



Parental Incarceration, Children's School Readiness, and Intervention Needs

Background

The start of formal schooling represents a major life transition in early childhood. Children must adapt to a new environment, establish relationships with authority figures and peers, and conform to a new set of expectations. A child's readiness for this transition is critical, as it has important and long-lasting consequences. Children's experiences at the start of school serve as a foundation for future academic progress and, importantly, launch children into trajectories of achievement. Because of the cumulative nature of the school curriculum, children who do not perform well in early grades often fail to recover in later grades. Furthermore, school records of academic and behavioral problems follow children across grades and schools, influencing teachers' beliefs and expectations which, in turn, affect children's future success.

A parent's incarceration may compromise a child's readiness for school. In infancy and early childhood, forced parent-child separation is associated with emotional responses such as sadness, confusion, and anger, and behavioral responses ranging from anxiety and withdrawal to aggression and hostility. Incarceration may also increase parental conflict, strain relationships, and adversely affect the stress levels and parenting capacity of remaining caregivers. A father's incarceration can also decrease household resources, both before and after his release, and resulting hardship or instability may harm children's development. Alternatively, paternal incarceration has the potential to improve child wellbeing by removing a destabilizing influence from their lives, serving as a "turning point", where men resolve to redirect their lives upon release, or deterring either fathers or their children from later offending and imprisonment.

Unfortunately, little is known empirically about the implications of parental incarceration for children. This policy brief summarizes research examining the effects

of paternal incarceration on several measures of children's school readiness, identifies circumstances that increase or mitigate children's risk, and identifies family processes that mediate incarceration's effects, presenting opportunities for policy and service intervention.

Data and Methods

The analysis uses data from the Fragile Families and Child Wellbeing Study, and focuses on five measures of school readiness: one measure of *cognitive development* (using the Peabody Picture Vocabulary Test) and four measures of behavior problems (from the Child Behavioral Checklist) – *externalizing*, *internalizing*, *attention*, and *social problems*. Externalizing behaviors include acting-out and rule-breaking behaviors, while internalizing measures signs of anxiety and withdrawal. Attention problems include impulsivity and daydreaming, and social problems include jealousy and an inability to get along with other children.

Each outcome is examined in a series of regression models, each adding controls to isolate the effects of incarceration from the effects of family structure, socioeconomic status, or other characteristics associated with men's incarceration and child development.¹ The most stringent tests for causality examine the effects of incarceration between the child's third and fifth years, controlling for fathers' incarceration before the third year, and child development at age 3. These models are designed to ensure that observed differences at age five are due to incarceration, rather than unobserved differences between families. The researchers test the robustness of their findings against alternative modeling strategies and comparison groups.

Incarceration Effect: Regression Estimates

Table 1 presents the estimated effects of incarceration on the five measures of school readiness. Each number

¹ The complete list of controls includes: Mother's race/ethnicity; parents' relationship and employment status at the time of the child's birth; indicators for each parent's impulsivity, cognitive ability, substance use (drugs, problem drinking, mother smoking while pregnant), being foreign born, living with their own parents at age 15, and families' history of mental health problems; maternal poverty, health, age, and education at the time of the child's birth; father's wages and whether he is of a different race/ethnicity, 5 years older, and more educated than the mother; whether the child was firstborn or low birth weight; and domestic violence.

represents the percent change in school readiness resulting from a father's incarceration. Asterisks indicate that the chance of observing these differences by chance if the true difference were zero is less than 5% (one asterisk) or 1% (two asterisks). No asterisks indicate more than a 5% chance that no real effect exists. The first row presents results for all children. Father's incarceration has virtually no effect on cognitive development, internalizing or social problems, but increases externalizing behavior by 20% and attention problems by 22%.

that for boys (18 vs. 25%). Further, the estimated effects of incarceration on externalizing behavior are as strong and significant for both boys and girls, suggesting that a focus only on sons would be mistaken.

Rows 4 and 5 indicate that the effects of fathers' incarceration on children's externalizing and attention problems are respectively 1.4 and 2.3 times as large for children living with their fathers before incarceration as for children living elsewhere. However, incarceration also increases

Table 1: Estimated Effects of Paternal Incarceration on Five Measures of Children's School Readiness

Outcome	Cognitive Development	Externalizing Problems	Internalizing Problems	Attention Problems	Social Problems
FULL SAMPLE	+1%	+20%**	0%	+22%**	+2%
SUBSAMPLES					
Boys	+1%	+21%**	+2%	+25%*	-1%
Girls	+1%	+17%**	-1%	+18%	+7%
Father Resident at Y3	-1%	+23%*	+3%	+35%*	+11%
Father Nonresident at Y3	+1%	+16%**	-1%	+15%	-3%
Domestic Violence	+1%	+11%	-14%	+4%	-4%
No Domestic Violence	+0%	+23%**	+3%	+26%**	+5%

Numbers represent the average percent change in scores associated with fathers' incarceration.

