices.[74] For example, there is a significant police presence at some urban schools.[75]

Scholarship has noted that American mass incarceration is so spatially concentrated in its selection of inmates from neighborhoods and schools that "we can think of [these sites] as 'prison places.'"[76] Schools can further play a preparatory role for incarceration.[77] As a result, there is a burgeoning research literature on the "school to prison pipeline." Yet relatively little is known about how inter-institutional punishment regimes associated with expanded incarceration influence schools, families and the educational outcomes of children.[78]

To capture the notion of schools as "prison places," we aggregated the measures of biological fathers' and mothers' imprisonment to create school-level indicators of parental incarceration. The effects of interrupted parent-child relationships can flow both at the individual level through families and at the school level through students who are influenced not only by disruptions of their own families but also by the spillover influence from disruptions and absences in the families of others.

In some sampled American schools, as many as a quarter of the fathers and a tenth of the mothers experience incarceration during the respondent's childhood and adolescence. By using reports of parental imprisonment at the

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[73] Silver, *supra* note 21, at 17.

[74] Janay B. Sander, *School Psychology, Juvenile Justice, and the School to Prison Pipeline*, COMMUNIQUÉ, Dec. 2010, at 4, 4–6.

[75] Ellen Tuzzolo & Damon T. Hewitt, *Rebuilding Inequity: The Re-emergence of the School-to-Prison Pipeline in New Orleans*, 90 HIGH SCH. J. 59, 64 (2006–2007).

[76] TODD R. CLEAR, IMPRISONING COMMUNITIES 68 (2007).

[77] *See generally* Pamela Fenning & Jennifer Rose, *Overrepresentation of African American Students in Exclusionary Discipline: The Role of School Policy*, 42 URB. EDUC. 536 (2007) (discussing the development of the term school to prison pipeline and the disproportionate emphasis of school disciplinary policies on African-American students).

[78] The following articles link parental incarceration to diminished educational outcomes for children; however, research has yet to link parental incarceration and educational attainments to broader inter-institutional punishment regimes including school disciplinary practices. *See* Cho, *supra* note 52; Cho, *supra* note 53; Foster & Hagan 2007, *supra* note 8; Foster & Hagan 2009, *supra* note 8; Sidney Friedman & T. Conway Esselstyn, *The Adjustment of Children of Jail Inmates*, 29 FED. PROBATION 55 (1965); Trice & Brewster, *supra* note 50; *see also* STANTON, *supra* note 49, at 91 (showing that children of jailed mothers have lower and below average academic performance compared to children whose mothers are on probation).

individual level and school level as measures of maternal and paternal imprisonment, we can estimate separately individual- and school-level spillover effects of parental imprisonment and the interruption of parent–child relationships on children's educational outcomes.

In addition to parental imprisonment, we also include several measures of school resources. The most familiar of such measures is the mean household income level of parents of children at the school. We introduce related educational resource measures of number of full-time teachers and we control for the school proportion of two-biological parent families and school size, average daily school attendance, percent African-American families, urbanicity, public funding, and total crime rate in the school county.

V. MULTI-LEVEL MODELS OF PARENTAL IMPRISONMENT EFFECTS

We estimate joined individual- and school-level multi-level equations for educational attainment (our focal mediating variables) and the four exclusionary measures of socioeconomic inequality and powerlessness, using HLM estimations for the inequality and powerlessness outcomes and HGLM estimates for college completion.[79] We first estimate an individual-level equation separately for students in each school, yielding regression coefficients (for each predictor) and an intercept term representing the student-input adjusted outcome for each outcome measure (with the continuous predictors centered on their means) for each school. Our within-school modeling of the outcomes thus takes the following form:

$$\text{Outcome}_{ij} = \beta 0j + \Sigma \sum_{q=1} \beta_q X_{qij} + \varepsilon_{ij}$$

where β_{0j} is the intercept; X_{qij} is the value of covariate q associated with respondent i in school-level j; and β_q is the partial effects on the outcome of both the respondent father's and mother's imprisonment and the other specified individual and school characteristics. The error term, ε_{ij}, is the unique contribution of each student, which is assumed to be independently and normally distributed with constant variance σ^2.

Second, we estimate the school-level equation in which the intercept terms for each school represent the dependent variable adjusted for student intake characteristics, which we then explain with school-level characteristics. This between-school equation thus takes the following form:

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[79] *See generally* STEPHEN W. RAUDENBUSH & ANTHONY S. BRYK, HIERARCHICAL LINEAR MODELS: APPLICATIONS AND DATA ANALYSIS METHODS (2d ed. 2002) (detailing the application of HLM models to continuous outcomes and HGLM models for dichotomous or categorical outcomes).

$$\beta_{oj} = \theta_{00} + \theta_{01}(paternal\ imprisonment) + \cdots + U_{0j}$$

where θ_{00} is school overall average outcome, and θ_{01} is the regression coefficient of the effect of paternal imprisonment measured as a school-level mean score on the overall school average outcome net of the specified additional school-level covariates. We further test for significant cross-level interactions with race/ethnicity and gender of the child. U_{0j} is the school-level error term, assumed to be normally distributed with a variance of τ.

Because the model parameters are initially estimated separately for each school, the input characteristics are not assumed to have a constant effect across all schools, and this allows the multi-level modeling to provide a more accurate representation of the complex multi-level error structure. To reduce missing data across parents, we estimate paternal and maternal incarceration effects in separate equations below.

VI. RESULTS IN EARLY ADULTHOOD

By Wave IV of Add Health, members of the longitudinal cohort were approaching or entering their fourth decade of life and had largely transitioned from education to work. Table 2 focuses first on completion of college, our focal mediating variable for our following models of adult social exclusion. An important difference of this analysis from earlier work is that the influence of parental incarceration is measured over a longer period that extends beyond age eighteen and up to the time of the Wave IV interviews when the young adult respondents on average are in their late twenties.[80]

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[80] *See* Hagan & Foster, *supra* note 17 (measuring parental imprisonment up to age eighteen).

