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The Long Arm of Maternal Incarceration: Indirect Associations with Children's Social–Emotional Development

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Abstract

A growing body of research reveals a connection between maternal incarceration and various child development outcomes. Even so, little is known about how the *timing* of maternal incarceration may shape the social–emotional development of young children and the role of maternal mental health in mediating this association. Using a sample of 1097 mothers (18–52 years old, 47.6% white) and children (aged 12–48 months) receiving home visiting services in Wisconsin, this study examined the intergenerational effect of incarceration *before a child's birth* on child social–emotional development, and whether this association was mediated by maternal mental health. While incarceration prior to a child's birth was not directly associated with child social–emotional outcomes, path analysis revealed an indirect association between mother's incarceration prior to a child's birth and child social–emotional problems through maternal mental health problems. Findings suggest that formerly incarcerated mothers may experience long-lasting mental health concerns that can undermine child social–emotional development. To optimize outcomes, practitioners may consider services that address the mental health, social support, and instrumental needs of mothers and children who have been impacted by mass incarceration.

Keywords Maternal incarceration · Maternal mental health · Social–emotional development · Early childhood · Intergenerational

Following decades of mass incarceration in the United States, scholars and practitioners have become increasingly concerned about the intergenerational effects of imprisonment. Of the estimated 1.7 million adults currently incarcerated in U.S. jails and prisons (Carson, 2021; Minton & Zeng,

2020), approximately 684,500 are parents to more than 1.47 million minor children (Maruschak et al., 2021). Since the 1980s, a growing share of the incarcerated population has been comprised of women, a large proportion of whom have dependent children. It is estimated that 216,000 women are currently incarcerated and, out of these, 58% in prisons and over 80% in local jails are mothers (Kajstura, 2019; Maruschak et al., 2021; Sawyer & Bertram, 2022).

Despite the increasing number of incarcerated women with children, few studies have examined the effects of maternal incarceration on the early social–emotional development of their offspring (Poehlmann-Tynan & Turney, 2021). While there appears to be a robust connection between paternal incarceration and poor child social–emotional outcomes (Antle et al., 2020; Craigie, 2011; Muentner et al., 2021; Wildeman, 2010), similar research on maternal incarceration has yielded inconsistent results (Poehlmann-Tynan & Turney, 2021; Turney & Wildeman, 2015). These findings are puzzling given that (a) mothers are more likely than fathers to be primary caregivers prior to incarceration (Glaze & Maruschak, 2010), and (b) prolonged maternal

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separation has significant consequences for children's social–emotional development (Dallaire, 2007; Murray & Murray, 2010). Maternal incarceration may be particularly harmful during early childhood when children are dependent on their primary caregivers for physical safety, psychological security, cognitive stimulation, and emotion regulation (Ordway et al., 2015; Slade, 2005). When these fundamental developmental processes are interrupted, social–emotional problems may emerge that have lifelong implications (Ordway et al., 2015; Slade, 2005).

The current study revisits the relationship between maternal incarceration and early child social–emotional development along with potential confounding influences and mediating processes, which are poorly understood. Using a sample of 1097 mothers (18–52 years old, 47.6% white) and children (aged 12–48 months) receiving home visiting services in Wisconsin, we examine the effect of maternal incarceration *prior to a child's birth* on child social–emotional development, and whether this association is mediated by maternal mental health. The following section summarizes the limited empirical research in this area and considers why this research has yet to reliably demonstrate that maternal incarceration is associated with significant and lasting harm. We also summarize evidence that points to maternal mental health as a likely mechanism that acts as both a consequence of incarceration and an indirect pathway through which the effects of incarceration manifest in child social–emotional difficulties.

Literature Review

Maternal Incarceration and Child Social–Emotional Development

Scholars have long speculated that parental incarceration has intergenerational consequences (Dallaire, 2007; Murray & Murray, 2010; Poehlmann-Tynan et al., 2021). Although research on paternal incarceration largely substantiates this claim, empirical evidence linking maternal incarceration to early childhood social–emotional development is both limited and mixed (Arditti, 2015; Johnson & Easterling, 2012; Poehlmann-Tynan & Turney, 2021). Studies that have examined the effects of maternal incarceration on child outcomes in middle childhood and adolescence also have produced inconsistent results (Arditti, 2015; Choi et al., 2016; Jackson & Vaughn, 2017; Tasca et al., 2014; Wildeman & Turney, 2014).

