

## Regular Article

# The intergenerational effects of paternal incarceration on children's social and psychological well-being from early childhood to adolescence

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### Abstract

The present study sought to unravel the psychological processes through which mass incarceration, specifically paternal incarceration, is negatively affecting the next generation of children. Data came from 4,327 families from 20 cities who participated in a 10-year longitudinal study. Parents and children reported on children's rule-breaking behaviors and depressive symptoms when they were on average ages 5 (2003–2006), 9 (2007–2010), and 15 (2014–2017). Parental surveys and disposition information were combined to assess paternal incarceration at each age. Results showed that children who experienced paternal incarceration at age 5 also demonstrated more rule-breaking behaviors at age 15. Children's age-9 depressive symptoms partially mediated our finding, such that children who experienced paternal incarceration at age 5 also showed greater depressive symptoms at age 9, which in turn predicted greater rule-breaking behaviors at age 15. Paternal incarceration predicted future rule-breaking behaviors more strongly than did other forms of father loss. Because we found paternal incarceration during childhood is associated with worsened adjustment into adolescence, we discussed the need for developmentally appropriate practices in the criminal justice system.

**Keywords:** intergenerational consequences; mental health; paternal incarceration; rule-breaking behavior

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### Introduction

Mass incarceration threatens the next generation of America's children. More than half of the people incarcerated in the United States are parents (Pew Charitable Trusts, 2010), and 91% of them are male (Loesche, 2017). As such, millions of children experience father loss due to the criminal justice system (i.e., father or paternal incarceration). Children with incarcerated fathers experience the trauma of father loss (Arditti, 2016), economic instability (Geller et al., 2011), and disruption in family structure (Turney & Wildeman, 2013). Because paternal incarceration reduces the interpersonal and conventional resources necessary for children's socioemotional well-being, children growing up with incarcerated fathers tend to exhibit psychological (Gifford et al., 2019; Jackson et al., 2021), physical (Del Toro et al., 2021; Lee et al., 2013), behavioral (Boch et al., 2019; Murray, Farrington, et al., 2012; Ruhland et al., 2020), and academic maladjustment (Haskins, 2017; Jacobsen, 2019; Testa & Jackson, 2021).

The negative consequences of paternal incarceration are unequivocal, but the psychological and developmental underpinnings of these consequences warrant attention, specifically relating to *how* and *when* paternal incarceration undermines children's development. To that end, we examine whether paternal

incarceration is longitudinally linked to children's engagement in rule-breaking behaviors. To understand mechanisms motivating this link and build on the existing literature, we test (a) whether children's depressive symptoms mediate the link between paternal incarceration and their rule-breaking behaviors, (b) whether our findings are specific to paternal incarceration relative to other forms of father loss, and (c) whether the associated consequences of paternal incarceration are stable across childhood and adolescence.

### *Paternal incarceration and children's rule-breaking behaviors*

Paternal incarceration is part of a constellation of social and economic stressors that result from and perpetuate social inequalities (Pearlin, 1989, 2010). The criminal justice system represents a slice of a larger system disadvantaging ethnic-racial minority and low-income families. For instance, residential segregation has funneled families of color into low-income neighborhoods and White families into economically affluent ones (Massey & Denton, 1989, 1993). Due to the interaction between ethnicity-race and socioeconomic status in neighborhoods, ethnic-racial minority men who are taken into custody are less able to pay bail and more likely to be incarcerated as pretrial detainees (National Research Council, 2014; Pew Charitable Trusts, 2010). These inequities outside of the criminal justice system compound ethnic-racial biases within the system as young individuals of color are more likely to receive more severe sentences than their White peers for similar level infractions (National Research Council, 2014; Rattan et al., 2012).

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Above and beyond preexisting adversities, paternal incarceration presents novel adversities that strain the family (Lee & Wildeman, 2021; Turney, 2014b). For instance, fathers with a history of incarceration are unlikely to find employment and receive employment- and family-related benefits (i.e., health insurance; Laub, 2014; Turney, 2017), limiting mothers' views toward their partners as marriageable men who can provide financial support to the family and increasing couples' likelihood of divorce or separation (Geller, 2013; Widdowson et al., 2020). As mothers contend with decreased romantic relationship quality and the challenges associated with a single mother status (Del Toro et al., 2021; Wildeman et al., 2012), children of incarcerated fathers are more likely to stay low-income over time (Pew Charitable Trusts, 2010), live in a single-parent household (Geller et al., 2012), and experience neglectful or harsh parenting (Turney, 2014a).

To no surprise, scholars have found that paternal incarceration and its related events predict increases in children's rule-breaking behaviors (Jones & Pierce, 2020; Wildeman, 2020). For instance, young children who experienced paternal incarceration also reported greater engagement in rule-breaking behaviors concurrently (Jackson et al., 2021; Wakefield & Wildeman, 2011) and into adulthood (McCauley, 2020). Many scholars have used the Fragile Families and Child Wellbeing (FFCW) Study to document the criminogenic consequences of paternal incarceration among children (Turney & Haskins, 2019; Wildeman, 2020). Scholars using these data have found that paternal incarceration experienced between birth and childhood predicted children's rule-breaking behaviors cross-sectionally and later in childhood (Dwyer Emory, 2018; Haskins, 2015; Wakefield & Wildeman, 2011). Overall, one can conclude that there are mechanisms linking paternal incarceration and children's rule-breaking behaviors (Pearlin, 2010), but researchers need to disentangle the boundaries of when these links emerge.

### *The mediating role of children's depressive symptoms*

When paternal incarceration occurs, children may turn to rule-breaking behaviors to cope with their negative affect linked to father loss. In his General Strain Theory, Agnew (2013) suggests that individuals engage in rule-breaking behaviors when they (1) dislike their unjust and involuntary conditions, (2) develop negative emotions following self-appraisal of these conditions, and (3) consider rule-breaking as an outlet to reduce stress. This framework outlines how children may respond when they are hurt and stressed due to a parent's absence. Indeed, in response to paternal incarceration, children show greater emotional distress (Poehlmann, 2005; Wakefield & Wildeman, 2011) and higher cumulative stress hormone concentration and blunted cortisol reactivity (Muentner et al., 2021). Individuals experiencing an event that causes pain and stress have a proclivity to lash out at others in response (Berkowitz, 1989; Del Toro et al., 2019; Dollard, 1939). Children's sadness arising from paternal incarceration may lead to aggression and other forms of reactive rule-breaking behaviors as a means of maladaptive coping (Porter & King, 2015), but no study has formally tested whether these negative psychological processes shape children's rule-breaking behaviors following paternal incarceration. Our assessment of children's depressive symptoms as a mediator may inform interventions working to avert lifelong deficits in well-being, because paternal imprisonment during childhood has predicted greater physical health issues and psychiatric disorders in adulthood (Gifford et al., 2019).