Table 2

HGLM Model of College Degree Completion at Wave IV (Population Average Models with Robust Standard Errors)

	1	2	3	4	5
Intercept	-.72***	-1.21***	-1.16***	-1.26***	-1.21***
	(.15)	(.19)	(.19)	(.16)	(.11)
School Characteristics (n=125)					
Biological Father's Imprisonment			-.49***		
(Standardized)			(.11)		
Biological Mother's Imprisonment					-.25**
(Standardized)					(.08)
Mean Household Income (Std.)			.10		.31***
			(.09)		(.07)
Total Crime Rate (Std.)			-.06		-.03
			(.08)		(.06)
Number of Full-Time Teachers			.17†		.02
(Std.)			(.10)		(.07)
Average Daily School Attendance			.11		.14*
(Std.)			(.08)		(.06)
Size of School (Std.)			.14†		.23**
			(.08)		(.08)
Type of School (1=Public) (Std.)			-.06		-.03
			(.05)		(.06)
Urbanicity of School (Std.)			-.04		.05
			(.07)		(.06)
Percent African-American (Std.)			.11		.22**
			(.10)		(.08)
Individual-Level Characteristics (n=4208)					
Biological Father's Imprisonment		-.62**	-.56*		
		(.23)	(.25)		
Biological Father Has College		1.18***	1.20***		
Education		(.15)	(.15)		
Biological Father's Alcoholism		-.22	-.24		
		(.18)	(.18)		
Perceived Closeness with		-.02	-.03		
Biological Father		(.10)	(.11)		
Biological Father Smokes		-.17	-.15		
		(.12)	(.12)		

Biological Mother's Imprisonment			-1.69*	-1.00**
			(.76)	(.39)
Biological Mother Has College			1.09***	1.08***
Education			(.15)	(.08)
Biological Mother's Alcoholism			-.15	-.11
			(.83)	(.36)
Perceived Closeness with			.21*	.14**
Biological Mother			(.10)	(.05)
Biological Mother Smokes			-.37***	-.38***
			(.09)	(.07)
Gender[a]	.35***	.38***	.42***	.56***
	(.10)	(.11)	(.12)	(.07)
Hispanic[b]	-.08	-.19	-.08	-.28*
	(.32)	(.32)	(.30)	(.14)
African American	.44*	.40†	.34	-.01
	(.23)	(.24)	(.21)	(.13)
Asian American	.30	.17	.34	.18
	(.33)	(.35)	(.38)	(.18)
Other	.33	.42	.34	-.08
	(.29)	(.31)	(.30)	(.24)
Age	-.04	-.08*	-.03	-.07
	(.04)	(.03)	(.04)	(.03)
Household Income (W1)	.01***	.01***	.01***	.01***
	(.002)	(.003)	(.003)	(.001)
Two-Biological Parent Family	.12	.16	.20	.46***
	(.19)	(.20)	(.12)	(.07)
Variance Components				
Between Schools	.71***	.31***	.09***	.36***	.10***

***p<.001, **p<.01, *p<. 05, †p<.10 (two-tailed) Reference categories: [a]Female=1; Male=0; [b]Non-Hispanic White

Column 1 of Table 2 reveals, as expected, that there is highly significant variation (p<.001) between secondary schools attended in levels of college degree completion. This variance component drops by about half (from .71 to .31 and .36 respectively) when we introduce individual-level characteristics. Among these characteristics, individual-level paternal (b=-.62, p<.05) and maternal (b=-1.69, p<.05) incarceration are statistically significant predictors of child's college completion, along with, but also net of, paternal (b=1.18, p<.001) and maternal (b=1.09, p<.001) college completion and family household income (b=.01, p<.001). The closeness of mothers to their children positively predicts—while absence of cigarette smoking negatively predicts—college degree completion.

The school characteristics introduced in Columns 3 and 5 of Table 2 also substantially and predictably reduce variation in students' college degree completion. Most important for our purposes are the spill-over effects in schools of other fathers (b=-.49, p<.001) and mothers (b=-.25, p<.01) having been incarcerated. These effects are highly significant notwithstanding the inclusion again of individual-level characteristics indicating their own parent incarceration, as well as characteristics of the schools such as mean household income and average daily school attendance. Table 2 indicates that in the fourth decade in the life cycle of the Add Health cohort, maternal and parental school and individual-level incarceration have significant negative effects on prospects for successfully completing college.

Table 3 summarizes the results of estimating logged personal earnings in early adulthood, the first of our social exclusion measures. There is highly significant variation (p<.001) between schools in personal income with an intra-class correlation of 6%. At the individual level in Columns 2 and 3, paternal incarceration is a highly significant predictor (b=-.21, p<.001) of early adult personal income, although maternal incarceration (b=-.34, p>.10) is not. These results suggest evidence of what we will refer to as paternal salience in individual-level parental incarceration effects. Maternal college education (b=.09, p<.05) is instead a significant predictor of early adult personal income in Column 5. At the school level in Columns 3 and 6, the imprisonment of other fathers (b=.08, p<.05) is a significant predictor of personal income, and the imprisonment of other mothers (b=-.04, p>.10) is not significant, which also suggests paternal salience at the school level of analysis.

Table 3

HLM Model of Logged Personal Earnings at Wave IV with Robust Standard Errors.

	1	2	3	4	5	6	7
Intercept	3.46***	3.69***	3.68***	3.57***	3.67***	3.67***	3.57***
	(.03)	(.05)	(.05)	(.05)	(.06)	(.06)	(.06)
School Characteristics (n=125)							
Biological Father's			-.08*	-.04			
Imprisonment (Std.)			(.04)	(.04)			
Biological Mother's						-.04	-.02
Imprisonment (Std.)						(.03)	(.03)
Mean Household Income			.05	.04		.07*	.05
(Std.)			(.03)	(.04)		(.03)	(.03)
Total Crime Rate (Std.)			-.07†	-.06		-.08†	-.07
			(.04)	(.04)		(.04)	(.04)
Number of Full-Time			-.01	-.02		-.02	-.03
Teachers (Std.)			(.04)	(.04)		(.04)	(.04)
Average Daily School			-.005	-.01		.01	-.004
Attendance (Std.)			(.03)	(.03)		(.03)	(.03)
Size of School (Std.)			.02	.01		.04	.02
			(.04)	(.04)		(.04)	(.04)
Type of School (1=Public)			.03	.03		.04	.04
(Std.)			(.03)	(.03)		(.03)	(.04)
Urbanicity of School			.03	.03		.05	.05
(Std.)			(.03)	(.03)		(.04)	(.04)
Percent African-American			-.002	-.01		.01	-.001
(Std.)			(.04)	(.04)		(.04)	(.04)
Individual Level Characteristics (n=3518)							
Biological Father's		-.21***	-.19**	-.14*			
Imprisonment		(.06)	(.06)	(.06)			
Biological Father Has		.03	.02	-.09			
College Education		(.06)	(.06)	(.06)			
Biological Father's		-.06	-.07	-.05			
Alcoholism		(.06)	(.06)	(.06)			
Perceived Closeness with		.002	.001	.004			
Biological Father		(.02)	(.02)	(.02)			
Biological Father Smokes		-.01	-.01	-.004			
		(.05)	(.05)	(.05)			