How can it be that maternal incarceration, a childhood experience that seems intrinsically adverse, has not been reliably linked to poor child outcomes? One possible explanation is that many incarcerated women enter prison with complex histories of adversity, including substance use and

mental health challenges, economic hardship, family dysfunction, and gender-based violence (Arditti, 2015; Salisbury & Van Voorhis, 2009; Turney & Wildeman, 2015). In some instances, children and their caregivers may be directly affected by the same experiences in a shared environment, while in other instances children may be affected indirectly when caregivers' adverse experiences compromise their parenting and the quality of the home environment. In the presence of elevated levels of cumulative adversity, an additional risk such as maternal incarceration may contribute little added variance to children's developmental outcomes. Put another way, due to risk saturation and selection effects, the impact of maternal incarceration may be largely explained away by structural and individual factors that are correlated with and often contribute to incarceration (Sampson, 2011; Wildeman & Turney, 2014).

Partial support for the preceding hypothesis comes from research indicating that the association between maternal incarceration and social–emotional development becomes non-significant after adjusting for confounding factors such as poverty, maternal mental illness, and domestic violence (Arditti, 2015; Johnson & Easterling, 2012; Poehlmann-Tynan & Turney, 2021; Wildeman & Turney, 2014). Additional support can be found in research that indicates maternal incarceration is harmful in the absence of other risk factors but largely inconsequential in the face of cumulative disadvantage (Turney & Wildeman, 2015). As a further indication of selection bias, there is evidence that many children experience unstable and inconsistent care prior to their mother's incarceration, and in many cases these children live in substitute caregiving environments altogether (Dworsky, 2011; Glaze & Maruschak, 2010).

Another related explanation is that the effects of maternal incarceration may vary based on whether it occurs prior to or during a child's lifetime. Whereas children who directly experience their mother's incarceration may be impacted in many ways, children whose mothers were only incarcerated prior to their birth would be influenced indirectly, either by the lingering effects of incarceration on mothers or enduring factors that contributed to incarceration. Thus, measuring parental incarceration as a lifetime occurrence without considering its timing may introduce unmeasured heterogeneity. Studies that do not account for the timing of maternal incarceration may be unable to identify direct and indirect pathways that lead from maternal incarceration to child social–emotional problems.

Potential Mechanism: Maternal Mental Health

Mental health concerns are common among incarcerated women. Estimates of mental illness among incarcerated women range from 43 to 66%, with researchers noting a high prevalence of mood, anxiety, trauma, and stressor-related

disorders (James & Glaze, 2006; Lynch et al., 2013; Salisbury & Van Voorhis, 2009). Incarceration itself is associated with adverse and potentially traumatic experiences such as violence, social disconnection and isolation, poor living conditions, and limited access to high-quality physical and mental health care—all of which may precipitate or exacerbate mental health problems (Bronson & Berzofsky, 2017; Harner & Riley, 2013; Harner et al., 2015; Lynch et al., 2012). Although some studies have found that incarceration is the first opportunity for women to access consistent mental health care (Harner & Riley, 2013; Johnson et al., 2015), most evidence suggests incarceration rarely ameliorates and more often exacerbates mental health concerns among women.

Post-incarceration reentry also poses challenges that can erode psychological well-being. Analyzing a sample of men and women released from prison, Mallik-Kane and Visher (2008) found that more than half of women experienced homelessness and only one-third secured employment within 10 months of release. Access to mental health services that can support women through these challenges is lacking, with several studies highlighting the limited or non-existent pre-release planning and linkage to community mental health services (Cooper-Sadlo et al., 2019; Garcia, 2016; Johnson et al., 2015; Stanton et al., 2016). Without sufficient social support, change in economic circumstances, or access to mental health treatment, formerly incarcerated women may contend with mental health difficulties long after their release.

Although many incarcerated women have mental health difficulties prior to entering the criminal legal system, the effects of incarceration and the lack of support and treatment post-incarceration may compound mental health symptoms and hinder their capacity to provide optimal care for their children. Many studies have linked an array of prenatal and postpartum mental health symptoms, including depression, anxiety, and posttraumatic stress, to increased internalizing and externalizing problems and poorer emotion regulation and executive functioning in early childhood (Behrendt et al., 2020; Briggs et al., 2014; Junge et al., 2017; Park et al., 2018; Polte et al., 2019; Porter et al., 2019). Mental health difficulties are known to undermine maternal sensitivity and attunement, which, in turn, compromises the child's ability to develop a secure attachment and self-regulation skills (Ordway et al., 2015; Slade, 2005).

