



Witnessing Parental Arrest As a Predictor of Child Internalizing and Externalizing Symptoms During and After Parental Incarceration

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Abstract

Purpose One in fourteen children in the United States experiences the incarceration of a parent with whom they have lived. Although prior research has established that witnessing the arrest of a parent is a common occurrence for children of criminal justice-involved parents, child outcomes following such an event are understudied. Little is known about the long-term impacts of witnessing an arrest on children and the extent to which they may vary by child age.

Methods Using longitudinal data from the Parent Child Study of mothers and fathers incarcerated in state prison, we examine the witnessing of parental arrest as an acute traumatic event and identify the extent to which this type of trauma predicts externalizing and internalizing symptoms for children during their parents' incarceration and following release.

Results Witnessing a parent's arrest predicted greater internalizing behavior concerns while parents were incarcerated, with a greater magnitude of effect for children under eight years of age. Six months post-release of the parent, children younger than age eight who witnessed the arrest showed significantly higher internalizing and externalizing behaviors. No effect was found for children ages eight years or older.

Conclusion Implications for future policies to reduce the likelihood of children witnessing parental arrests, as well as the potential benefit of screening for trauma when working with children with incarcerated parents, are discussed.

Keywords Developmental psychology · post-traumatic stress disorder · adverse childhood experiences · clinical psychology · psychopathology · criminal justice reform · policing · incarcerated parents

Introduction

Roughly 1.8million adults are incarcerated in the United States (Kang-Brown et al., 2021). Although this is a 16% decrease since 2019—largely attributed by researchers to changes in policies related to the COVID-19 pandemic (see

Garcia et al., 2021)—the number of imprisoned adults in the United States has more than quintupled in magnitude since the 1980s (Kjellstrand & Eddy, 2011; U.S. Department of Justice, 2004). The majority of adults in prison are also parents of at least one minor child (Glaze & Maruschak, 2008; Maruschak et al., 2021), resulting in approximately one in fourteen children experiencing the incarceration of a parent with whom they have lived (Murphey & Cooper, 2015). This experience differs significantly by race and ethnicity, with children from Black, Indigenous, and people of color (BIPOC) families much more likely to experience parental incarceration (Carson, 2020). The arrest and removal of a parent or caregiver can be a highly traumatic event for both children and families, and can have ramifications for their emotional, physical, educational, and/or financial well-being across time (Martin, 2017).

Parental incarceration has traditionally been conceptualized as an “ambiguous loss” for children instead of an acute trauma. Ambiguous loss theory suggests that the departure

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of a family member causes “boundary uncertainty” (Bocknek et al., 2009), a significant stressor for children. Both the physical loss of a parent and the child’s subsequent uncertainty of the separation affects their perception about who is and who is not a part of the family system (Poehlmann-Tynan et al., 2021). However, many children also experience situations that generate acute trauma associated with the incarceration of a parent, such as directly witnessing the incident of arrest (Poehlmann-Tynan, 2022; Phillips & Zhao, 2010; Roberts et al., 2014).

Witnessing Parental Arrests as an Acute Traumatic Event

Substantial evidence indicates that exposure to acute traumatic events may have long-term implications for child functioning (Copeland et al., 2018; De Bellis & Zisk, 2014; Dunn et al., 2017; Kitzmann et al., 2003; Majer et al., 2010). Trauma may disrupt healthy child development in a variety of areas and influence subsequent interpersonal, academic, and even vocational deficits that reverberate across the lifespan (Farrell et al., 2019; Jacob et al., 2019; Herzog & Schmahl, 2018; Kalmakis & Chandler, 2015). A wide range of events is known to trigger symptoms of trauma in children, such as witnessing a medical emergency, witnessing an incident of domestic violence, and witnessing a natural disaster (McKinnon et al., 2019). Given that exposure to a single traumatic incident may increase stress responses in children for months or even years (e.g., McLaughlin & Lambert 2017; Phillips et al., 2004), it is important to explore the impacts of exposure to *specific, premeditated, and potentially avoidable* traumatic incidents. An incident that clearly fits within this category of trauma is a child witnessing the arrest of a parent.

In this regard, children often have little context to interpret and understand the arrest of a parent. Although children better understand the implications of legal proceedings as they age, incomplete understanding is near-universal (Quas et al., 2009; Block et al., 2010). Further, children of all ages show signs of distress even when exposed to fairly predictable legal proceedings, such as witnessing a parent in court (Quas et al., 2009). Given that arrests may be more chaotic (Phillips & Zhao, 2010), it is likely that witnessing a parental arrest may affect children more than witnessing other justice system actions. While each situation is unique, this experience may involve observing not only forced entry into the home, but also physical and verbal aggression, bodily injury, and restraint and removal via handcuffs, each of which can be highly traumatic for children (Muentner et al., 2021).