Biological Mother's Imprisonment				-.34	-.35	-.28
				(.27)	(.27)	(.26)
Biological Mother Has College Education				.09*	.09*	-.01
				(.04)	(.04)	(.04)
Biological Mother's Alcoholism				-.24	-.24	-.20
				(.21)	(.21)	(.20)
Perceived Closeness with Biological Mother				.03	.03	.02
				(.03)	(.03)	(.03)
Biological Mother Smokes				-.08	-.08	-.05
				(.05)	(.05)	(.05)
Gender[a]	-.38***	-.38***	-.42***	-.38***	-.38***	-.42***
	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)
Hispanic[b]	-.11	-.07	-.08	-.13	-.10	-.10
	(.14)	(.15)	(.14)	(.14)	(.15)	(.14)
African American	.05	.10	.06	.02	.09	.05
	(.05)	(.06)	(.05)	(.05)	(.06)	(.05)
Asian American	.08	.11	.09	.06	.09	.07
	(.23)	(.23)	(.23)	(.24)	(.24)	(.23)
Other	-.12	-.09	-.14	-.10	-.08	-.13
	(.11)	(.11)	(.11)	(.11)	(.11)	(.10)
Age	.02†	.02	.03	.03	.02	.03
	(.01)	(.01)	(.01)	(.02)	(.02)	(.02)
Household Income (W1)	.002**	.002*	.001†	.002**	.002**	.001†
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Two-Biological Parent Family	.02	.02	.02	.04	.04	.03
	(.05)	(.05)	(.05)	(.05)	(.05)	(.05)
Respondent Has College Degree (W4)			.39***			.37***
			(.04)			(.05)

Variance Components

Between Schools	.04	.03	.02	.02	.03	.03	.03
Between Individuals	.61	.56	.56	.54	.56	.56	.54
Deviance	8385.45	8153.32	8172.23	8009.62	8136.15	8159.04	8009.75
Intra-class Correlation	.06						

***p<.001, **p<.01, *p<. 05, †p<.10 (two-tailed) Reference categories: [a]Female=1; Male=0; [b]Non-Hispanic White

Columns 4 and 7 introduce the highly significant effects (b=.39 and .37, p<.001) of a child's own college graduation on his or her adult personal income. As expected, there is clear evidence in Table 3 of the mediating role of a child's education in accounting for the effects of his or her father's incarceration on early adult personal income. At the individual level, the net effect of paternal incarceration remains statistically significant, but child's college completion nonetheless reduces the paternal incarceration effect on child's early adult personal income by 26% (from b=-.19 to -.14). The Sobel test for mediation by college education is statistically significant   (z=-2.18, p<.05). The school-level effect of paternal incarceration is more fully mediated by college education, with the paternal incarceration effect reduced below statistical significance (from b=-.08, p<.05 to -.04, p>.10); the Sobel test of this reduction is statistically significant (z=-4.05, p<.001).

We turn next in Table 4 to the child's total family household income in early adulthood. Again as expected, there is significant school-level variation in child's household income in Column 1, with an intra-class correlation of 4%. At the individual level in Column 2, paternal incarceration again significantly reduces child's household income (b=-.16, p<.05). The school-level impacts in Columns 3 and 6 of paternal and maternal incarceration on child's household income are not significant. At the individual level, the net effect of paternal incarceration is marginally statistically significant, and child's college completion also (i.e., as with personal income) reduces the parental incarceration effect on child's family income by 13% (from b=-15 to -.13). The Sobel test for mediation by college education is marginally statistically significant (z=-1.86 p<.10). There are no effects of maternal incarceration on household income at either the school or individual levels of analysis. Thus far, there is evidence of paternal rather than maternal salience.

Table 4

HLM Model of Logged Household Income at Wave IV with Robust Standard Errors.

	1	2	3	4	5	6	7
Intercept	3.96***	4.03***	4.02***	3.98***	4.04***	4.03***	3.98***
	(.03)	(.06)	(.06)	(.06)	(.05)	(.05)	(.05)
School Characteristics (n=125)							
Biological Father's			-.01	.01			
Imprisonment (Std.)			(.04)	(.04)			
Biological Mother's						-.02	-.01
Imprisonment (Std.)						(.03)	(.03)
Mean Household Income			.05	.04		.05†	.04
(Std.)			(.04)	(.04)		(.03)	(.03)
Total Crime Rate (Std.)			-.02	-.02		-.03	-.02
			(.02)	(.02)		(.02)	(.02)
Number of Full-Time			-.04	-.04		-.05	-.05
Teachers (Std.)			(.04)	(.04)		(.04)	(.04)
Average Daily School			.07*	.06*		.07**	.07**
Attendance (Std.)			(.03)	(.03)		(.03)	(.03)
Size of School (Std.)			.06*	.05†		.06*	.05†
			(.03)	(.03)		(.03)	(.03)
Type of School (1=Public)			.002	.004		.02	.02
(Std.)			(.02)	(.02)		(.02)	(.02)
Urbanicity of School (Std.)			.01	.01		.02	.02
			(.02)	(.02)		(.02)	(.02)
Percent African-American			.02	.01		.03	.02
(Std.)			(.03)	(.03)		(.03)	(.03)
Individual Level Characteristics (n=4208)							
Biological Father's		-.16*	-.15*	-.13†			
Imprisonment		(.07)	(.07)	(.07)			
Biological Father Has		-.03	-.04	-.09			
College Education		(.07)	(.07)	(.06)			
Biological Father's		-.07	-.08	-.07			
Alcoholism		(.06)	(.06)	(.06)			
Perceived Closeness with		.002	.001	.002			
Biological Father		(.02)	(.02)	(.02)			
Biological Father Smokes		.05	.05	.06			
		(.04)	(.04)	(.04)			