Current Study

The current study makes two main contributions. First, using longitudinal survey data from a sample of low-income families wherein one in five mothers experienced incarceration prior to the birth of the index child, we examine

the association between maternal incarceration prior to a child's birth and children's social–emotional development by age four. Given that incarceration data were collected from women in community settings shortly after the birth of the child, no participants were incarcerated between the child's birth and the time of Wave I collection. As a result, we are able to test whether social–emotional outcomes differ between children of formerly incarcerated mothers and never-incarcerated mothers. Second, in addition to investigating the main-effect relationship, we use structural equation modeling to explore whether maternal mental health acts as an indirect mechanism that links maternal incarceration to child social–emotional difficulties. Whereas perinatal mental health research often focuses exclusively on postpartum depression, the current study captures a wider range of symptom presentations, including depression, anxiety, and posttraumatic stress.

Based on prior research, we hypothesized:

- (1) Maternal incarceration prior to a child's birth would not be directly associated with children's social–emotional development; and
- (2) Maternal incarceration prior to a child's birth would be indirectly associated with children's social–emotional development through maternal mental health.

Method

Sample and Design

This study analyzes data from the Families and Children Thriving (FACT) Study, a longitudinal investigation of risk and resilience among low-income families that received services through Wisconsin's Family Foundations Home Visiting (FFHV) program. The FFHV program is a state-wide network of agencies that deliver home visiting services beginning prenatally and lasting up to a child's second or third birthday. All programs are subsidized by the federal Maternal Infant and Early Childhood Home Visiting Program, which allocates funding to states and tribal communities to implement research-supported home visiting programs that serve priority populations such as families that are low-income, have low educational attainment, or have a history of substance use or child welfare involvement (Adirim & Supplee, 2013). Participants received services through one of four different home visiting program models (Nurse-Family Partnership, Healthy Families America, Parents as Teachers, and Early Head Start) that focus on promoting parenting, maternal health, and child development outcomes. Primary caregivers were eligible for FACT Study participation if they (a) received services from a FFHV-supported program (b) spoke English or Spanish, and (c) had a child

that was at least 30 days old at the time of study enrollment. Approximately 95% of FFHV households had incomes at or below 200% of the federal poverty threshold or were eligible for federal mean-tested benefits such as the Supplemental Nutrition Assistance Program. All FACT Study protocols were approved by the Institutional Review Board (IRB) at the University of Wisconsin-Milwaukee (FWA #00006171).

The current sample consists of 1097 mother–child dyads that completed Wave I and II survey measures (for more information, see Mersky et al., 2018). Upon providing informed consent, mothers completed Wave I surveys, which assess incarceration history, mental health, and demographic characteristics. Wave II surveys were administered approximately 1 year after Wave I and include child social–emotional development data used in the current analysis. Participants were included in the analytic sample if they reported their adult incarceration history at Wave I and had a child between 12 and 48 months of age at Wave II. Of the 1222 dyads that met these criteria, 125 were excluded from the analytic sample because they did not respond to the mental health measures described below.

Measures

Maternal Incarceration

Maternal incarceration was measured at Wave I using a dichotomous (yes/no) question asking whether mothers had been to jail or prison any time after their 18th birthday. No participants were recruited while incarcerated, meaning that all experiences of incarceration occurred prior to the Wave 1 survey. This item was taken from the Adult Experiences Scale, a newer measure of adverse adult experiences that has been shown to have good internal consistency, test–retest reliability, and predictive validity with low-income women receiving home-visiting services (Mersky et al., 2021a, 2021b).

Maternal Mental Health

Mothers responded to survey questions measuring symptoms of depression, anxiety, and posttraumatic stress at Wave I. Depression was measured using the nine-item Patient Health Questionnaire (PHQ-9), a widely used and validated tool for screening and measuring depressive symptoms (Kroenke et al., 2001; Manea et al., 2015). Participants rated the frequency at which they experienced depressive symptoms during the previous 2 weeks on a four-point scale ranging from 0 (*Not at all*) to 3 (*Nearly every day*). Scores were summed and ranged from 0 to 27, with higher scores indicating more depressive symptoms. Internal reliability in the current sample was 0.89.

Anxiety was measured using the Generalized Anxiety Disorder (GAD-7) scale, a seven-item measure that has been shown to be valid and reliable across diverse samples (Plummer et al., 2016; Spitzer et al., 2006). Participants rated the frequency at which they experienced symptoms of anxiety during the previous 2 weeks on a four-point scale ranging from 0 (*not at all*) to 3 (*nearly every day*). Scores were summed and ranged from 0 to 21, with higher scores indicating more anxiety symptoms. Internal reliability in the current sample was 0.91.