### *Paternal incarceration versus other forms of father loss*

The associations between paternal incarceration and children's maladjustment may be distinct from other forms of father loss (i.e., separation, divorce, and death). Paternal incarceration carries stigma and uncertainty, as the duration of imprisonment and the rehabilitation process are often unclear. This stigma and uncertainty stress families' emotional and financial stability (Arditti, 2016). In child-aged samples, participants who experienced paternal incarceration during their lifetimes exhibited more rule-breaking than peers who experienced none and other paternal losses (i.e., hospitalization/death, separation, or incarceration prior to their birth; Murray, Loeber, et al., 2012; Murray & Farrington, 2005). However, these studies comparing the consequences associated with various forms of father loss have relied on small sample sizes and on particular social groups (i.e., boys in London, Murray & Farrington, 2005; boys in an urban mid-Atlantic city, Murray, Loeber, et al., 2012), limiting their abilities to reliably make such comparisons and their generalizability. To address these limitations, we utilize the strengths of the FFCW study as it includes a large sample of children from families who have experienced different forms of parental separation, providing us with enough power to make reliable comparisons. In addition, these children were recruited from 20 urban cities across the United States, enabling us to compare the effects of different forms of father loss among a larger and more representative sample of inner-city children.

### *Developmental considerations*

Extant stress frameworks suggest competing hypotheses regarding the impact of adverse experiences across childhood and adolescence. For instance, a biological embedding model espouses that early childhood is a sensitive period for stress internalization as stress early in life is hypothesized to calibrate physiological stress management processes and how they function over the lifespan (Lupien et al., 2009). On the other hand, social and cognitive processes may be more volatile for adolescents, as adolescents have more autonomy to venture out into the world with less parental supervision, engage in more sensation-seeking and risk-taking behaviors (Steinberg, 2008), and have a greater awareness of unjust practices in the criminal justice system (Fagan & Tyler, 2005). When paternal incarceration occurs, adolescents may more likely than children to recognize unjust judicial practices and have more autonomy to engage in risky behaviors as a form of maladaptive coping.

Scholars have found empirical support for both stress models. For instance, some studies provide evidence for a biological embedding framework when paternal incarceration predicts harmful adjustment during early childhood but not during middle childhood or adolescence (Jones & Pierce, 2020; Kalu et al., 2020; Turney, 2021). Other studies have found the effects of paternal incarceration proliferated across developmental periods, as paternal incarceration predicted poor adjustment in samples of both children (Geller et al., 2012; Murray, Farrington, et al., 2012; Wildeman, 2010) and adolescents (Boch et al., 2019; Kjellstrand et al., 2018; Ruhland et al., 2020). These contradictory findings may be fueled by the fact that existing studies differ from each other in critical ways, including sample characteristics (e.g., adolescent girls; Kalu et al., 2020), analytic approaches (e.g., inverse probability of treatment weighting; Turney, 2021), and study designs (e.g., cross-sectional; Boch et al., 2019). Thus, substantial work is required to further understand the pattern of extant findings.

## The present study

The present study leveraged a large and longitudinal cohort study of urban American families and examined the longitudinal relations between paternal incarceration and their children's engagement in rule-breaking behaviors during childhood and adolescence. Using three waves of data, we posed four research questions: (1) Did children who experienced paternal incarceration at ages 5 and 9 also, respectively, show greater rule-breaking behaviors at ages 9 and 15? (2) Did children's depressive symptomatology at age 9 mediate the longitudinal link between paternal incarceration at age 5 and children's rule-breaking behaviors at age 15? (3) Did other forms of father loss similarly predict children's rule-breaking behaviors over time as did paternal incarceration? (4) Did the effects of paternal incarceration on children's engagement in rule-breaking behaviors vary across childhood and adolescence? In addition to our core research questions, we tested the direction of effects in our hypotheses and explored possible social group differences in our sample. Namely, we tested whether children's adjustment predicted paternal incarceration longitudinally and whether children's gender and ethnicity-race moderated our results.

## Methods

### Participants

Our sample included 4,327 families who participated in the FFCW study, a longitudinal, cohort study of children hailing from primarily low-income and unmarried parents from 20 large urban cities (Reichman et al., 2001). Participants were selected as part of the analytic sample if they had participated in at least one wave during the ages-5, -9, and -15 assessments (see details in the supplemental digital content, SDC).

Table 1 presents demographic characteristics for the analytic sample. The sample was predominantly families of color as White families made up 16% of the sample, and many of these families were low-income as the average for maternal education suggests that mothers unlikely had a bachelor's degree (i.e., a proxy for socioeconomic status; American Psychological Association, 2006). For the full sample, families on average lived in ethnically-racially diverse neighborhoods; however, subethnic-racial group differences revealed that families lived in ethnically-racially stratified neighborhoods. That is, families lived in neighborhoods where most residents shared their ethnic-racial identification. These neighborhoods were also socioeconomically stratified as more adults in White families' neighborhoods had bachelor's degrees than did adults in non-White families' neighborhoods. The rate of paternal separation/divorce was observably low (i.e., 20%); however, this rate is expectedly low as many families were unmarried at baseline. Overall, the demographic information represents the FFCW study's principal investigators' mission to target socially disadvantaged families.

### Procedure

The FFCW study is a deidentified, publicly available data set that randomly sampled approximately 5,000 births from 75 hospitals in 20 large US cities between 1998 and 2000. Mothers and fathers were interviewed soon after the birth of the focal child, and follow-up interviews were conducted when children were approximately ages 1, 3, 5, 9, and 15. We focused on the last three waves, when key constructs were available. No ethics approval was sought, as the University of Pittsburgh's Institutional Review Board does not

require review for the analysis of deidentified, publicly available data [exempt Criteria 45 CFR 46.104 (d) (4)].

## Measures

### Paternal incarceration

Parents' surveys and survey contractors' disposition information were combined to assess paternal incarceration (Haskins, 2014; McLeod et al., 2019). The age-5 assessment represented whether fathers were ever incarcerated, whereas ages-9 and-15 assessments indicated whether fathers were incarcerated at the time of the survey (0 = no, 1 = yes).