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Biological Mother's Imprisonment					-.20	-.20	-.16
					(.13)	(.14)	(.13)
Biological Mother Has College Education					-.03	-.04	-.09†
					(.06)	(.06)	(.05)
Biological Mother's Alcoholism					-.62**	-.62**	-.61***
					(.20)	(.21)	(.20)
Perceived Closeness with Biological Mother					.03	.03	.02
					(.03)	(.03)	(.03)
Biological Mother Smokes					.02	.02	.03
					(.03)	(.03)	(.03)
Gender[a]		-.09*	-.09*	-.11**	-.10**	-.10**	-.11***
		(.04)	(.04)	(.04)	(.03)	(.03)	(.03)
African-American		-.17**	-.14**	-.16**	-.19**	-.16**	-.17**
		(.06)	(.05)	(.05)	(.06)	(.05)	(.05)
Asian-American		.16*	.18**	.18**	.15*	.18**	.18**
		(.06)	(.06)	(.06)	(.06)	(.06)	(.06)
Other		-.21**	-.17*	-.19*	-.18*	-.15†	-.16*
		(.08)	(.08)	(.07)	(.08)	(.08)	(.08)
Age		.01	.01	.01	.01	.01	.01
		(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Household Income (W1)		.002***	.002***	.001**	.002***	.002***	.001**
		(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Two-Biological Parent Family		.02	.02	.01	.03	.03	.02
		(.04)	(.04)	(.04)	(.03)	(.03)	(.03)
Respondent Has College Degree (W4)				.20**			.19***
				(.06)			(.06)
Variance Components							
Between Schools	.02	.01	.01	.01	.02	.01	
Between Individuals	.51	.50	.50	.49	.49	.49	.48
Deviance	9206.66	9145.17	9166.77	9115.76	9088.37	9107.53	9059.07
Intra-class Correlation	.04						

***p<.001, **p<.01, *p<. 05, †p<.10 (two-tailed) Reference categories: [a]Female=1; Male=0; [b]Non-Hispanic White

Table 5 shifts attention from income to perceived socioeconomic status. As in the previous results for household income, there is significant variation between schools, but there are school-level effects of neither paternal nor maternal incarceration on child's perceived socioeconomic status in early adulthood. Thus school-level incarceration effects are not found for perceived socioeconomic status. At the school level, perceived socioeconomic status is most strongly driven by the school mean household income (Columns 3 and 4 and 6 through 8, b=.20-.25, p<.05-.001), and to a lesser degree by size of school (Columns 6 and 7, b=-.12 to -.16, p<.05-.01) and number of full-time teachers (b=.12-.16, p<.10-.05).

In contrast, at the individual level, father (Columns 2 and 3, b=-.30 to -.27, p<.01-.05) and mother (Columns 5 and 6, b=-.63- to -.40, p<.05) imprisonment each significantly affect perceived socioeconomic status. Child's college completion again (i.e., as with personal and household incomes) reduces the individual-level paternal and maternal incarceration effects on child's perceived socioeconomic status respectively by 30 (from b=-.27, p<.05 to -.19, p<.10) and 33 (from b=-.60, p<.05 to -.40, p<.10) percent. The Sobel test for mediation by college education is again statistically significant for both the individual-level paternal and maternal incarceration effects (z=-2.19 and -2.47, p<.05).

Table 5

HLM Model of Perceived Socioeconomic Status at Wave IV with Robust Standard Errors.

	1	2	3	4	5	6	7	8
Intercept	5.13***	4.96***	4.96***	4.71***	5.03***	5.04***	4.78***	4.78***
	(.07)	(.11)	(.10)	(.10)	(.11)	(.11)	(.11)	(.11)
School Characteristics (n=125 schools)								
Biological Father's			-.04	.04				
Imprisonment (Std.)			(.07)	(.08)				
Biological Mother's						-.06	-.02	-.02
Imprisonment (Std.)						(.05)	(.05)	(.05)
Mean Household Income			.24***	.22*		.25***	.20***	.20***
(Std.)			(.06)	(.07)		(.05)	(.05)	(.05)
Total Crime Rate (Std.)			-.06	-.05		-.07	-.06	-.06
			(.05)	(.05)		(.05)	(.05)	(.05)
Number of Full-Time			.16*	.13†		.14*	.12†	.12†
Teachers (Std.)			(.07)	(.07)		(.07)	(.07)	(.07)
Average Daily School			.10*	.09		.09*	.07†	.07†
Attendance (Std.)			(.05)	(.05)		(.04)	(.04)	(.04)
Size of School (Std.)			-.12*	-.15**		-.12*	-.16**	-.16**
			(.06)	(.06)		(.06)	(.06)	(.06)
Type of School (1=Public)			.04	.05		.07	.07	.07
(Std.)			(.04)	(.04)		(.04)	(.04)	(.04)
Urbanicity of School (Std.)			.02	.03		.05	.04	.04
			(.04)	(.04)		(.04)	(.04)	(.04)
Percent African-American			.10	.08		.11†	.08	.08
(Std.)			(.06)	(.06)		(.06)	(.05)	(.05)
Individual Level Characteristics (n=4208)								
Biological Father's		-.30**	-.27*	-.19†				
Imprisonment		(.11)	(.11)	(.11)				
Biological Father Has		.27*	.22*	-.05				
College Education		(.11)	(.10)	(.11)				
Biological Father's		-.13	-.15	-.11				
Alcoholism		(.10)	(.10)	(.09)				
Perceived Closeness with		.003	.002	.01				
Biological Father		(.05)	(.05)	(.05)				
Biological Father Smokes		.05	.06	.09				
		(.08)	(.07)	(.07)				