Posttraumatic stress was measured using the Primary Care Post Traumatic Stress Disorder (PC-PTSD) screen, a four-item measure that has been shown to be psychometrically sound in military and civilian samples (Ouimette et al., 2008; Prins et al., 2003). Participants responded to four yes/no questions asking if they experienced symptoms of posttraumatic stress within the past month. Scores were summed and ranged from 0 to 4, with higher scores indicating more posttraumatic stress. Internal reliability for the current sample was 0.82.

As shown in previous analyses of the FACT Study sample (Mersky et al., 2018; Zhang et al., 2022), depression, anxiety, and posttraumatic stress scales were highly correlated. Therefore, mental health scores were standardized and incorporated into a latent variable, with higher scores indicating greater mental health symptoms. Given past literature noting the shared variance and residual variance between depression and anxiety, we correlated the error terms between these two constructs (Zhang et al., 2022).

Child Social–Emotional Development

Child social–emotional development was measured at Wave II using the Brief Infant–Toddler Social and Emotional Assessment (BITSEA), a caregiver-reported assessment of social–emotional difficulties in children aged 12–48 months (Briggs-Gowan et al., 2004). The current study used the BITSEA Problem scale, a 31-item measure of social–emotional problems that includes symptoms of dysregulation (e.g., *has trouble falling asleep or staying asleep*), externalizing problems (e.g., *hits, bites, or kicks you*), and internalizing problems (e.g., *seems very unhappy, sad, depressed, or withdrawn*). Mothers rated frequency of these symptoms on a three-point scale ranging from 0 (*Not true/rarely*) to 2 (*Very true/often*). Scores were summed and ranged from 0 to 59, with higher scores indicating greater social–emotional difficulties. The BITSEA has been established as a valid and reliable measure of social–emotional difficulties in young children, and has been used in samples of children with low-income mothers (Mersky et al., 2018; Weitzman et al., 2014; Zhang et al., 2022). Internal reliability for the current sample was 0.84.

Covariates

Demographic data were used to create study covariates. Maternal age was coded as a continuous variable at the date of Wave I survey completion, and a continuous measure of the focal child's age was calculated at the date of Wave II survey completion. Maternal race and ethnicity were coded as a categorical variable that included five groups: non-Latinx Black, non-Latinx white, non-Latinx Indigenous, non-Latinx Other, and Latinx. For the path analysis, we included indicator variables for non-Latinx Black, non-Latinx Indigenous, Latinx, and another race, with white as the reference category. To increase parsimony of the path model, the remaining covariates were coded as dichotomous variables (reference groups in parentheses): cohabitation (not living with spouse or partner), educational attainment (no postsecondary education), mental health and substance use treatment (no history of treatment), child gender (girls), and current incarceration of the index child's father (not incarcerated).

Analytic Plan

Descriptive analyses were completed using SPSS 27 (IBM Corporation, 2020). Mplus 8.7 (Muthén & Muthén, 1998–2021) was used to fit a structural equation model testing whether maternal mental health mediated the relationship between incarceration prior to a child's birth and child social–emotional problems. Full information maximum likelihood was used to handle missing data for endogenous variables. The indirect (IND) command in Mplus was used to test the mediation effects with 95% confidence intervals (CIs). We used bias-corrected confidence intervals based on 5,000 bootstrap iterations to estimate the indirect effects while controlling for covariates (Preacher & Hayes, 2004). We assessed model goodness of fit using the model's chi-square value, comparative fit index (CFI), Tucker Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). A good model fit was determined by a non-significant chi-square value, CFI > .95, TLI > .95, RMSEA < .06, and SRMR < .08 (Hu & Bentler, 1999).

Results

Descriptive Statistics

Descriptive analyses are presented in Table 1. Mothers were 27.4 years of age, on average ($SD = 6.3$), and about 41.8% had some postsecondary education. Approximately 15.2% of mothers were Black, 5.1% Indigenous, 25.1% Latinx, 47.6% white, and 7.0% identified as another race. At Wave

I, more than half of the sample lived with a spouse or partner (57.6%), and 4.4% of mothers reported the father of the index child was currently incarcerated. At Wave II, children (46.9% girls) were an average 22.9 ($SD = 8.2$) months of age.