### Children's rule-breaking behaviors

Primary caregivers completed the nine-item *Rule-Breaking Behaviors* subscale of the *Child Behavior Checklist* (CBCL/4-18; e.g., "child steals outside the home"; Achenbach & Rescorla, 2001) at ages 5, 9, and 15. Child-reported engagement in rule-breaking behaviors was measured using modified rule-breaking scales from the National Longitudinal Survey of Youth and the National Longitudinal Survey of Adolescent Health (Maumary-Gremaud, 2000) at ages 9 (17-item) and 15 (13-item). The SDC contains a list of items and detailed information about how each item was a binary indicator of whether the child had engaged in each specific behavior (0 = never, 1 = ever); thereafter, each reporter's measure was summed to generate continuous count scores at each wave. We used multigroup CFAs to assess whether parent- and child-surveys consistently measured children's rule-breaking behaviors at ages 9 and 15. Results suggested that we met the criteria for metric invariance across time,  $\chi^2(2) = 32.51$ ,  $p < .001$ , RMSEA = 0.07, 90% CI [0.05, 0.09], CFI = 0.96, SRMR = 0.03; therefore, we assessed children's engagement in rule-breaking behaviors as observed count scores using only parent-reported data at age 5 while combining parent- and child-reports at ages 9 and 15. Higher scores on rule-breaking behaviors suggested that children engaged in more types of rule-breaking behaviors.

### Children's depressive symptoms

Primary caregivers completed the *Internalizing Symptoms* subscale (e.g., "child is unhappy, sad or depressed"; Achenbach & Rescorla, 2001) at ages 5 (20-item;  $\alpha = 0.74$ ), 9 (21-item;  $\alpha = 0.85$ ), and 15 (8-item;  $\alpha = 0.79$ ). Child-reported depressive symptoms came from the *Self-Description Questionnaire* (8-item; e.g., "I often feel lonely"; Marsh, 1990) at age 9 and from the *Center for Epidemiological Studies Depression Scale* (Radloff, 1977) at age 15. Each scale demonstrated acceptable reliability at ages 9 (eight-item;  $\alpha = 0.78$ ) and 15 (depressive symptoms: five-item;  $\alpha = 0.75$ ; anxiety: six-item,  $\alpha = 0.76$ ). The SDC contains detailed information regarding how each item across sources and waves were recoded to have consistent three-point Likert scales (0 = not true, 1 = somewhat/sometimes true, 2 = very true or very often). We used multigroup CFAs to assess whether parent- and child-surveys consistently measured children's depressive symptoms at ages 9 and 15. Results suggested that we met the criteria for partial metric invariance across time,  $\chi^2(3) = 13.45$ ,  $p < .01$ , RMSEA = 0.03, 90% CI [0.02, 0.05], CFI = 0.99, SRMR = 0.01. Hence, using only parent-data at age 5 and combining parent and child reports at ages 9 and 15, we assessed children's depressive symptoms as observed mean scores. Higher scores on depressive symptoms suggested that children exhibited more frequent depressive symptoms.

**Table 1.** Descriptive statistics of demographic and key study measures for the analytic sample

Mean (SD) or %	Full	Paternal Incarceration		t or $\chi^2$ statistic
	Sample (n = 4,327)	Never (n = 2,284)	At least once (n = 2,043)	
<b>Gender</b>				
Girls	52.00	52.00	52.00	0.64
Boys	48.00	48.00	48.00	
<b>Ethnicity-Race</b>				
Black	45.00	37.00	54.00	205.94***
White	16.00	21.00	10.00	
Latino	22.00	25.00	18.00	
Other	2.00	4.00	1.00	
Multiracial	15.00	13.00	16.00	
Maternal education	2.37 (1.01)	2.57 (1.05)	2.14 (0.90)	14.01***
<b>US Census tract</b>				
Ethnic-racial diversity	0.42 (0.34)	0.36 (0.20)	0.36 (0.21)	0.72
Adults ages 25+ with high school degrees	0.73 (0.15)	0.75 (0.14)	0.71 (0.14)	7.96***
Adults ages 25+ with college degree	0.19 (0.15)	0.21 (0.17)	0.15 (0.12)	11.56***
<b>Covariate variables</b>				
Maternal incarceration at child's age 5	9.00	4.00	14.00	122.75***
Maternal depression at child's age 5	12.00	9.00	15.00	27.54***
Paternal alcohol use at child's age 5	28.00	30.00	26.00	7.49**
Paternal drug use at child's age 5	12.00	7.00	17.00	79.14***
Paternal separation/divorce between child's ages 5 and 15	20.00	20.00	20.00	0.64
Paternal death between child's ages 5 and 15	3.00	3.00	3.00	0.55
Paternal lifetime incarceration at child's age 1	34.00	–	–	–
<b>Key measures</b>				
Father incarcerated Age 5	0.46 (0.50)	–	–	–
Father incarcerated Age 9	0.07 (0.25)	–	–	–
Father incarcerated Age 15	0.22 (0.42)	–	–	–
Parent-reported rule-breaking behaviors Age 5	0.85 (1.09)	0.72 (0.95)	1.01 (1.21)	7.74***
Parent-reported rule-breaking behaviors Age 9	0.82 (1.26)	0.61 (1.03)	1.03 (1.04)	9.67***
Parent-reported rule-breaking behaviors Age 15	1.23 (1.57)	0.94 (1.33)	1.54 (1.74)	11.66***
Child-reported rule-breaking behaviors Age 9	1.25 (1.77)	1.03 (1.61)	1.47 (1.91)	7.10***
Child-reported rule-breaking behaviors Age 15	1.09 (1.66)	0.85 (1.45)	1.34 (1.82)	8.75***
Parent-reported depressive symptoms Age 5	0.22 (0.21)	0.20 (0.20)	0.24 (0.22)	5.70***
Parent-reported depressive symptoms Age 9	1.18 (0.22)	1.18 (0.20)	1.19 (0.23)	2.23*
Parent-reported depressive symptoms Age 15	1.25 (0.31)	1.22 (0.29)	1.27 (0.32)	4.74***
Child-reported depressive symptoms Age 9	1.15 (0.70)	1.05 (0.67)	1.26 (0.72)	8.49***
Child-reported depressive symptoms Age 15	1.81 (0.65)	1.77 (0.63)	1.85 (0.58)	3.70***
Child-reported anxiety symptoms Age 15	1.60 (0.60)	1.55 (0.58)	1.64 (0.62)	4.70***