Biological Mother's Imprisonment					-.63*	-.60*	-.40†	-.36
					(.26)	(.26)	(.24)	(.27)
Biological Mother Has College Education					.34**	.30**	.05	.05
					(.11)	(.10)	(.09)	(.09)
Biological Mother's Alcoholism					-.31	-.30	-.25	-.27
					(.33)	(.33)	(.28)	(.28)
Perceived Closeness with Biological Mother					.04	.04	.01	.004
					(.05)	(.05)	(.05)	(.05)
Biological Mother Smokes					-.20*	-.19*	-.13†	-.12†
					(.08)	(.08)	(.08)	(.08)
Gender[a]		.03	.03	-.04	.03	.03	-.04	-.04
		(.07)	(.07)	(.08)	(.07)	(.07)	(.08)	(.08)
Hispanic[b]		-.07	.009	.05	-.10	-.02	.02	.03
		(.15)	(.14)	(.17)	(.17)	(.16)	(.18)	(.18)
African-American		.01	.04	-.03	-.04	-.004	-.05	-.05
		(.13)	(.11)	(.11)	(.12)	(.11)	(.11)	(.11)
Asian-American		-.03	-.01	-.03	-.08	-.06	-.08	-.07
		(.19)	(.18)	(.19)	(.20)	(.18)	(.18)	(.18)
Other		-.23	-.19	-.26	-.21	-.16	-.24	-.24
		(.25)	(.24)	(.24)	(.26)	(.25)	(.25)	(.25)
Age		-.02	-.02	-.00	-.02	-.02	-.005	-.005
		(.02)	(.02)	(.02)	(.03)	(.02)	(.02)	(.02)
Household Income (W1)		.005***	.004**	.003*	.005***	.004**	.003†	.003†
		(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Two-Biological Parent Family		.17	.19†	.16	.19*	.20*	.17*	.17*
		(.11)	(.11)	(.11)	(.09)	(.08)	(.08)	(.08)
Respondent Has College Degree (W4)				.99***			.94***	.94***
				(.09)			(.10)	(.10)
Mother's Imprisonment *Hispanic								-1.06***
								(.32)
Mother's Imprisonment *African-American								-.21
								(.47)
Variance Components								
Between Schools	.18***	.09***	.03***	.03***	.09***	.03***	.03***	.03***
Between Individuals	2.42	2.37	2.37	2.19	2.35	2.35	2.19	2.19
Deviance	15822.70	15725.30	15694.03	15376.45	15686.67	15656.13	15367.58	15363.94
Intra-class Correlation	.07							

***p<.001, **p<.01, *p<. 05, †p<.10 (two-tailed) Reference categories: [a]Female=1; Male=0; [b]Non-Hispanic White

A final set of models in Table 6 presents results for the estimation of the child's perceived sense of powerlessness in early adulthood. This is a further way of examining the relational component of social exclusion. Prior empirical work has not examined powerlessness in relation to parental incarceration. There is significant between-school variation in perceived powerlessness, with an intra-class correlation of 3%.

The most notable sources of perceived powerlessness in Table 6 involve the individual-level salience of maternal incarceration. We see in Columns 5 through 7 that when mothers are imprisoned (b=.22 to .18, p<.05 to p<.10), their children are more likely to report a sense of powerlessness. As well, the individual-level maternal imprisonment effect is significantly reduced by child education (from b=.22, p<.05 to .18, p<.10) and the Sobel test of the mediation of this effect is statistically significant (z=2.47, p<.05). Paternal incarceration does not have a significant individual-level effect on powerlessness.

The coefficients in Columns of 3 and 4 in Table 6 indicate a salient school-level effect of paternal imprisonment on powerlessness (b=.05–.04, p<.05–.10) that withstands controls for significant effects of perceived closeness with father, gender, and two-parent families. This is evidence of paternal salience at the school level. When child's college completion is introduced in Column 4, the effect of school-level paternal incarceration on adult child's perception of powerlessness is reduced (b=.05, p<.05– .04, p<.10) and this reduction is statistically significant according to Sobel's test (z=3.33, p<.05). Maternal incarceration does not have a significant school-level effect on powerlessness.

Table 6

HLM Model of Powerlessness at Wave IV with
Robust Standard Errors.

	1	2	3	4	5	6	7	8
Intercept	2.06***	2.09***	2.07***	2.11***	2.10***	2.08***	2.13***	2.13***
	(.03)	(.04)	(.03)	(.03)	(.04)	(.04)	(.04)	(.04)

School Characteristics (n=125 schools)

	1	2	3	4	5	6	7	8
Biological Father's			.05*	.04†				
Imprisonment			(.02)	(.02)				
(Standardized)								
Biological Mother's						.003	-.007	-.006
Imprisonment						(.02)	(.02)	(.02)
(Standardized)								
Mean Household Income			.02	.02		-.001	.008	.009
(Std.)			(.01)	(.01)		(.01)	(.01)	(.01)
Total Crime Rate (Std.)			-.01	-.009		-.002	-.004	-.004
			(.02)	(.02)		(.02)	(.02)	(.02)
Number of Full-Time			-.04*	-.03†		-.03†	-.03†	-.03
Teachers (Std.)			(.02)	(.02)		(.02)	(.02)	(.02)
Average Daily School			-.01	-.01		-.03*	-.03*	-.03*
Attendance (Std.)			(.01)	(.01)		(.01)	(.01)	(.01)
Size of School (Std.)			.01	.02		.001	.01	.01
			(.02)	(.02)		(.02)	(.02)	(.02)
Type of School			.02	.01		.02	.02	.02
(1=Public) (Std.)			(.01)	(.01)		(.02)	(.02)	(.02)
Urbanicity of School			-.003	-.004		-.02	-.01	-.01
(Std.)			(.02)	(.02)		(.01)	(.01)	(.01)
Percent African-			-.04	-.04		-.05†	-.04	-.04
American (Std.)			(.02)	(.02)		(.03)	(.03)	(.03)

Individual Level Characteristics (n=4208)

	1	2	3	4	5	6	7	8
Biological Father's		.05	.03	.02				
Imprisonment		(.05)	(.05)	(.05)				
Biological Father Has		-.06	-.05	-.01				
College Education		(.04)	(.04)	(.04)				
Biological Father's		.11*	.10*	.10*				
Alcoholism		(.05)	(.05)	(.05)				

Table 6. HLM Model of Powerlessness at Wave IV with Robust Standard Errors.