At Wave I, approximately 20.7% of mothers reported a history of incarceration. Participants' mean PHQ-9, GAD-7, and PC-PTSD scores were 5.68 ($SD = 5.70$), 5.83 ($SD = 5.54$), and 1.10 ($SD = 1.44$), respectively. Results (not shown) indicated that 22.3% of mothers met cutoff (≥ 13) on the PHQ-9 screen for possible clinical depression, 23.7% met the cutoff (≥ 10) on the GAD-7 screen for possible generalized anxiety disorder, and 21.1% met the cutoff (≥ 3) on the PC-PTSD screen for possible posttraumatic stress disorder. Among mothers who were previously incarcerated, 33.5%, 32.2%, and 31.3% screened positive for possible clinical depression, anxiety, and PTSD, respectively. Children's mean social–emotional problem scale score was 10.56, with 28.4% of the total sample meeting criteria for a possible social–emotional problem. The prevalence of likely social–emotional problems was 33.5% among children whose mothers were previously incarcerated and 27.1% among children whose mothers were never incarcerated.

Hypothesis Testing

Hypothesis 1 Maternal incarceration prior to a child's birth will not be directly associated with child social–emotional development

Table 2 reports results from the structural equation model testing direct and indirect associations between maternal incarceration and child social–emotional development. After controlling for covariates, results did not provide evidence for a direct association between maternal incarceration prior to a child's birth and child social–emotional development by age four ($\beta = -.05$, 95% CI $-.20, .10$). Hypothesis 1 was supported.

Hypothesis 2 Maternal incarceration prior to a child's birth will be indirectly associated with child social–emotional development through maternal mental health

Figure 1 displays the structural equation model linking maternal incarceration and child social–emotional problem scores. Fit statistics suggested good model fit ($\chi^2_{(35)} = 47.87$, $p = .07$; RMSEA = .02, 90% CI .00, .03; CFI = .99; TLI = .99; SRMR = .03; Table 2). Controlling for covariates, the paths between maternal incarceration and maternal mental health ($\beta = .22$, 95% CI .04, .39) and maternal mental health and child social–emotional problem scores ($\beta = 0.39$, 95% CI .31, .48) were both significant. Moreover, results indicated maternal incarceration was indirectly associated with child social–emotional problem scores via maternal

Table 1 Descriptive statistics of sample ($N = 1097$)

Variable	% or Mean (SD)	Observed range
Demographic covariates		
Mother age ^a	27.43 (6.26)	18.02–52.36
Mother education (any college)	41.8%	
Mother cohabitating with spouse	57.6%	
Mother race and ethnicity		
Indigenous	5.1%	
Black	15.2%	
Latinx	25.1%	
Other	7.0%	
White	47.6%	
Previous mental health or substance use treatment ^b	52.1%	
Father of index child currently incarcerated	4.4%	
Child gender (female)	46.9%	
Child age ^c	22.87 (8.21)	12.19–47.77
Independent variable		
Mothers with history of incarceration	20.7%	
Mediator variable		
Depression	5.68 (5.70)	0–27
Anxiety	5.83 (5.54)	0–21
Posttraumatic stress	1.10 (1.44)	0–4
Dependent variable		
BITSEA problem scale, total score	10.56 (7.21)	0–59

^aAge in years^bPrevious mental health or substance use treatment among mothers^cAge in months

mental health ($\beta = .08$, 95% CI .01, .16). Including all covariates, the path model accounted for 28.5% of the variance in maternal mental health and 15.8% of the variance in child social–emotional problem scores. An analysis of the proportion mediated, an approximation of effect size in mediation models (Alwin & Hauser, 1975; MacKinnon et al., 2007; Wen & Fan, 2015), indicated approximately 61.5% of the total effect of maternal incarceration on child social–emotional development was explained by the indirect effect of maternal mental health. Hypothesis 2 was supported.

Discussion

In this study of low-income families that received perinatal home visiting services, we revisited whether social–emotional problems were more prevalent among children of formerly incarcerated mothers than children of never-incarcerated mothers. Results indicated that there was no direct relation between maternal incarceration and child social–emotional problem scores by age four. Our findings corroborate prior work that suggests maternal incarceration alone does not appear to significantly influence child

social–emotional outcomes in early childhood (Arditti, 2015; Choi et al., 2016; Poehlmann-Tynan et al., 2021).

