

International Journal of Psychology and Educational Studies



Incarcerated Mothers and Fathers: How their Absences Disrupt Children's High School Graduation

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ARTICLE INFO

Article History: Received 06.04.2015 Received in revised form 08.04.2015 Accepted 28.05.2015 Available online 01.05.2015

ABSTRACT

The United States is faced with a growing number of children who have incarcerated parents and nearly one quarter of children who fail to complete high school. It has been shown that parental incarceration negatively impacts academic outcomes. This study examined whether parental incarceration affects children's high school graduation. Data on 12,418 young adults was drawn from the Add Health Wave IV dataset. Logistic regression analyses examined differences between maternal and paternal incarceration and the effects of chronicity of incarceration. Whereas both were found to reduce the likelihood that children will complete high school, maternal incarceration had a greater impact. This study fills gaps in the literature examining differences in parental incarceration. Practice and policy implications are discussed.

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Keywords:

high school graduation, parental incarceration, academic outcomes

1. Introduction

The United States has the largest prison population and highest rate of imprisonment (756 per 1000) in the world (Walmsley, 2009). Relatedly, there is a growing number of children with incarcerated parents in the United States (Sentencing Project, 2009). In 2007, 809,800 parents were incarcerated of which 92% were fathers and 8% were mothers (Sentencing Project, 2009). The number of incarcerated fathers and mothers increased by 76% and 122% respectively from 1997 to 2007 (Sentencing Project, 2009). By 2007, over 1.7 million children had an incarcerated parent (U.S. Department of Justice, 2008).

Parental incarceration has come under particular scrutiny because of its negative effects on children's academic outcomes (Dallaire, Ciccone, & Wilson, 2010; Foster & Hagan, 2009; Hagan & Foster, 2012; Trice & Brewster, 2004). For instance, adolescents whose mothers had been incarcerated were more likely to be suspended from school (Hanlon et al., 2005; Trice and Brewster, 2004). Trice and Brewster (2004) also found that adolescents with incarcerated mothers dropped out of school and failed classes at higher rates than their best friends whose mothers were not incarcerated. Although there are studies that have investigated the effects of parental incarceration on children's academic outcomes, there is limited research linking parental incarceration with children's high school graduation.

Great emphasis is placed on the importance of high school graduation in the United States. In the past 20 years, although high school dropout rates have declined steadily to 7.4% of the noninstitutionalized 16-24 year old civilian population in 2010, the United States still ranks only 22nd out of 27 countries in completion of upper secondary education amongst developed nations (OECD, 2012). The U.S. Department of Education (2012) indicated that nearly one quarter of American children fail to complete high school.

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There are several reasons why high school graduation is important. First, high school graduates are significantly more likely to gain employment than high school drop-outs, whose unemployment rate is one third higher than those with a high school diploma (U.S. Department of Labor, 2012). Secondly, the average annual income for high school graduates can be more than 40% higher than for those who do not complete high school (U.S. Department of Education, 2012b). Lastly, students who do not graduate high school are more likely to be overrepresented in state prisons (U.S. Department of Justice, 2003) and become homeless (The National Center on Family Homelessness, n.d.). These negative outcomes make it all more important to understand the barriers to high school graduation for American children.

The increasing number of incarcerated parents and the rapid increase in the rate of maternal incarceration may have significant implications for over 1.7 million children. The educational level of young adults has been shown to have a mediating influence on their socioeconomic attainment. Wickrama, Simons, and Baltimore (2012) found the influences of early socioeconomic adversity were buffered by young adults' educational attainment, which also helped to accentuate the positive influences of family resources.