The estimated effects of fathers' incarceration on children's school readiness are, with one exception, quite robust.² The effects of incarceration on children's anxiety and depression are mixed: while fathers' first incarceration elevates their children's anxiety and depression levels, subsequent incarcerations are shown to reduce them.

Finally, all of the increases in externalizing and attention problems displayed in table 1 are found upon further analysis to be larger and more statistically significant than the effects of other father absence.

High- and Low-Risk Populations

Are all children affected equally by incarceration? The second and third rows of table 1 report differences by child gender. Although the significant effects of incarceration on attention problems are limited to boys, the estimated magnitude of the effect for girls is only slightly less than

externalizing behaviors of children of non-resident fathers, suggesting that the effects of incarceration are driven by instabilities beyond parent-child separation, and that children of incarcerated fathers require support regardless of their pre-incarceration living arrangements.

The last two rows of table 1 indicate that the damaging effects of incarceration are limited to families not reporting domestic violence. The absence of significant challenges associated with the incarceration of abusive fathers and the large though statistically insignificant effect on internalizing suggest that incarcerating these men might have some protective effects. In fact, further examination of internalizing behavior (not shown), indicates that the incarceration of violent fathers reduces children's withdrawn behavior. These findings underscore the importance of identifying violence among families of incarcerated men, and delivering services targeted to the abuse that they have faced.

²The results reported in table 1 are from models that control for the family characteristics listed in footnote 1, parents' incarceration trajectories, and child development at age three. Propensity score analyses suggest a similar pattern of effects, placebo tests suggest that the observed relationships are not due to selection, and fixed-effects models suggest a significant effect of incarceration on child aggression, but no effect on attention problems. Details are provided in Geller et al. ("Beyond Absenteeism: Father Incarceration and its Effects on Children's Development", Under Review).

Family Processes

To further target policies toward families facing incarceration, the researchers examine a number of family processes likely to both be affected by paternal incarceration, and help shape children's school readiness. Incarceration is estimated to reduce family income by 12%, and increase material hardship by 18%, parenting stress by 6%, and maternal depression by nearly 25% (though the last increase is only marginally significant). Though none of these mediators affect cognitive development, each is associated with diminished behavioral readiness for school. The effects of maternal depression and hardship are particularly large and significant. Children whose mothers experience maternal depression score 12% higher on the externalizing behavior scale, 25% higher on the scale of attention problems, and 21% higher on the scale of social problems. Similarly, mothers who experience material hardship score 12% higher on the externalizing behavior scale, 16% higher on the internalizing scale, 19% higher on the scale of attention problems, and 13% higher on the scale of social problems.

These results suggest that the event of a father's incarceration not only identifies families with unmet needs, but exacerbates pre-existing hardships. To address these issues, mental health services for women whose partners become incarcerated may help mothers to cope with parenting stresses and enable more productive parenting. Similarly, additional cash and in kind support is needed to address the material hardships faced by families with incarcerated fathers.

Alleviating Direct Effects of Incarceration

Finally, the researchers measured the direct effect of fathers' incarceration on school readiness after taking account of the indirect effects operating through family income, material hardship, maternal parenting stress, and depression. These mediators have little effect on the estimated relationships between father incarceration and children's school readiness. The direct effects on externalizing and attention problems remain large and significant, increasing these challenges by 19% and 17%. These remaining relationships suggest that a substantial portion of incarceration's effect on children is either mediated by unobserved processes such as visitation circumstances or mothers' parenting behaviors, or, more likely, directly elevates children's anger and behavior problems regardless of family circumstances.

As noted earlier, the robustness of incarceration's effects on externalizing behavior and attention problems to several estimation strategies suggest that the effects of incarceration on child behavior are causal, rather than driven by genetics or other unobserved heterogeneity. Moreover, the robustness of incarceration effects to the potential mediators discussed, as well as several other observed family processes³, suggest that the effects of incarceration on children's externalizing and attention problems are largely direct effects. As a result, these may be addressable only by diverting nonviolent offenders to alternative sentences, or by dealing directly with children's school readiness through age-appropriate counseling, and in-school remediation to help overcome attention problems.

³ Other examined processes include maternal employment and children's time in non-parental care, conflict in the parental relationship, parents' relationship status, residential stability, and the presence of a grandmother or social father in the household. Mediated incarceration coefficients are substantively similar with these processes included.

RECENT WORKING PAPERS

The following comprises a list of the most recent Working Papers authored by the Center for Research on Child Wellbeing (CRCW) faculty and research associates. A complete list of Working Papers is also available for viewing and downloading on the CRCW web site: <http://crcw.princeton.edu/publications/publications.asp>

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Inside...

This research brief uses data from the Fragile Families and Child Wellbeing Study to examine the effects of paternal incarceration on children's school readiness.

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