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

### Other forms of father loss

In line with prior studies (Jackson et al., 2021; McCauley, 2020, 2021; Porter, 2014; Testa et al., 2020), we used a strategic comparison framework to compare children who experienced paternal incarceration with their peers who experienced other forms of father loss. We created two comparison groups to account for some

of the unobserved characteristics associated with paternal incarceration that may overlap with other forms of father loss. The first group included children who did not experience paternal incarceration between ages 5 and 15 but experienced other forms of father loss (i.e., separation, divorce, or death) between their ages 5 and 15 assessments; these children ( $n = 682$ ) were assigned a value of 1,



and all other children received a value of 0. The second group included children who did not experience paternal incarceration between ages 5 and 15 but their fathers were incarcerated at any point before children's age-1 assessment; these children ( $n = 958$ ) received a value of 1, and all other children were assigned a value of 0.

### Covariates

On the basis of extant research (Murray & Farrington, 2005; Wildeman, 2010), we accounted for several confounds that could bias the link between paternal incarceration and children's outcomes. Individual-level covariates included children's age, gender (0 = girls, 1 = boys), ethnicity-race, maternal education (1 = less than high school, 4 = college or beyond), maternal incarceration, maternal depression, paternal alcohol/drug use, and paternal lifetime incarceration at children's age-1 assessment. Using the year 2000 decennial census data, our neighborhood-level covariates included the ethnic-racial diversity in children's census tracts, which we generated using the *Sampson Diversity Index* (0 = complete ethnic-racial heterogeneity, 1 = complete ethnic-racial homogeneity; Graham, 2016; Simpson, 1949), and the percentage of adult residents ages 25 and up with high school and bachelor's degrees.

### Missing data

Among the analytic sample ( $n = 4,327$ ), 2,446 families participated in all three assessments, 1,316 families participated in two waves, and 565 participated in one wave. The participation rates were 73% in age 5, 87% in age 9, and 83% in age 15. Relative to families who participated in more waves, families who participated in fewer waves were more likely to be Latino than White, to have a mother with a lower educational degree, to live in a neighborhood with a greater proportion of Black and Latino residents than White residents, and to live in a neighborhood where fewer adults have advanced degrees. After accounting for our covariates, partial correlations indicated that families' participation was related to two of the 14 key constructs; specifically, families who completed more waves had lower primary caregiver ratings of children's engagement in rule-breaking behaviors and internalizing symptoms in age 5, and these relationships were nonsignificant in later waves. These missing data patterns reflect a common problem faced by research conducted in socioeconomically disadvantaged communities. To retain sample variability and diversity, we used FIML (Baraldi & Enders, 2010). FIML and multiple imputation perform better than other missing data approaches when missing data patterns are random (e.g., listwise deletion of cases with missing values, or singly imputing missing values; Baraldi & Enders, 2010). Results using FIML were similar to those using multiple imputation (see SDC for our detailed imputation procedure); thus, FIML results were retained and presented.

### Analytic plan

All analyses were conducted in Mplus version 8.3 (Muthén & Muthén, 1998-2019) using weighted least square means and variance-adjusted estimation to adjust standard errors for dichotomous variables (e.g., paternal incarceration). We used a random intercept crosslagged panel model (RI-CLPM; see Figure 1 for a visual depiction; Hamaker et al., 2015). The RI-CLPM builds on the traditional crosslagged and autoregressive path model to estimate both between- and within-person effects. The between-person effect is represented by the inclusion of a random intercept to

partial out trait-like and time-invariant stability for each construct, and the within-person portion is reflected in the crosslagged parameters (e.g., fathers' incarceration age 5 → children's rule-breaking age 9), stability coefficients (e.g., fathers' incarceration at age 5 → fathers' incarceration at age 9), and within-wave correlations (e.g., fathers' incarceration age 5 ↔ children's rule-breaking age 5). Notably, the inclusion of stability coefficients permits us to account for paternal incarceration that occurred across the study period, including in scenarios when paternal incarceration occurred in earlier waves only, latter waves only, each wave, or never. In addition, the RI-CLPM allowed us to treat each child as their own control group and examine the degree to which children experienced deviations on outcome variables when their fathers were incarcerated.

To answer our first research question, we used a RI-CLPM to examine longitudinal interrelations between fathers' incarceration and children's rule-breaking behaviors. For our second research question, we estimated a second RI-CLPM to examine whether children's depressive symptoms mediated the longitudinal interrelations between fathers' incarceration and children's rule-breaking behaviors. To do so, we used the widely established nonparametric bootstrapping technique to generate standard errors with the multivariate delta method to examine the indirect effects of fathers' incarceration on children's rule-breaking behaviors via their depressive symptoms (MacKinnon et al., 2002). For our third research question, we performed chi-square test comparisons to examine whether other forms of father loss predicted children's rule-breaking behaviors. All covariates were included as controls in all analyses; see SDC for output pertaining to the relations between covariates and our key constructs across all analyses. For our fourth and final research question, we tested whether the longitudinal interrelations between paternal incarceration and children's outcomes could be constrained to be invariant over time without causing a significant decrement in model fit, in accordance with suggestions from Kenny (1975) and Kenny and Harackiewicz (1979).