1.1. Parental Incarceration

Studies on how parental incarceration affects academic indicators, such as grade retention (Cho, 2009a), reading, math, or vocabulary skills (Cho 2009b; Dallaire & Wilson, 2010), school performance (Foster & Hagan, 2009; Hagan & Foster, 2012), extended school absences (Nichols & Loper, 2012), and school exclusion (Phillips et al., 2002; Trice & Brewster, 2004), with a specific emphasis on high school dropout rates (Cho, 2010; Cho, 2011; Dallaire, et al., 2010; Nichols & Loper, 2012; Trice & Brewster, 2004), contributed in understanding how parental incarceration has direct consequences for children's high school graduation. Although many studies on the impact of parental incarceration on academic outcomes made no distinction between the sexes of incarcerated parents (Hagan & Foster, 2012; Murray, Farrington, & Sekol, 2012; Murray et al., 2012b; Phillips et al., 2002), others were informative in determining whether disparities in negative outcomes existed between maternal and paternal incarceration (Cho, 2009a, 2009b; Cho, 2010; Cho, 2011; Dallaire et al., 2010; Dallaire & Wilson, 2010; Tasca, Rodriguez, & Zatz, 2011; Foster & Hagan, 2009; Trice & Brewster, 2004).

The majority of literature examining the association between parental incarceration and high school dropout rates (as opposed to educational outcomes in general) focused on maternal incarceration rather than paternal incarceration. It was found that maternal imprisonment had more detrimental effects on children than paternal imprisonment (Foster & Hagan, 2009) because of the mother's role as primary caregiver before imprisonment (Murray & Farrington, 2008). Mothers were more likely than fathers to have lived with their children before incarceration, and mothers in prison identified the child's grandparents, relatives, or foster home as the current caregiver, whereas fathers in prison identified the child's mothers as the current caregiver (U.S. Department of Justice, 2000).

1.2. School Outcomes

Several studies have examined the effects of parental incarceration on children's school outcomes (Cho, 2009a, 2009b; Dallaire et al., 2010; Dallaire & Wilson, 2010; Foster & Hagan, 2009; Hagan & Foster, 2012; Murray et al., 2012a, 2012b; Nichols & Loper, 2012; Trice & Brewster, 2004; Phillips et al., 2002). Trice and Brewster (2004) showed that 13-20 year olds were four times more likely to fail classes and get suspended and three times more likely to be absent from school if their mother was incarcerated. Foster & Hagan (2009) found that there were long-term negative effects on educational attainment in emerging adulthood if a child's father was incarcerated. Hagan and Foster (2012) demonstrated that both maternal and paternal incarceration had significant effects on children's GPA and college graduation, but the effect of maternal incarceration was greater than paternal incarceration in both instances. There have been few other studies to support Hagan and Foster's findings that having an incarcerated mother has more impact on a child's education than having an incarcerated father, although maternal incarceration has been found to have greater impact in areas that have been associated with poorer educational outcomes, such as familial incarceration, placement in foster or nonfamilial care, and adult child incarceration (Dallaire, 2007).

Dallaire et al. (2010) explained why children of incarcerated parents tend to experience negative school outcomes. They observed an increase in school stigmatization amongst children with incarcerated parents. Teachers believed that maternal incarceration would have a greater effect on school outcomes than paternal incarceration, a potentially stigmatizing attitude that could fulfill its own prophecy. The mere knowledge of parental incarceration provided a disadvantage to children because teachers associated the child's experience of parental incarceration with less competence. The stigmatization effect was more pronounced for children with incarcerated mothers than for children with incarcerated fathers.

Not all research has found an association between parental incarceration and negative school outcomes (Cho 2009a, 2009b; Murray et al., 2012a, 2012b; Nichols & Loper, 2012). For example, it was found that maternal incarceration had no relationship with children's low reading and math standardized test scores (Cho, 2009b), or grade retention (Cho, 2009a). Cho (2009a) posited that children might have a better living environment when they were removed from their mothers and lived with alternative caregivers (mostly grandmothers) who were more involved in children's school activities. Interestingly, Nichols and Loper (2012) found that incarceration of an extended household member had a more significant effect on extended school absences than incarceration of a parent. The authors speculated that families allowing criminally involved extended family members into the household created a chaotic environment.