Interpretations of these counterintuitive findings should begin with the recognition that the study was designed to isolate the influence of maternal incarceration occurring prior to a child's birth. All data were collected from a community-dwelling sample of mothers, none of whom were incarcerated when Wave I or Wave II data were collected. While it is possible that some participants were in prison or jail either after childbirth and before the Wave I survey or between the Wave I and Wave II surveys, it is likely that the percentage was small and the detention period was brief. The implication of this study design is that it largely removes an expected mechanism of effect associated with incarceration: mother–child separation. Our study design did not compare children whose mothers were incarcerated prior to giving birth to those who were separated from their mothers by incarceration. Further research is needed to explore the extent to which child outcomes vary by the *timing* of maternal incarceration.

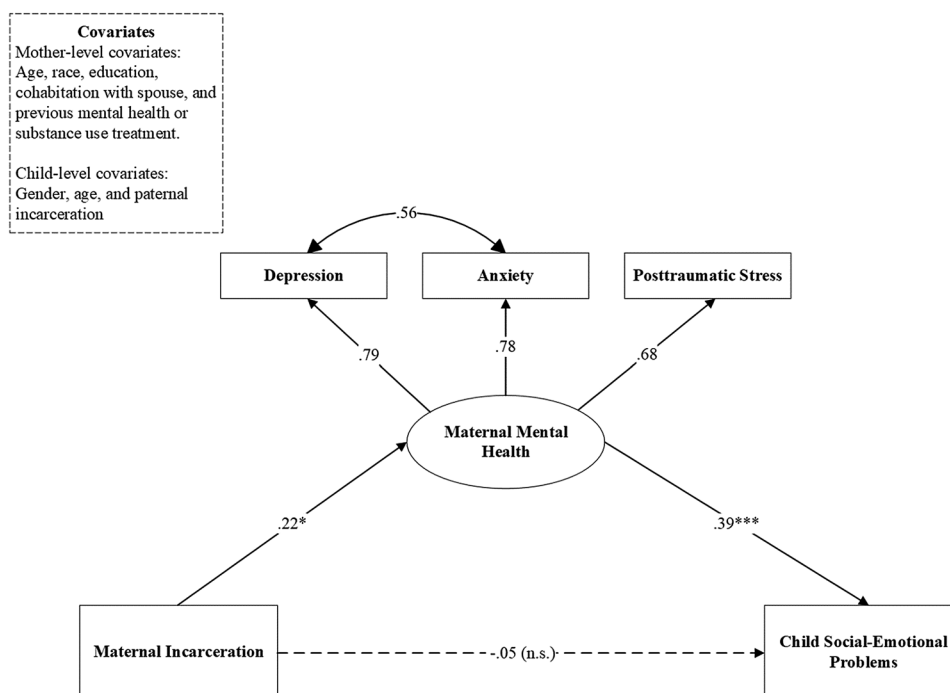
At the same time, some studies have found that child outcomes are not significantly associated with maternal incarceration during a child's lifetime (Arditti, 2015; Poehlmann-Tynan & Turney, 2021; Turney & Wildeman, 2015;

Table 2 Standardized coefficients from a structural equation model analysis linking maternal incarceration to child social–emotional problems ($N = 1097$)

Variables	Estimate	95% CI
Direct paths		
Child social–emotional problems		
Maternal incarceration	-.05	[-.20, .10]
Mental health	.39	[.31, .48]
Mother age	-.03	[-.09, .03]
Mother education	-.19	[-.31, -.08]
Mother race: Indigenous	.06	[-.15, .27]
Mother race: Black	.36	[.17, .55]
Mother race: Latinx	.11	[-.03, .26]
Mother race: Other	.37	[.10, .64]
Prior mental health or substance use treatment	-.12	[-.27, .03]
Cohabitation with partner	-.05	[-.17, .07]
Father incarceration	-.02	[-.32, .28]
Child age	-.03	[-.09, .04]
Child gender	-.17	[-.28, .03]
Mental health		
Maternal incarceration	.22	[.04, .39]
Indirect path		
MI → MH → CP	.08	[.01, .16]
Factor loadings		
Depression	.79	[.74, .85]
Anxiety	.78	[.73, .83]
PTSD	.68	[.63, .74]

Model fit statistics: $\chi^2_{(35)} = 47.87, p = .07$; RMSEA = .02, 90% CI .00, .03; CFI = .99; TLI = .99; SRMR = .03; $\chi^2/df = 1.37$; MI maternal incarceration, MH mental health, CP child social–emotional problems

Fig. 1 Hypothesized mediation model linking maternal incarceration to child social–emotional problems via maternal mental health. Model fit indices: $\chi^2_{(35)} = 47.87$, $p = .07$; RMSEA = .02, (90% CI .00, .03); CFI = .99; TLI = .99; SRMR = .03. * $p < .05$, ** $p < .01$, *** $p < .001$