## Results

### Descriptive statistics

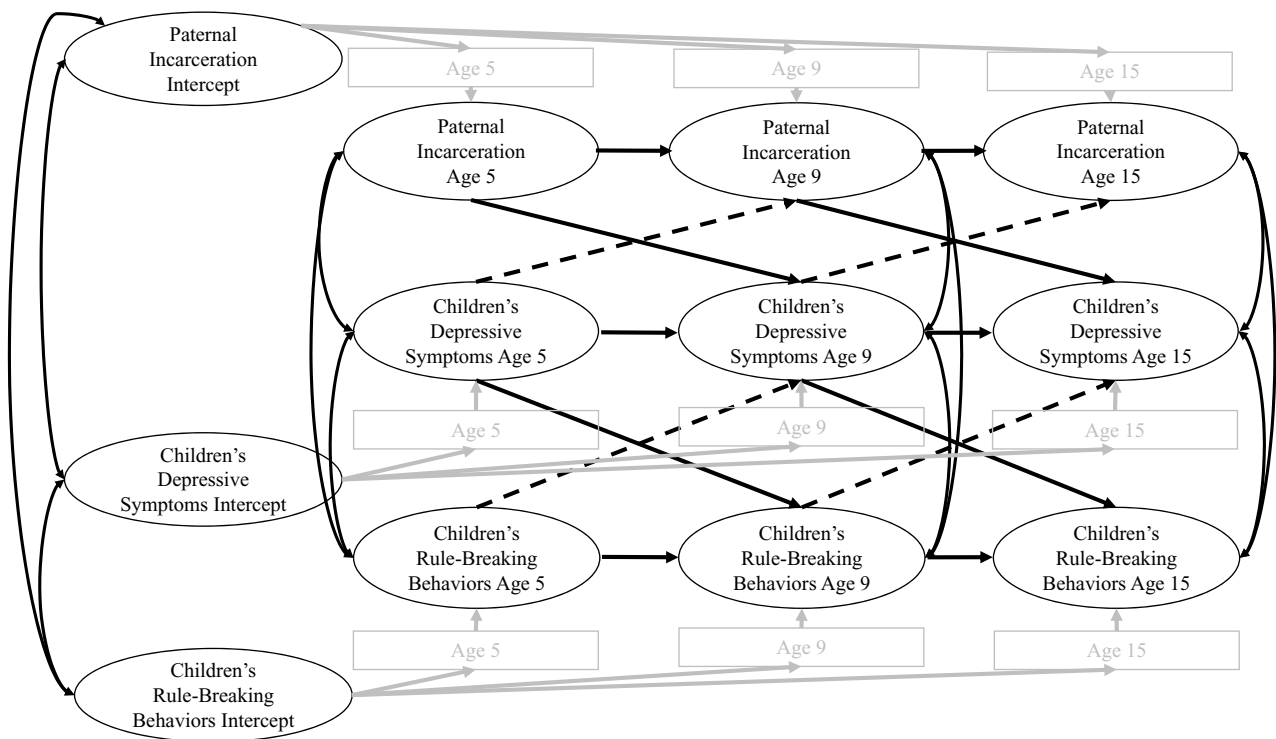
Table 1 includes descriptive statistics, and Table 2 includes zero-order bivariate correlations. Table SDC2 presents correlations between covariates and key constructs. Approximately 45% of children experienced paternal incarceration prior to age 5, 7% experienced it between ages 5 and 9, and 15% experienced it between ages 9 and 15. Across reporters, children on average engaged in at least one rule-breaking behavior and experienced few depressive symptoms at each wave.

In Table 1, we also compared children who never experienced paternal incarceration ( $n = 2,284$ ) with those who have experienced it at least once ( $n = 2,043$ ). Relative to families who never experienced paternal incarceration, families who did were more likely to be non-White, have a mother with a less advanced educational degree, live in a neighborhood where adults unlikely had high school and bachelor's degrees, and experience other adversities (i.e., maternal incarceration, maternal depression, and paternal alcohol and drug use). We also found that children from families who experienced paternal incarceration engaged in more rule-breaking behaviors and had higher levels of depression, regardless of children's and parents' self-reports, than those from families who never experienced paternal incarceration.

**Table 2.** Zero-order bivariate correlations among key study variables (*n* = 4,327)

Key study variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Paternal incarceration Age 5	1													
2 Paternal incarceration Age 9	<b>0.25</b>	1												
3 Paternal incarceration Age 15	<b>0.42</b>	<b>0.38</b>	1											
4 Parent-reported rule-breaking behaviors Age 5	<b>0.15</b>	<b>0.05</b>	0.04	1										
5 Parent-reported rule-breaking behaviors Age 9	<b>0.18</b>	<b>0.08</b>	<b>0.09</b>	<b>0.35</b>	1									
6 Parent-reported rule-breaking behaviors Age 15	<b>0.20</b>	<b>0.10</b>	<b>0.12</b>	<b>0.28</b>	<b>0.40</b>	1								
7 Child-reported rule-breaking behaviors Age 9	<b>0.13</b>	<b>0.11</b>	<b>0.12</b>	<b>0.19</b>	<b>0.28</b>	<b>0.26</b>	1							
8 Child-reported rule-breaking behaviors Age 15	<b>0.16</b>	<b>0.10</b>	<b>0.14</b>	<b>0.13</b>	<b>0.19</b>	<b>0.35</b>	<b>0.25</b>	1						
9 Parent-reported depressive symptoms Age 5	<b>0.10</b>	<b>0.04</b>	0.03	<b>0.37</b>	<b>0.24</b>	<b>0.15</b>	<b>0.04</b>	<b>0.04</b>	1					
10 Parent-reported depressive symptoms Age 9	<b>0.04</b>	0.01	0.03	<b>0.17</b>	<b>0.45</b>	<b>0.14</b>	<b>0.07</b>	0.01	<b>0.33</b>	1				
11 Parent-reported depressive symptoms Age 15	<b>0.08</b>	<b>0.06</b>	<b>0.06</b>	<b>0.15</b>	<b>0.19</b>	<b>0.39</b>	<b>0.08</b>	<b>0.08</b>	<b>0.22</b>	<b>0.33</b>	1			
12 Child-reported depressive symptoms Age 9	<b>0.15</b>	<b>0.07</b>	<b>0.07</b>	<b>0.10</b>	<b>0.18</b>	<b>0.15</b>	<b>0.25</b>	<b>0.15</b>	<b>0.12</b>	<b>0.11</b>	<b>0.11</b>	1		
13 Child-reported depressive symptoms Age 15	<b>0.06</b>	0.03	0.01	<b>0.10</b>	<b>0.09</b>	<b>0.11</b>	<b>0.06</b>	<b>0.16</b>	<b>0.11</b>	<b>0.10</b>	<b>0.25</b>	<b>0.20</b>	1	
14 Child-reported anxiety symptoms Age 15	<b>0.08</b>	0.03	0.05	<b>0.10</b>	<b>0.09</b>	<b>0.15</b>	<b>0.08</b>	<b>0.19</b>	<b>0.11</b>	<b>0.08</b>	<b>0.26</b>	<b>0.18</b>	<b>0.65</b>	1

Note. Bolded values indicate *p*-values less than .05; nonbolded values indicate *p*-values .05 and greater.



**Figure 1.** A visual depiction of the random intercept crosslagged panel model from children's ages 5 to 15. Notes: Solid lines indicate hypothesized significant paths; dashed lines indicate our hypothesized nonsignificant paths. The longitudinal direct effects between paternal incarceration and children's rule-breaking behaviors are suppressed to ease visual representation.