1.3. Dropout Rates

A factor directly associated with graduating high school is dropout rates. Previous studies have found that the children of incarcerated parents were at greater risk of school dropout than children without incarcerated parents (Cho, 2010; Cho, 2011; Dallaire et al., 2010; Trice & Brewster, 2004). Although both paternal and maternal incarceration was associated with greater risk of school dropout, Dallaire et al. (2010) demonstrated that the risk was greater if the mother was incarcerated. Trice & Brewster (2004) also revealed that adolescents with incarcerated mothers dropped out of school at four times the rate of their best friends whose mothers were not incarcerated. Additionally, Cho (2011) calculated that dropout hazard rates were 20-28% higher amongst youths with currently incarcerated mothers during the year of incapacitation compared to youths whose mothers were not incarcerated. These results indicate that absence of a mother as a result of incarceration is a strong predictor of high school dropout.

In measuring the length of time youth were absent from school, Nichols and Loper (2012) found that parental incarceration was associated with youth dropout-return, defined as an extended period of absence from school followed by return to school. This suggests that high school dropout rates may increase with the chronicity of parental incarceration, resulting in a greater likelihood that the child will fail to complete high school. Interestingly, Cho (2010) found that children displayed better school outcomes as the chronicity of maternal incarceration increased. The author postulated that after four incarcerations, children were more likely to be placed with another caregiver, such as a family member, thereby reducing the impact of maternal incarceration.

1.4. Hypotheses

The goal of this study was to test three hypotheses relating to the association between parental incarceration and high school graduation status.

- 1. Children whose mothers and or fathers have been incarcerated are less likely to complete high school than children whose mothers and or fathers have not been incarcerated.
- 2. In addition to being incarcerated, the chronicity of parental incarceration will decrease the likelihood of the child's high school graduation status.
- 3. Maternal incarceration will have a greater impact on high school graduation status than paternal incarceration.

2. Methods

2.1. Sample

The current study utilized Waves III and IV of the National Longitudinal Study of Adolescent Health (Add Health) private dataset. This research uses data from Add Health, a program project directed by Kathleen Mullan Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris at the University of North Carolina at Chapel Hill, and funded by grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 23 other federal agencies and foundations. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Information on how to obtain the Add Health data files is available on the Add Health website (http://www.cpc.unc.edu/addhealth). No direct support was received from grant P01-HD31921 for this analysis. This research uses data from Add Health, a program project directed by Kathleen Mullan Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris at the University of North Carolina at Chapel Hill, and funded by grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 23 other federal agencies and foundations. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Information on how to obtain the Add Health data files is available on the Add Health website (http://www.cpc.unc.edu/addhealth). No direct support was received from grant P01-HD31921 for this analysis.

Add Health is a nationally representative school-based study of health related behaviors of adolescents and their outcomes in young adulthood. Add Health's Wave I nationally representative sample consisted of adolescents from 7th to 12th grade. Eighty high schools were selected and categorized by size, grade span (K-12, 7-12, 9-12, 10-12 and other), school type (public, other private, and Catholic), level of urbanization (urban, suburban and rural), census region (Northeast, South, Midwest, and West), and percentage of white. In Wave I, 20,745 adolescents completed in-home interviews. In 2001-2002, when Wave III was collected with 15,170 Wave I respondents, who were now between the 18 and 26 years old. At Wave III, the Add Health sample was dispersed across the nation with respondents living in all 50 states. Wave IV was conducted between 2008-2009 and respondents were between 24 and 32 years old. Over 90% of the Wave IV sample was located and 80.3% of eligible sample members were interviewed. Survey data was collected using a 90minute CAPI/CASI instrument. Less sensitive questionnaire sections were administered with the assistance of an interviewer (computer-assisted personal interview, or CAPI). More sensitive questionnaire sections were self-administered using CASI technology (computer-assisted self interview). More detailed information about the sample and procedures can be found the Add Health website http://www.cpc.unc.edu/projects/addhealth/design. The sample size for this study consisted of all eligible Wave IV participants (N = 15,412).