Wildeman & Turney, 2014), suggesting that alternative or complementary interpretations are warranted. One possibility is that maternal incarceration is confounded with other household characteristics, experiences, and conditions. Support for this interpretation comes from evidence indicating that maternal incarceration has a negligible impact in the presence of high levels of cumulative risk (Poehlmann-Tynan et al., 2021; Wildeman & Turney, 2014). Although we did not directly test this hypothesis, the findings should be interpreted while considering the disadvantaged nature of the FACT Study sample. For instance, most participants resided in households at or near the poverty line. Research has long documented the relationship between poverty and incarceration, with one report published by the Prison Policy Initiative showing incarcerated individuals earned 41% less prior to their incarceration than individuals of similar ages who were never incarcerated (Allen et al., 2010; Rabuy & Kopf, 2015). Past studies also indicate that this sample experienced exceedingly high levels of childhood and adult adversity (Mersky et al., 2017, 2018), which is consistent with research on incarcerated women (Lynch et al., 2013; Salisbury & Van Voorhis, 2009). It is likely that these accumulating hardships help to explain why 20.7% of these women had been in prison or jail and why imprisonment did not add significant variance to an explanatory model of children's social–emotional problems.

Despite the lack of a demonstrable direct effect, there was evidence of an indirect connection between maternal incarceration and child social–emotional development through a maternal mental health pathway. More than one in five women in the sample screened positive for possible clinical depression, generalized anxiety, and PTSD. These mental health concerns were even more prevalent among formerly incarcerated women, with 33.5%, 32.2%, and 31.3% of women screening positive for a possible mental health disorder on the PHQ-9, GAD-7, and PC-PTSD-4, respectively. Well over a quarter (28.4%) of children met the cutoff on the BITSEA problem scale denoting a possible social–emotional problem. Again, child social–emotional problems were reported by a higher percentage of formerly incarcerated women (33.5%) than never-incarcerated women (27.1%). It should be emphasized that these percentages are not directly comparable to prevalence rates based on formal diagnostic criteria, but they do corroborate previous research reporting elevated rates of child social–emotional and maternal mental health problems in low-income populations (Cappa et al., 2011; Paschetta et al., 2014; Puff & Renk, 2014; Radey & McWey, 2021).

A path analysis verified that maternal incarceration prior to a child's birth was indirectly associated with child social–emotional outcomes through maternal mental health, implying that mothers with an incarceration history were more likely than their non-incarcerated peers to have mental

health challenges that then increased the likelihood that their child would be perceived as having social–emotional problems. It may well be that, once incarcerated, many participants did not receive services to address their mental health care needs and, worse yet, were exposed to adverse conditions that were detrimental to their mental health (Harner & Riley, 2013; Lynch et al., 2012). Upon reentry to the community, their mental health status may have been further compromised by a host of social and economic challenges along with limited access to mental health care (Allen et al., 2010; Bakken & Visser, 2018; Garcia, 2016; Opsal, 2012; Opsal & Foley, 2013). To the extent that these interpretations of the data are valid, strategies to enhance the mental health of women in prison and post-incarceration may have benefits that are passed along to their offspring.

Limitations

This study is not without limitations. First, incarceration was assessed retrospectively at Wave I as a dichotomous indicator of lifetime occurrence, while child social–emotional problems were measured at Wave II. Further longitudinal studies bearing more complex designs are needed to assess how child outcomes are affected over time by repeated instances of maternal incarceration and other contacts with the criminal legal system. Similarly, future studies should incorporate more specific measures of criminal legal involvement, including the length of incarceration and the amount of time since release. Another major limitation of the study is our reliance on maternal self-report data, which may be prone to social desirability and common source biases (Carter et al., 2004; Squires et al., 2001). Future studies can mitigate these biases by triangulating data sources such as administrative records and reports from collateral observers such as childcare, healthcare, and in-home service providers. A third limitation is that, despite using a longitudinal cohort design and statistical controls, we cannot confidently infer causality given the omission of unmeasured confounders. For example, our models did not account for mental health problems that emerged prior to the study start. Finally, generalizability of the findings may be limited to low-income households receiving perinatal home visiting services in Wisconsin, especially considering that home visiting programs have been linked to positive child social–emotional outcomes (Peacock et al., 2013; Sweet & Appelbaum, 2004).