**Paternal incarceration and children's rule-breaking behaviors**

Table SDC3 presents unstandardized estimates for the interrelations between paternal incarceration and children's rule-breaking behaviors. Children who experienced fathers' incarceration at ages 5 and 9 also engaged in greater rule-breaking behaviors at ages 9 and 15, respectively. Children's rule-breaking behaviors did not predict subsequent paternal incarceration. The model fit the data

well,  $\chi^2(47) = 160.63, p < .001, RMSEA = 0.02, 90\% CI [0.02, 0.03], CFI = 0.97, WRMR = 0.99.$

**The role of children's depressive symptoms as a mediator**

Table 3 presents unstandardized coefficients for the interrelations among paternal incarceration, children's depressive symptoms, and children's rule-breaking behaviors, after controlling for

**Table 3.** Unstandardized coefficients from a random intercept crosslagged panel model ( $n = 4,327$ ) and after controlling for covariates (suppressed to ease visual representation)

	<i>B</i> (SE)	95% CI
<i>Stability coefficients (t → t + 1)</i>		
Paternal incarceration Age 5 → Paternal incarceration Age 9	0.49 (0.12)***	0.25, 0.69
Paternal incarceration Age 9 → Paternal incarceration Age 15	0.49 (0.12)***	0.25, 0.69
Children's rule-breaking Age 5 → Children's rule-breaking Age 9	0.14 (0.03)**	0.06, 0.21
Children's rule-breaking Age 9 → Children's rule-breaking Age 15	0.14 (0.03)**	0.06, 0.21
Children's depressive symptoms Age 5 → Children's depressive symptoms Age 9	0.14 (0.04)**	0.07, 0.20
Children's depressive symptoms Age 9 → Children's depressive symptoms Age 15	0.14 (0.04)**	0.07, 0.20
<i>Within-wave correlations (t ↔ t)</i>		
Paternal incarceration Age 5 ↔ Children's rule-breaking Age 5	0.03 (0.01)**	0.01, 0.03
Paternal incarceration Age 9 ↔ Children's rule-breaking Age 9	0.03 (0.01)**	0.01, 0.03
Paternal incarceration Age 15 ↔ Children's rule-breaking Age 15	0.03 (0.01)**	0.01, 0.03
Paternal incarceration Age 5 ↔ Children's depressive symptoms Age 5	0.00 (0.01)	-0.01, 0.01
Paternal incarceration Age 9 ↔ Children's depressive symptoms Age 9	0.00 (0.01)	-0.01, 0.01
Paternal incarceration Age 15 ↔ Children's depressive symptoms Age 15	0.00 (0.01)	-0.01, 0.01
Children's depressive symptoms Age 5 ↔ Children's rule-breaking Age 5	0.06 (0.01)***	0.05, 0.07
Children's depressive symptoms Age 9 ↔ Children's rule-breaking Age 9	0.06 (0.01)***	0.05, 0.07
Children's depressive symptoms Age 15 ↔ Children's rule-breaking Age 15	0.06 (0.01)***	0.05, 0.07
<i>Crosslagged relations (t → t + 1)</i>		
Paternal incarceration Age 5 → Children's rule-breaking Age 9	2.42 (0.30)***	1.83, 3.01
Paternal incarceration Age 9 → Children's rule-breaking Age 15	2.42 (0.30)***	1.83, 3.01
Children's rule-breaking Age 5 → Paternal incarceration Age 9	0.01 (0.01)	-0.01, 0.04
Children's rule-breaking Age 9 → Paternal incarceration Age 15	0.01 (0.01)	-0.01, 0.04
Paternal incarceration Age 5 → Children's depressive symptoms Age 9	0.44 (0.07)***	0.30, 0.57
Paternal incarceration Age 9 → Children's depressive symptoms Age 15	0.44 (0.07)***	0.30, 0.57
Children's depressive symptoms Age 5 → Paternal incarceration Age 9	0.03 (0.04)	-0.05, 0.11
Children's depressive symptoms Age 9 → Paternal incarceration Age 15	0.03 (0.04)	-0.05, 0.11
Children's depressive symptoms Age 5 → Children's rule-breaking Age 9	0.33 (0.14)*	0.30, 0.57
Children's depressive symptoms Age 9 → Children's rule-breaking Age 15	0.33 (0.14)*	0.30, 0.57
Children's rule-breaking Age 5 → Children's depressive symptoms Age 9	0.00 (0.01)	-0.01, 0.01
Children's rule-breaking Age 9 → Children's depressive symptoms Age 15	0.00 (0.01)	-0.01, 0.01
<i>Covariation between latent intercepts (Intercept ↔ Intercept)</i>		
Intercept <sub>Paternal incarceration</sub> ↔ Intercept <sub>Children's rule-breaking behaviors</sub>	0.00 (0.00)	0.00, 0.00
Intercept <sub>Paternal incarceration</sub> ↔ Intercept <sub>Children's depressive symptoms</sub>	0.00 (0.00)	0.00, 0.00
Intercept <sub>Children's depressive symptoms</sub> ↔ Intercept <sub>Children's rule-breaking behaviors</sub>	0.00 (0.00)	0.00, 0.00

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

covariates (see Table SDC4 for estimates with covariates). Children who experienced paternal incarceration at ages 5 and 9 demonstrated greater depressive symptoms at ages 9 and 15, respectively, but depressive symptoms did not predict paternal incarceration in later assessments. In turn, greater depressive symptoms at ages 5 and 9 predicted more rule-breaking behaviors at ages 9 and 15, respectively, but rule-breaking behaviors did not predict depressive symptoms in later assessments. Paternal incarceration at age 5 had a positive and significant indirect effect on age-15 rule-breaking behaviors via age-9 depressive symptoms ( $B = 0.14$ ,  $SE = 0.06$ ,

95% CI [0.02, 0.26],  $p < .05$ ). The effect of paternal incarceration on subsequent rule-breaking behaviors remained significant ( $B = 1.67$ ,  $SE = 0.23$ , 95% CI [1.15, 2.19],  $p < .001$ ), suggesting that age-9 depressive symptoms partially mediated the link between age-5 paternal incarceration and age-15 rule-breaking behaviors. The models explained a significant amount of variance in children's depressive symptoms and rule-breaking behaviors ( $R^2$ -range = 0.14–0.30,  $p$ -range < .001), and the model fit the data well,  $\chi^2(70) = 401.37$ ,  $p < .001$ , RMSEA = 0.03, 90% CI [0.03, 0.04], CFI = 0.96, WRMR = 1.12.