2.2. Measures

- **2.2.1. High school graduation status (Wave IV).** Respondents selected from four different options to determine their educational status: (a) finished school with a high school diploma; (b) earned a high school equivalency degree (GED); (c) earned a certificate of attendance or a certificate of completion; and, (d) did not receive a high school diploma, equivalency degree (GED), or other certificate. High school graduation status was created by dichotomizing the options so that 1 = high school graduate and 0 = no high school diploma (all other answer choices).
- **2.2.2. Maternal and paternal incarceration.** Respondents were asked to indicate if their biological mother or biological father had ever spent time in jail or prison by selecting yes or no.
- **2.2.3. Number of times incarcerated-maternal/paternal.** Respondents were asked about the number of times their biological mother/father was incarcerated. This ranged from 0-20 for mothers and 0-53 for fathers.

2.3. Covariates

2.3.1. Parental education (Wave 1). Parental education was created as a dichotomous variable that measured whether the respondents' mother or father graduated from high school. Parent was the biological parent

unless the respondents did not know anything about their biological mother or father; in those cases, respondents answered about their resident mother or father. The following answer choices were coded as 0 (no high school diploma): "eighth grade or less," "more than eighth grade, but did not graduate from high school," "went to business, trade, or vocational school instead of high school," completed a GED," and "S/he never went to school." The following answer choices were coded as 1 (high school diploma): "high school graduate," "went to business, trade, or vocational school after high school," "went to college, but did not graduate," "graduated from a college or university," and "professional training beyond a four-year college or university."

Race and ethnicity was assessed by six dummy variables, including White (reference category), Hispanic, African American, Asian, Native American, and Other. Gender was code as 1 = male and 2 = female.

3. Data Analysis

In order to test our hypotheses, two logistic regression analyses were performed. The first model looked at mother and father incarceration to test H1, which proposed that individuals whose mother and or father were incarcerated were less likely to get a high school diploma compared to those whose parents were not incarcerated. To test H₂, Model 2 looked at the chronicity of incarceration for mother and father.

4. Results

4.1. Descriptive Statistics

Descriptive statistics are provided in Table 1. More than half of the participants were women (53.2%). The average age was 29.1. Regarding race and ethnicity, the majority were White (67.2%), followed by Black (23%) and then Hispanic (16.3%). Asian Americans (7.1%) and Native Americans (5.5%) were the smallest represented groups. The vast majority of participants graduated from high school (84.8%). Regarding parental incarceration, 82.6% had neither parent incarcerated, 13.8% had a father incarcerated, 2.0% had a mother incarcerated, and 1.7% had both parents incarcerated.

Table 1. Description of Sample

Variable	N=15,701		
	%		
Female	53.2		
Male	46.8		
Age	Years		
Mean	29.104		
SD	1.747		
Range	25.0 - 34.0		
Race ¹	%		
Hispanic	16.3		
White	67.2		
Black or African American	23.0		
American Indian or Native American	5.5		
Asian	7.1		
High School Graduation Status	%		
Graduate	84.8		
Non-graduate	15.2		
Parental Incarceration Status	%		
Neither parent incarcerated	82.6		
Mother incarcerated	2.0		
Father incarcerated	13.8		
Both parents incarcerated	1.7		

¹ Percentages add up to more than 100% because participants were able to select more than one race.

The results in Table 2 show that fathers were incarcerated (m = 2.70, sd = 4.07) more often than mothers (m = 2.28, sd = 2.53). Children of incarcerated mothers were older at the time of incarceration (m = 13.06, sd = 7.74) and at the time of last release (m = 16.95, sd = 7.59) than children of incarcerated fathers (m = 9.47, sd = 7.65 and m = 14.52, sd = 8.69). The effect of children's age at time of parental incarceration and or release was not significantly related to high school graduation status.