Implications and Future Directions

In this study of low-income families that received perinatal home visiting services, we found little evidence that maternal incarceration had a direct effect on children's

social–emotional outcomes. One plausible explanation is that the participants were exposed to such high levels of cumulative adversity that introducing another adverse experience such as incarceration added little variance to an explanatory model. Prior research supplies some support for this interpretation, including an investigation by Turney and Wildeman (2015) of the Fragile Families and Child Wellbeing (FFCW) dataset that found maternal incarceration to be associated with poorer child outcomes among lower-risk families but not higher-risk families. These findings are notable given the similar socio-demographic compositions of the FFCW Study and the FACT Study samples. Taken together, the evidence indicates that the effects of incarceration may be masked by other personal characteristics, environmental conditions, and structural inequities that are correlated with both maternal incarceration and child development outcomes.

In support of the preceding interpretation, we discovered that maternal incarceration was indirectly associated with children's social–emotional problems through a maternal mental health pathway. Symptoms of depression, anxiety, and PTSD were not uncommon in the overall sample, but mental health challenges were disturbingly prevalent among women with an incarceration history. Research has shown that many women enter prison and jail with mental health problems (James & Glaze, 2006; Lynch et al., 2013; Salisbury & Van Voorhis, 2009), and our results imply that prison and jail may do little to ameliorate these difficulties. These enduring mental health challenges may have interfered with mothers' ability to secure the kinds of developmentally appropriate, sensitive caregiving environments that promote early social–emotional development (Letourneau et al., 2019; Slade, 2005). Viewed through this lens, the findings align with the conclusion that there is a need to improve access to research-supported mental health services for women in prison and jails (Milavetz et al., 2021). In addition, family support programs that serve formerly incarcerated women could be employed to remove barriers to treatment while addressing other complex needs and stressors that undermine mental health. Namely, instrumental services that connect women to material resources such as housing and employment are critical, particularly in light of evidence showing high rates of homelessness and unemployment among formerly incarcerated women (Mallik-Kane & Visser, 2008). Previous studies also show women often return home to strained relationships with relatives, partners, and children (Cooper-Sadlo et al., 2019; Garcia, 2016; Opsal & Foley, 2013). Therefore, formerly incarcerated women may benefit from family services that enhance their social support and household stability as they re-enter their communities.

Because many home visiting models offer flexible and comprehensive services for multiple years postpartum, they

could play a vital role in addressing the social–emotional, relational, and economic needs of families with young children that are affected by incarceration. Despite differing in design and content, home visiting programs typically count positive parenting and child social–emotional outcomes among their central goals, and they have been linked to benefits in both of these domains (Peacock et al., 2013; Sweet & Appelbaum, 2004). However, little is known about how home visitors can successfully engage and tailor services for families that have been involved in the criminal legal system (Fauth & Winestone, 2021; Lee et al., 2022; Testa & Jackson, 2020), and no known studies have examined the effects of home visiting on the children of formerly incarcerated populations. The striking prevalence of incarceration among home visiting participants in the current study signals the need to address this gap in the literature. Our findings suggest that the effectiveness of home visiting with this special population may hinge partly on the extent to which programs promote maternal mental health, an area in which home visiting has a disappointing track record (Ammerman et al., 2010; Leonard et al., 2021). Emergent practices in home visiting that warrant greater attention include structured screening and referral protocols, mental health consultation, and integrated clinical treatment (Ammerman et al., 2015; Dauber et al., 2019; Goodson et al., 2013; Mersky et al., 2021a, 2021b).

Conclusion

Confirming prior research on socioeconomically disadvantaged families, this study showed that maternal incarceration was not directly associated child social–emotional problems in early childhood. However, our findings suggest that mothers with an incarceration history often have lingering mental health difficulties that may impede their child’s social–emotional development. Additional research is needed to confirm this pathway and test other potential mediators through which maternal incarceration might influence early childhood social–emotional development. Our findings underscore the urgent need to identify services that meet the intergenerational needs of families impacted by involvement in the criminal legal system. Although two-generation interventions such as home visiting may be particularly promising in this regard, primary prevention of incarceration is arguably the most effective manner of averting the intergenerational effects of maternal incarceration.

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Declarations

Conflict of interest The authors declare no potential conflicts of interest with respect to the research, authorship, or publication of this article.

Ethical Approval Families and Children Thriving (FACT) Study protocols were approved by the Institutional Review Board (IRB) at the University of Wisconsin-Milwaukee (FWA #00006171).

Informed Consent Survey data were collected from study participants (mothers) after obtaining their informed consent.

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