### The specificity of paternal incarceration

We assessed whether the two strategic comparison groups predicted children's rule-breaking behaviors to the same degree as paternal incarceration. The model in which we constrained the effects of these strategic comparison groups and paternal incarceration on children's rule-breaking behaviors to be equivalent to each other resulted in a significant decrement in model fit,  $\Delta\chi^2(2) = 46.63, p < .001$ . The first comparison group pertaining to paternal separation, divorce, or death was unrelated to children's rule-breaking behaviors ( $B = -0.06, SE = 0.04, 95\% CI [-0.14, 0.01], p = ns$ ). The second group pertaining to paternal lifetime incarceration before the age-1 assessment predicted greater rule-breaking behaviors among children ( $B = 0.15, SE = 0.04, 95\% CI [0.07, 0.22], p < .001$ ), but this effect was significantly weaker than that for paternal incarceration,  $\Delta\chi^2(1) = 9.23, p < .001$ .

### The stability in effects of paternal incarceration on children's future outcomes

In examining whether the effect of paternal incarceration on children's outcomes waned or strengthened over time, we found that constraining the effect of paternal incarceration on children's rule-breaking behaviors to be invariant over time did not yield a significant decrement in model fit [ $\Delta\chi^2(1) = 0.05, p = ns$ ]. Overall, these results suggest that paternal incarceration is harmful to children's development across childhood and adolescence.

### Sensitivity analyses

We tested the direction of effects among our key constructs. We found that neither depressive symptoms nor rule-breaking behaviors predicted paternal incarceration one wave later, and rule-breaking behaviors also did not predict depressive symptoms one wave later, supporting the direction of effects in our hypotheses (see Table 3).

Children's gender and ethnicity-race may have moderated our results, as boys may have been more impacted by the loss of a gender-congruent parent. In addition, children of color may be disproportionately impacted by paternal incarceration, ethnicity-race-related factors related to paternal incarceration, or both. We used gender as a categorical grouping variable for multigroup analyses to test whether key pathways between girls and boys can be constrained to be equivalent to each other without causing a significant decrement in model fit. We found that constraining the effects of fathers' incarceration on future children's rule-breaking behaviors [ $\Delta\chi^2(1) = 0.01, p = ns$ ] and internalizing symptoms [ $\Delta\chi^2(1) = 1.74, p = ns$ ] to be equivalent between the two gender groups did not yield a significant decrement in model fit. Overall, these results suggest that the effects of father incarceration did not differ by children's gender.

For children's ethnicity-race, we focused on the four large ethnic-racial groups (i.e., 1959 Black, 696 White, 935 Latino, and 633 multiracial children). We chose to drop 104 cases where "Other" was selected as the ethnic-racial group because the sample size for Other ethnic-racial minority children was too small for us to reliably examine each group separately from the four larger ethnic-racial groups. Next, we used children's ethnic-racial identification as a grouping variable for multigroup analyses. Ultimately, constraining the effects to be equivalent across groups did not result in a significant decrement in model fit when examining children's rule-breaking [ $\Delta\chi^2(6) = 6.10, p = ns$ ] and internalizing symptoms as outcomes [ $\Delta\chi^2(6) = 5.06, p = ns$ ]. Thus, ethnicity-race did not significantly moderate the effects of father incarceration.

### Discussion

In the United States, one-in-100 adults have been incarcerated, many of whom are fathers (Pew Charitable Trusts, 2010). Although the negative consequences of incarceration on fathers' opportunities for upward social mobility have been documented (Pew Charitable Trusts, 2010), the mechanisms driving the inter-generational consequences of paternal incarceration are less understood. Controlling for relevant individual and neighborhood factors, we found that children who experienced paternal incarceration prior to age 5 engaged in more rule-breaking behaviors at ages 9 and 15. This link was partially mediated by children's age-9 depressive symptoms. In other words, paternal incarceration at age 5 predicted greater depressive symptoms at age 9, which in turn predicted more rule-breaking behaviors at age 15. Notably, paternal incarceration during children's lifetime predicted children's rule-breaking behaviors more strongly than did other forms of father loss, and this effect of paternal incarceration on future rule-breaking behaviors was similar in size across childhood and adolescence.

Half of children experienced paternal incarceration by their adolescent years. It is important to consider this rate relative to our sample's demographic characteristics. Specifically, our sample was predominantly low-income, with 83% identifying themselves as a member of an ethnic-racial minority group. In addition, most of our ethnic-racial minority sample lived in low-income communities, whereas our White sample lived in more economically affluent and predominantly White neighborhoods. Thus, unmeasured structural factors, such as ethnic-racial bias and punitive municipal policies, may have contributed to the observed high rate of paternal incarceration in the present study (Eberhardt, 2019; Pew Charitable Trusts, 2010).

Our findings indicated that children who experienced paternal incarceration also reported greater engagement in rule-breaking behaviors over time. Depressive symptoms partially mediated this link. These findings align with extant stress frameworks (Agnew, 2013; Pearlin, 2010) and provide partial insight into why paternal incarceration during early childhood predicted greater rule-breaking behaviors during adolescence (Agnew, 2013; Arditti, 2016). For instance, paternal incarceration limits children's supportive relationships due to having an absent father and a stressed mother, and it can also increase the likelihood of parental separation/divorce and decrease their likelihood of repartnering (Geller, 2013; Widdowson et al., 2020). In addition to these contentious interpersonal contexts, children of incarcerated parents are situated in neighborhoods fraught with social and economic barriers that increase risks for paternal incarceration and reduce families' resources to navigate the criminal justice system (Christian & Thomas, 2009; Pew Charitable Trusts, 2010). Indeed, our sample characteristics reflected a population of families living in low-income neighborhoods. Thus, when paternal incarceration occurred in our study, children were more likely to dislike their circumstances and feel upset and angry about their father's absence. To cope with their negative affect, as we found, children engaged in more rule-breaking behaviors across childhood and into adolescence.