Table 2. Descriptive Statistics

	High School Diploma		No High School Diploma				
	M	SD	М	SD	df	t	
No. times parent incarcerated							
Mother	2.24	2.40	2.35	2.74	544	.45	652
Father	2.55	3.90	3.11	4.49	1765	2.60	010
Child's age when parent first incarcerated							
Mother	13.03	7.59	13.12	8.02	538	.14	893
Father	9.64	7.76	9.03	7.33	1611	-1.43	.153
Child's age when parent last released							
Mother	17.03	7.58	16.80	7.64	532	335	738
Father	14.46	8.75	14.66	8.52	1579	.356	684

4.2. Logistic Regression Models

Logistic regression models were conducted to predict whether individuals would receive a high school diploma using parental incarceration, chronicity of parental incarcerations, parental education, gender, and race as predictors. Table 3 presents the logistic regression coefficients. Model 1 shows both maternal and paternal incarceration significantly decreased (55.8% and 53.1% respectively) the likelihood that the respondent would get a high school diploma. The covariates all were significant predictors. Maternal and paternal high school graduation statuses were both significant predictors. Individuals whose mothers had a high school diploma were 106% more likely to have a high school diploma and those whose fathers had a high school diploma were 94.5% more likely. With respect to race, non-Hispanic Whites were the reference group. There was a 79.5% decrease in odds that Hispanics would get a high school diploma. Asians were 65.2% more likely and those who marked Other were 49% more likely than Whites to get a high school diploma. Finally, women were 47.6% more likely to get a high school diploma than men.

Table 3. Logistic Regressions

	Model 1			Model 2			
	В	SE	Exp (B)	В	SE	Exp (B)	
Mother in prison	816***	.199	.442				
Father in prison	756***	.066	.469				
Chronicity of prison-				183***	.045	.833	
Chronicity of prison-dad				085***	.015	.919	
Mom education	.722***	.067	2.058	.797***	.069	2.220	
Dad education	.665***	.067	1.945	.683***	.069	1.979	
Race							
White	R			R			
Hispanic	-1.586*	.781	.205	-1.589*	.786	.204	
African American	042	.071	.959	083	.073	.929	
Asian American	.502***	.143	1.652	.545***	.143	1.725	
Native American	137	.204	.872	192	.212	.825	
Other	.399***	.106	1.490	.441***	.109	1.554	
Gender	.389***	.055	1.476	.396***	.056	1.486	
-2 log likelihood	9145.570			8787.145			
Chi-square	693.946			542.064			
Nagelkerke R ²	.098			.081			

^{*}p<0.05 **p<0.01 ***p<0.001

Model 2 shows that chronicity of prison for mother and father decreases the likelihood of high school graduation. Every time a mother was incarcerated, individuals were 16.7% less likely to get a high school diploma. Every time a father was incarcerated, individuals were 8.1% less likely to get a high school diploma. Similar to Model 1, the covariates all were significant predictors. Individuals whose mothers had a high school diploma were 122% more likely to have a high school diploma and those whose fathers had a high school diploma were 97.9% more likely. With respect to race, non-Hispanic Whites were the reference group. There was a 79.6% decrease in odds that Hispanics would get a high school diploma. Asians were 72.5% more likely and those who marked "Other" were 55.4% more likely than Whites to get a high school diploma. Finally, women were 48.6% more likely to get a high school diploma than men.

5. Discussion

Using Add Health data, this study hypothesized that children whose mother and or father were incarcerated were less likely to obtain a high school diploma compared to those who did not have an incarcerated parent. The second hypothesis stated as the chronicity of parental incarcerations increased, individuals were less likely to get a high school diploma. Finally, the third hypothesis was that maternal incarceration had a greater impact on high school graduation status than paternal incarceration. This study's findings supported all three hypotheses.