	1	2	3	4	5	6	7	8
Perceived Closeness with		-.04*	-.04*	-.04*				
Biological Father		(.02)	(.02)	(.02)				
Biological Father Smokes			-.02	-.03				
			(.03)	(.02)				
Biological Mother's					.22*	.21*	.18†	.35**
Imprisonment					(.11)	(.11)	(.11)	(.12)
Biological Mother Has					.03	.04	.08	.08
College Education					(.05)	(.05)	(.05)	(.05)
Biological Mother's					.17	.16	.16	.11
Alcoholism					(.13)	(.12)	(.11)	(.09)
Perceived Closeness with					-.02	-.01	-.01	-.01
Biological Mother					(.02)	(.02)	(.02)	(.02)
Biological Mother Smokes					.01	.001	-.01	-.01
					(.04)	(.04)	(.04)	(.04)
Gender[a]		-.11**	-.10**	-.09*	-.09**	-.09**	-.07*	-.07*
		(.04)	(.04)	(.04)	(.03)	(.03)	(.03)	(.03)
Hispanic[b]		-.07†	-.04	-.04	-.07†	-.04	-.04	-.04
		(.04)	(.05)	(.05)	(.04)	(.05)	(.05)	(.05)
African-American		-.14**	-.07	-.06	-.13**	-.07	-.06	-.06
		(.05)	(.05)	(.05)	(.05)	(.04)	(.05)	(.05)
Asian-American		.02	.04	.05	-.000	.02	.03	.03
		(.08)	(.08)	(.08)	(.08)	(.08)	(.07)	(.07)
Other		-.08	-.09	-.08	-.08	-.09	-.07	-.07
		(.07)	(.08)	(.08)	(.07)	(.08)	(.08)	(.08)
Age		.01	.01	.01	.007	.009	.007	.01
		(.01)	(.01)	(.01)	(.009)	(.01)	(.01)	(.01)
Household Income (W1)		-.001	-.001	-.000	-.000*	-.001†	-.001	-.000
		(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Two-Biological Parent		.09*	.08*	.09*	.01	.01	.02	.01
Family		(.04)	(.04)	(.04)	(.04)	(.04)	(.04)	(.04)
Respondent Has College				-.15***			-.18***	-.18***
Degree (W4)				(.03)			(.02)	(.02)
Mother's Imprisonment								-.46**
*Gender								(.18)

Table 6. HLM Model of Powerlessness at Wave IV with Robust Standard Errors.

	1	2	3	4	5	6	7	8
Variance Components								
Between Schools	.01	.003***	.004***	.003***	.003***	.003***	.003***	.002***
Between Individuals	.28	.27	.27	.27	.27	.27	.27	.27
Deviance	6648.94	6608.24	6635.99	6577.16	6623.81	6657.62	6572.63	6558.30
Intra-class Correlation	.03							

***p<.001, **p<.01, *p<. 05, †p<.10 (two-tailed) Reference categories: [a]Female=1; Male=0; [b]Non-Hispanic White

Figure 1

Summary Table of Parental Imprisonment Effects on Young Adult Social Exclusion.

	Personal Earnings (W4)	Household Earnings (W4)	Perceived Socioeconomic Status (W4)	Powerlessness (W4)
Paternal Imprisonment (L1)	x	⊠	x	
Maternal Imprisonment (L1)			x	x
School Paternal Imprisonment (L2)	x			x
School Maternal Imprisonment (L2)				

X= Indicates the parental imprisonment effect is initially statistically significant at the p<.05 level. This effect is significantly mediated by children's college completion.

⊠= When a square encloses the x, the net parental incarceration effect retains statistical significance at the p<.05 level, even though this effect is significantly partially mediated by children's college completion.

VII. DISCUSSION AND CONCLUSIONS

A summary of our findings is presented in Figure 1. The results indicated by an X indicate the effects of maternal and paternal imprisonment before the addition of our focal mediator of college completion. The results summarized in this figure indicate paternal and maternal incarceration effects at the individual level of analysis and paternal incarceration effects at the school level of analysis. The effects represented by X's indicate that the effects of parental incarceration are mediated by college completion, as indicated by the reduction of the parental effects to a marginal level of statistical significance or nonsignificance. The effect represented by an X enclosed in a box represents the uniquely robust effect of paternal incarceration on household earnings, net even of the notable mediation of college completion.

Paternal imprisonment at the individual level significantly reduces three of the four individual-level outcomes—personal and household earnings and perceived socioeconomic status in young adulthood—while maternal imprisonment significantly reduces two of four individual-level outcomes—perceived socioeconomic status and powerlessness. These findings are evidence of a trajectory of parental incarceration effects well into adulthood—net of a wide range of other factors—on the future socioeconomic prospects and social exclusion of the children of the

American prison generation. These findings additionally indicate that the educational attainment of the children of incarcerated parents is largely the mediating variable that explains later socially exclusionary socioeconomic outcomes in adulthood.

An exception to the pattern of educational mediation is the effect we observed of individual-level paternal imprisonment on household earnings net of the educational attainment of their children. There is evidence of educational mediation here, too, but the effect of paternal incarceration remains significant. The persistence of the latter finding is a particularly striking indication of paternal salience in the effects of parental incarceration. Even aside from this finding, however, there is broad evidence in our results that paternal incarceration may be more salient than maternal incarceration—that is, whether its influence operates through or net of children's education.

Paternal salience is emerging as a robust hypothesis in the still limited research literature that compares maternal and paternal incarceration influences on exclusionary outcomes for children.[81] Yet there is also notable evidence in our findings at the individual level of maternal incarceration effects, with these effects largely operating through educational outcomes of the children of incarcerated parents.[82]

At the school level, paternal—but not maternal—imprisonment significantly reduces personal earnings and increases young adult feelings of powerlessness. These findings may be further evidence of paternal salience. However, additional comparative work on maternal and paternal salience is needed at both individual and school levels and over a range of outcomes and stages of the life course.

Altogether, these findings add to the rapidly growing literature on the collateral consequences of parental incarceration.[83] It may be especially

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[81] *See, e.g.*, Johnson, *supra* note 54, at 196; Christopher Wildeman & Kristin Turney, *Positive, Negative, or Null? The Effects of Maternal Incarceration on Children's Behavioral Problems*, 51 DEMOGRAPHY 1041, 1058 (2014).

[82] *See generally* Foster & Hagan 2007, *supra* note 8 (showing that education mediates the effect of paternal imprisonment on offspring social exclusion); Hagan & Foster, *supra* note 17 (showing maternal and paternal effects of imprisonment on child educational outcomes).