Other forms of father loss did not predict children's rule-breaking behaviors to the same degree as paternal incarceration did. Specifically, according to our strategic comparison approach, a father's absence due to separation, divorce, or death was unrelated to children's rule-breaking behaviors. Although children engaged in greater rule-breaking behaviors when their father had a history



of incarceration prior to their age-1 assessment, this effect on children's rule-breaking behaviors was weaker relative to that for children who experienced paternal incarceration when they were older than one. Although social and structural factors likely shaped the negative consequences of paternal incarceration before children's age-1 assessment, the fact that the effect was stronger for children who experienced paternal incarceration after age 1 highlighted that children's self-appraisal processes matter vis-à-vis their rule-breaking behaviors (Agnew, 2013). That is, when paternal incarceration occurs before the age of 1, children may unlikely recollect a father's absence as they would during early and middle childhood.

The longitudinal effect of paternal incarceration on children's rule-breaking behaviors is notable from a methodological standpoint. Using data from the FFCW study, scholars found that paternal incarceration during adolescence was unrelated to rule-breaking behaviors concurrently among adolescent girls (Kalu *et al.*, 2020) and the entire sample (Turney, 2021). However, there are notable inconsistencies between these studies: One documented 2%–4% of the sample experienced paternal incarceration (Kalu *et al.*, 2020) and the other found a rate of 16% (Turney, 2021). The latter rate is consistent with what we found in the present study. When Turney (2021) found that paternal incarceration was related to children's rule-breaking behaviors during early childhood but not during middle childhood or adolescence, the question of whether the effects of paternal incarceration on children's adjustment significantly differed across these age groups was left unaddressed until the present study. Nonetheless, we found that paternal incarceration during ages 5 and 9 predicted children's rule-breaking behaviors during ages 9 and 15, respectively, and these findings corroborate those from extant studies using data from the FFCW study (Dwyer Emory, 2018; Haskins, 2015).

Neither children's gender nor ethnicity-race moderated the longitudinal effects of paternal incarceration on children's adjustment. Although the null result for gender may appear inconsistent with prior studies at face value (Geller *et al.*, 2012; Wildeman, 2010), prior studies did not formally test whether equality constraints could be imposed between girls and boys, which may have contributed to the differential results. As for our results regarding the moderating role of children's ethnicity-race, our findings are unsurprising. Prior studies using the FFCW data set have found nonsignificant ethnic-racial variation in the impacts of paternal incarceration on children's adjustment (Turney & Haskins, 2014; Turney & Wildeman, 2013). While the effects of paternal incarceration may not be relatively large among specific ethnic-racial groups, ethnic-racial disparities in rates of paternal incarceration may still spur deleterious effects among particular ethnic-racial groups if they are disproportionately exposed to the stressor.

### Limitations

The present study has several limitations that can guide future research. First, we did not specify the reason for incarceration, as prior research has found that families did not experience negative consequences when a father was incarcerated for violent infractions (Wildeman, 2010). Second, we assessed depressive symptoms among a vulnerable sample of low-income children; it is possible that the low levels of depressive symptoms among our sample may be attributed to their resilience and reluctance to report on their symptoms. Third, our children primarily had unwedded parents; therefore, our findings may be weaker than

those derived from children with wedded parents due to the loss of stronger, more proximal relationships with their fathers. Finally, the observed effect sizes were small, which may be due to the 4-to-6-year time intervals between key measures and the omission of specific facets of paternal incarceration that are harmful (e.g., children's number of trial/court hearings, number of jail/prison visitations, and duration of a fathers' absence due to incarceration). Future research should use more frequent observations to unpack nuanced changes in children's adjustment during and following paternal incarceration while also exploring whether these factors moderate the associations between paternal incarceration and children's developmental outcomes.

### Strengths

Despite these limitations, the present study has conceptual and methodological strengths that contribute to the literature. First, the longitudinal associations between paternal incarceration and children's developmental outcomes neither waned nor strengthened over time, showing that paternal incarceration is equally consequential to children and adolescents. Second, paternal incarceration predicted children's rule-breaking behaviors after we controlled for the consequences of fathers' risky behaviors (i.e., alcohol and drug use); in doing so, were able to provide a more robust estimate of the effects of paternal incarceration net of other possibilities tinged to the imprisonment experience. Third, most key measures in the present study relied on multiple informants, minimizing self-report bias. Lastly, extant studies have either unspecified paternal incarceration or aggregated it with multiple types of adverse experiences during childhood (Felitti *et al.*, 1998). This practice is problematic because one form of father loss (i.e., paternal incarceration) may predict different outcomes than other forms (i.e., separation, divorce, or death). By including multiple forms of father loss in our analyses, we can more accurately reveal how paternal incarceration uniquely affects America's children.

### Implications

Our finding that children's depressive symptoms emerged as a partial mediator provides interventionists with information on how to reduce the stress linked to paternal incarceration (e.g., via school-based support groups; Hairston, 2007). In line with General Strain Theory (Agnew, 2013), children's psychological affect may be a means to deter their engagement in rule-breaking behaviors. As children progress into adolescence, they may have more opportunities to engage in maladaptive approaches (e.g., substance use) to cope with the trauma of paternal incarceration and its related circumstances (e.g., harsh/neglectful parenting, loss of income; Dwyer Emory, 2018; Pew Charitable Trusts, 2010; Turney, 2014a). Therefore, identifying ways to reduce family tension and discomfort in the wake of paternal incarceration can protect children against depressive symptomology during childhood, which may in turn reduce their likelihood of engaging in rule-breaking behaviors as adolescents (Agnew, 2013). Practitioners should develop strategies that are sensitive to the needs of children and their families, including approaches that combat incarceration-based stigma (e.g., via counseling/support groups), promote family visits (e.g., affordable transportation, community-based residential facilities, and developmentally appropriate family visiting spaces), and reduce fathers' likelihood of entry and reentry into the criminal justice system (e.g., facilitate rehabilitation through education, job training, and employment following release; Hairston, 2007).

## Conclusion

Paternal incarceration may compromise children's well-being and social adjustment. Stakeholders need to explore less punitive approaches to criminal rehabilitation to break the cycle in which institutional structures and policies contribute to the over-representation of socially disadvantaged communities in the criminal justice system (Agnew, 2013; National Research Council, 2014). In one study examining the consequences linked to alternatives to incarceration, scholars found that boys of fathers sentenced to a community probation program (compared to those who experienced paternal incarceration) were 15% less likely to be charged with a crime during early adulthood (Wildeman & Andersen, 2017). Future research should also explore how social resources (e.g., social workers, school psychologists) can help children manage the stress and the uncertainty of paternal incarceration. Research regarding these resources can inform policymakers' and practitioners' efforts to effectively promote positive developmental competencies among children who experience parental incarceration.

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