Many factors influence a child's potential for academic success, but this study mainly focused on incarceration of a parent. The results indicate that the likelihood a child will fail to graduate from high

school increases with each parental incarceration. The study's findings are consistent with the literature showing that maternal incarceration increased dropout rates (Cho, 2010; 2011; Dallaire et al., 2010; Nichols & Loper, 2012; Trice & Brewster, 2004), dropout hazard rates (Cho, 2011), and grade retention (Cho, 2009a). Consistent with Dallaire et al.'s study (2010), children with incarcerated fathers were also found to be at high risk of high school dropout. The impact of paternal incarceration was likely to accumulate over time if the father was incarcerated more than once, as this study found.

An analysis of the data also revealed that incarceration of mothers (both one time incarceration and chronicity) had a greater impact on high school graduation status than the incarceration of fathers. Davies et al. (2008) reported that disruption to a child caused by maternal incarceration was greater than disruption caused by paternal incarceration. Although there are few studies that compare the effects of maternal and paternal incarceration on educational outcomes, there is evidence indicating that maternal incarceration is more likely than paternal incarceration to result in familial incarceration, placement in foster or nonfamilial care, and adult child incarceration (Dallaire, 2007), which are areas that are also predictive of poorer educational achievement (U.S. Department of Justice, 2003; Nichols & Loper, 2012; McMillen & Tucker, 1999).

The larger effect of maternal incarceration on graduation status may also be explained by examining the children's living arrangements prior to incarceration. Mothers were found to be more likely than fathers to play a greater role in their children's care and be primary caregivers prior to incarceration (Davies et al., 2008). Children might be more likely to experience greater distress when their mothers are absent; therefore, it is possible that children will experience an immediate and severe impact that may affect their ability to complete high school. It was found that children of incarcerated fathers were much more likely to be living in a stable environment, suggesting less disruption when the father is incarcerated (Davies et al., 2008).

6. Implications for Policy and Practice

The results of this study suggest a number of practice implications in a variety of settings, including education and child welfare. Educators and practitioners who identify children as having an incarcerated parent should treat their status as a risk factor requiring interventions. Given the cumulative effect of multiple parental incarcerations, these interventions should be maintained until a child has graduated, regardless of the parent's current incarceration status. More immediate and intensive interventions to address the impact of maternal incarceration should also be considered. Incarceration of a parent may be symptomatic of other problems within the household, including parental substance abuse and child maltreatment.

Similarly, child welfare practitioners should consider parents' incarceration status when providing services to families who are involved in the child welfare system. States not currently providing educational services as part of independent living programs should take this into consideration. Those states, where educational services are provided as part of independent living programs, should consider lowering the age at which these services begin for children with incarcerated parents, given the cumulative effects on children of parental incarceration.

Finally, it is important to note that one of the largest predictors of child's high school graduation status is the mother's and or father's high school graduation status, even after controlling for parental incarceration and chronicity of incarceration. It was found that not only did education reduce the risk of incarceration for the children of prisoners, but it also decreased the risk of imprisonment for the individual (Lochner & Moretti, 2003). Therefore, the benefits of education appear to have both short-term and long-term effects. This has policy implications when considering the funding of education compared to corrections systems.

7. Implications for Future Research

This study emphasizes the need for further research to be conducted to examine the effects of parental incarceration on high school completion. Further research should focus on whether the child was living with the incarcerated parent at the time of incarceration, and whether the child moved in with the nonincarcerated parent at the time of incarceration, in order to explore further the role of parental absence as a factor in the effects of parental incarceration.

This study differed from other studies that focused on high school dropout rates by examining high school graduation. Further research should examine whether there are different effects on dropout rates and completion rates, particularly considering the long-term, cumulative effects of parental incarceration found in this study. The impact of dropout on high school completion amongst children of incarcerated parents would also be a valuable addition to the literature.

Finally, this study differed from other studies by examining varying effects of maternal and paternal incarceration on educational outcomes. As mentioned earlier, there is a dearth of literature looking at differential impacts of maternal and paternal incarceration, specifically on educational outcomes. Future research should continue to explore the unique impact of maternal and paternal incarceration and the different effects it may have on the sex of the child.

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