[83] *See, e.g.*, SARA WAKEFIELD & CHRISTOPHER WILDEMAN, CHILDREN OF THE PRISON BOOM: MASS INCARCERATION AND THE FUTURE OF AMERICAN INEQUALITY (2014) (updating research on parental incarceration influences to the present context); John Hagan & Ronit Dinovitzer, *Collateral Consequences of Imprisonment for Children, Communities, and Prisoners*, 26 CRIME & JUST. 121 (1999) (providing an overview of the earlier findings of the collateral consequences of parental incarceration); Murray & Farrington, *supra* note 51 (providing a more recent overview of the collateral consequences of parental incarceration); Christopher Wildeman & Christopher Muller, *Mass Imprisonment and Inequality in Health and Family Life*, 8 ANN. REV. L. AND SOC. SCI. 11 (2012) (updating findings on collateral consequences of parental incarceration).

important to emphasize the substantial evidence we have observed that intergenerational maternal and paternal incarceration effects on young adult children are mediated by educational attainment of sons and daughters. As a recent study anticipated,[84] education is a central pathway through which upward mobility of children of incarcerated parents is influenced. Successful completion of college is a statistically significant mediator of inequality effects of maternal and paternal incarceration—net of the mediating influence of the college completion of the mothers and fathers—reducing parental imprisonment effects in our models by 14% to 50%.

This mediating college effect is consistent with growing evidence of the salience of the non-college/college divide in American society. The implication of our analysis is that prisons and schools are today strongly linked institutions in the intergenerational reproduction of American socioeconomic inequality. Our findings thus demonstrate the importance of criminal justice policies to patterns of social exclusion and status attainment in American society. We find that maternal and paternal incarceration impacts the adult socioeconomic mobility of children, with effects now traced into their late twenties and early thirties. This evidence indicates that parental incarceration significantly constrains and compromises intergenerational family mobility.

Parental incarceration thus compromises the educational outcomes of children and their prospects for achieving the socioeconomic success that is central to the American Dream.[85] Further research should examine other adult components of social exclusion in relation to the life course consequences of parental imprisonment. These further aspects of social exclusion more broadly include interpersonal relationships and nonmaterial resources.[86]

The linkage we have found between parental imprisonment and the production of intergenerational socioeconomic inequality raises human rights issues. The 2011 decision of the United States Supreme Court in *Brown v. Plata* reasoned that the health consequences of the overcrowding of the California state prisons constituted violations of constitutional rights protecting citizens from cruel and unusual punishment.[87] We have presented evidence that the massive scale of the imprisonment involved in the California punishment regime and elsewhere in the United States extends beyond violation of political and civil rights of adults to infringe on social and economic rights of children. More specifically, the massiveness of U.S.

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[84] PEW CHARITABLE TRUST, *supra* note 1, at 21.

[85] *See generally* STEVEN F. MESSNER & RICHARD ROSENFELD, CRIME AND THE AMERICAN DREAM (5th ed. 2013) (linking the American Dream to crime in American society).

[86] Silver, *supra* note 21, at 2, 5.

[87] Brown v. Plata, 131 S. Ct. 1910 (2011).

incarceration policies catches in its web large numbers of mothers and fathers and thereby impacts in cruel and unusual ways on many American children—as many as three million U.S. children by recent counts.

The unanticipated benefit of our findings is to identify a point of intervention. Our findings imply that the educational and occupational outcomes of the children of incarcerated parents and in high incarceration schools can benefit from remedial educational interventions. While this research does not identify the best practices that can improve the educational and socioeconomic prospects of the affected children, our findings do direct attention to schools and also emphasize the urgency of research to identify effective forms of remediation for these students and to inform decision makers about such remedies.

Appendix A. Measurement of Variables.

Respondent Social Inequality and Powerlessness Outcome Variables	
Logged Household Income (Wave IV)	Respondents were asked, "Thinking about your income and the income of everyone who lives in your household and contributes to the household budget, what was the total household income before taxes and deductions in (2006/2007/2008)?" Include all sources of income, including non-legal sources. Response scales indicate the midpoint of the income category ranging from $2,500 [less than $5,000] to $150,000 [$150,000 or more]. [This variable is logged in our analyses.]
Logged Personal Earnings (Wave IV)	Respondents were asked, "In (2006/2007/2008) how much income did you receive from personal earnings before taxes, that is wages or salaries, including tips, bonuses, and overtime pay, and income from self-employment?" Responses were recoded to indicate income categories ranging from 0 [no earnings] to $150,000 [$150,000 or more]. This variable was used for respondents still working ten hours or more a week at their first full-time job or those who indicated they are currently working for pay at least ten hours a week. Missing responses were indicated for those who are not working for pay or refused or answered "don't know" regarding personal earnings. [This variable is logged in our analyses.]
Perceived Socioeconomic Status (Wave IV)	Respondents were presented with a symbol of a ladder. They were then asked to "[t]hink of this ladder as representing where people stand in the United States. At the top of the ladder (step 10) are the people who have the most money and education, and the most respected jobs. At the bottom of the ladder (step 1) are the people who have the least money and education, and the least respected jobs or no job. Where would you place yourself on this ladder? Pick the number for the step that shows where you think you stand at this time in your life, relative to other people in the United States."
Powerlessness (Wave IV)	Respondents were asked: "How much do you agree or disagree with the following statements? (1) There is little I can do to change the important things in my life; (2) Other people determine most of what I can and cannot do; (3) There are many things that interfere with what I want to do; (4) I have little control over the things that happen to me; (5) There is really no way I can solve the problems I have." The responses to these statements were reverse coded where strongly agreeing with the statement corresponds to high levels of powerlessness.

School Characteristics	
Biological Father's Imprisonment	A mean indicator was formed at the school level at Wave I to measure the proportion of students whose biological father had ever been imprisoned. This variable was then standardized.
Biological Mother's Imprisonment	A mean indicator was formed at the school level at Wave I to measure the proportion of students whose biological mother had ever been imprisoned. This variable was then standardized.
Total Crime Rate	Wave I contextual data was used to form a school-level indicator of the average county-level total crime rate per 100,000 population in the reporting area for each adolescent. This variable was then standardized.
School Level Household Income	A school-level mean indicator was formed from the adolescent's family household income at Wave I as reported by the parent. This variable was then standardized.
Average Daily School Attendance Level	A school administrator was asked at Wave I: "What is the approximate average daily attendance level in your school?" The response scale was reverse coded to the following values: 75%–79%=(1); 80%–84%=(2); 85%–89%=(3); 90%–94%=(4); 95% or more=(5). This variable was then standardized.
Number of Full-Time Teachers	A school administrator was asked at Wave I: "How many people work as full-time classroom teachers in your school (excluding teacher's aides)?" This variable was then standardized.
Size of School	The size of the school was coded on the school administrator's questionnaire as: small (1–400 students)=(1); Medium (401–1000 students)=(2); Large (1001–4000 students)=(3). This variable was then standardized.
Type of School (1=public)	The type of school was indicated on the school administrator's questionnaire and was coded to a dummy variable as: public=(1) or private=(0). This variable was then standardized.
Urbanicity of School	The location of the school was indicated on the school administrator's questionnaire as: Urban=(1), with suburban or rural constituting the reference category (0). This variable was then standardized.
Proportion African-American	A school-level indicator of the proportion of African-American respondents was formed from respondents' self-reported race and ethnicity.
Adolescent Characteristics	
Biological Father's Imprisonment (Wave IV)	At Wave IV, respondents were asked: "Has your biological father ever served time in jail or prison?" Yes=(1).
Biological Father's Alcoholism (Wave I)	A dummy variable was created where a positive response indicated the child's biological father had alcoholism as indicated in a question posed in the parent questionnaire at Wave I.

Perceived Closeness to Biological Father (Wave I)	This variable combines information from adolescent reports on biological fathers from the nonresident biological father section of the questionnaire and the resident father section. Youth with nonresident biological fathers were asked "How close do you feel to your biological father?" Not close at all=(1), not very close=(2), somewhat close=(3), quite close=(4), extremely close=(5). Information was also used on relations with the father figure if the parent interview indicated the person filling out the parent questionnaire was the child's biological father or that the biological father lived in the household using the item: "How close do you feel to your (father figure)?" Not at all=(1), very little=(2), somewhat=(3), quite a bit=(4), very much=(5). The two questions were combined to take a non-missing response as the indicator of their closeness to their biological father.
Biological Father's College Completion (Wave I)	This variable combines information from adolescent reports at Wave I on biological fathers from the nonresident biological father section of the questionnaire and the resident father section. This measure uses responses to the question "How far in school did your biological father go?" where graduation from college or university to professional training beyond a four-year college or university was coded 1 and less than college education was coded 0. The same response scale was used for a question regarding the education level of the resident father which was used if the person filling out the parent questionnaire was the child's biological father or it was indicated that the biological father lived in the household.
Biological Father Smokes (Wave I)	This variable combines information from adolescent reports on biological fathers from the nonresident biological father section of the questionnaire as well as the resident father section. Adolescents responded to the question on nonresident fathers regarding: "Has your biological father ever smoked cigarettes?" Yes=(1). This measure also uses information on the resident father if the parent interview indicated the person filling out the parent questionnaire was the child's biological father or that the biological father lived in the household from the item: "Has he ever smoked?" Yes=(1). A positive response to either of these two questions indicated the biological father smoked.
Biological Mother's Imprisonment	Respondents were asked at Wave IV: "Has/did your biological mother ever (spent/spend) time in jail or prison?" Yes=(1).
Biological Mother's Alcoholism (Wave I)	A dummy variable was created where a positive response indicated the child's biological mother had alcoholism as indicated in a question posed in the parent questionnaire at Wave I.

Perceived Closeness to Biological Mother (Wave I)	This variable combines information from adolescent reports on biological mothers. It combines information from the nonresident biological mother and the resident mother sections of the questionnaire. Youth with nonresident biological mothers were asked "How close do you feel to your biological mother?" Responses were coded as: not close at all=(1); not very close=(2); somewhat close=(3); quite close=(4); extremely close=(5). Information was also used on relations with the mother figure if the parent interview indicated the person filling out the parent questionnaire was the child's biological mother or that the biological mother lived in the household with the item: "How close do you feel to your (mother figure)?" Responses not at all=(1), very little=(2), somewhat=(3), quite a bit=(4), very much=(5). The two questions were combined to take a non-missing response as the indicator of their closeness to their biological mother.
Biological Mother's College Completion (Wave I)	This variable combines information from adolescent reports at Wave I on biological mothers from the nonresident biological mother section of the questionnaire and the resident mother section. This measure uses responses to the question "How far in school did your biological mother go?" where graduation from a college or university to professional training beyond a four-year college or university was coded 1 and less than a college education was coded 0. The same response scale was used for a question regarding the education level of the resident mother which was used if the person filling out the parent questionnaire was the child's biological mother or it was indicated that the biological mother lived in the household.
Biological Mother Smokes (Wave I)	This variable combines information from adolescent reports on biological mothers from the nonresident biological mother section of questionnaire as well as the resident mother section. Adolescents responded to the question on nonresident mothers regarding: "Has your biological mother ever smoked cigarettes?" Yes=(1). This measure also uses information on the resident mother if the parent interview indicated the person filling out the parent questionnaire was the child's biological mother or that the biological mother lived in the household from the item: "Has she ever smoked?" Yes=(1). A positive response to either of these two questions indicated the biological mother smoked.

Family Household Income	Using parental interview responses to the question "About how much total income, before taxes did your family receive in 1994?", a family household income measure was derived (ranges from $0–$999,000). Due to missing data, imputation analyses were conducted using information on parental welfare receipt, parental age, parental education, family structure, and race/ethnicity.
Two-Biological Parent Family Structure	Adolescent household roster information was used to create a measure of living in a single parent household compared to all other family types.
Hispanic	Adolescent self-reported racial and ethnic identification data at Wave I were used to construct the race/ethnicity dummy variables. Any incidence of Hispanic status was used to first categorize respondents, followed by other group designations. The reference group in analyses is the white non-Hispanic group.
African-American	Respondent self-identification as African-American was used to create a dummy variable.
Asian	Respondent self-identification as Asian was used to create a dummy variable.
Other	Respondent self-identification as Other was used to create a dummy variable.
Age (Wave I)	Age in years.
Gender	1=Female.
Respondent Has College Degree (Wave IV)	Respondents were asked at Wave IV: "What is the highest level of education that you have achieved to date?" Responses were coded as follows: Eighth grade or less=(1); Some high school=(2); High school graduate=(3); Some vocational/technical training (after high school)=(4); Completed vocational/technical training (after high school)=(5); Some college=(6); Completed college (bachelor's degree)=(7); Some graduate school=(8); Completed a master's degree=(9); Some graduate training beyond a master's degree=(10); Completed a doctoral degree=(11); Some postbaccalaureate professional education (e.g., law school, medical school, nursing school)=(12); Completed postbaccalaureate professional education (e.g., law school, medical school, nursing school)=(13). College completion partitioned respondents on the above measure differentiating those with college completion (level 7 or higher) from those with the reference category (levels 1–6).