Early childhood exposure to traumatic experiences with characteristics such as these may place children at risk for internalizing or externalizing disorders. While internalizing disorders are directed inward and disrupt a child’s psychological or emotional state (e.g., depression, anxiety, withdrawal; Liu et al., 2011), externalizing disorders are directed outward and manifest in disruptive, aggressive, and impulsive behaviors towards other beings and things in their environment. Both internalizing and externalizing behaviors often elicit intensely negative responses from parents, siblings, peers, and other adults (Campbell et al., 2000; Eisenberg et al., 2001; Liu, 2004). Both may challenge and change the social interactional contexts of a child in potentially dysfunctional ways for all concerned (Tien et al., 2020). Further, the responses of others often tend to reinforce the continuation, rather than the remediation, of symptoms (Dishion & Snyder, 2016). Not surprisingly, there is significant comorbidity between internalizing and externalizing disorders (Willner et al., 2016; Hinshaw, 1987).

There are methodological challenges to measuring the effects of a single type of traumatic event. Families experiencing incarceration may be more likely than other populations to experience a range of traumatic experiences, including multiple forms of trauma, which may impact child outcomes (Collin-Vézina et al., 2011; Metcalfe et al., 2022; Skinner-Osei & Levenson, 2018). If children who experience one form of trauma are substantively different than their peers in other life stressors or traumatic events, it may be challenging to establish equality of expectations across these two groups, impacting researcher ability to make causal statements. Nevertheless, examination of specific traumatic experiences may provide important insight into the experiences of children and families who experience adversity.

Witnessing the Arrest of a Parent

While the prevalence of children witnessing arrests is unclear, some researchers have estimated that as many as 20 to 30% of parents who are arrested may have had children present during their arrest (e.g., Dallaire & Wilson 2010). Although the impacts of parental incarceration on child mental health have been documented (e.g., Eddy & Poehlmann 2010; Eddy & Poehlmann-Tynan, 2019; Lee et al., 2013; Miller, 2006; Murray et al., 2012; Turney, 2014; Turney & Goodsell, 2018), and parental arrest is generally associated with higher levels of PTSD symptoms and depression (e.g., Arditti & Salva 2013), the implications of witnessing these incidents remain significantly understudied.

The few studies that do exist suggest that witnessing parental arrests is associated with poor outcomes. For

example, in a sample of almost 2,000 children involved with child protective services, Phillips & Zhao (2010) found that children who had witnessed a household member's arrest were 73% more likely to experience a greater number of post-traumatic stress symptoms than children who had not witnessed an arrest. Further, they found that as many as 25% of children who had witnessed an arrest of a family member showed elevated signs of post-traumatic stress. Dallaire & Wilson (2010) found that witnessing parental arrest was associated with poorer emotional regulation skills, lower receptive vocabulary scores, and increased anxious and depressed behaviors for children compared to children with incarcerated parents who did not witness their parents being arrested. In another study on this topic, Poehlmann-Tynan and colleagues (2021) found that witnessing parental arrests and experiences of stress related to this incident predicted missed developmental milestones, poorer academic skills, and physical health concerns. Most recently, Muentner and colleagues (2021) found that children who witnessed their father's arrest experienced higher levels of stress hormones along with "blunted" physiological stress levels. Considered together, these studies indicate that witnessing the arrest of a parent may impact children above and beyond the potentially deleterious effects of parental incarceration.

Notably, much of the recent literature in this area specifically examines populations up to age eight (e.g., Muentner et al., 2021; Poehlmann-Tynan et al., 2021), with little examination of how effects might vary as children age. This is particularly important in the context of prior literature on development for children with incarcerated parents, which suggests that risks and impacts of incarceration affect children differently beginning at approximately age eight, at which point emotional difficulties and attention concerns may transition to externalizing behaviors and difficulty in school (e.g., Poehlmann-Tynan & Turney 2020). This gap in the research literature suggests that greater attention is needed on documenting the impact of witnessing arrest on children during the various stages of development. Additionally, the existing literature largely considers child outcomes during a parent's incarceration, with no work documenting the potentially lasting impact of this trauma exposure after a parent is released from jail or prison.

Research Questions

In order to extend the existing research base on witnessing arrests and the impacts of such on children, we address the following research questions:

1. To what extent does witnessing parental arrest predict child externalizing symptoms for younger (i.e., younger than eight years) and older children (i.e., eight years and older) during prison and six-months post-release?
2. To what extent does witnessing parental arrest predict child internalizing symptoms for younger and older children during prison and six-months post-release?

Methods

Overview

Data for these analyses come from The Parent Child Study, a randomized controlled trial of a prison-based parent management training program (Eddy et al., 2008, 2013, 2022). The study was approved by the federal Office of Human Research Protections and by the Oregon Social Learning Center Institutional Review Board. Recruitment took place in all Oregon Department of Corrections (DOC) facilities across the state. Eligible parents who consented to participate were transferred to one of four DOC releasing institutions, where the early phases of the study were conducted. To be eligible, participants had to meet the following criteria: be a parent of at least one child between the ages of 3 and 11 years old, have the legal right to contact their child, have had some role in parenting their child(ren) in the past, have some expectation of playing a parenting role in the future, possess contact information for the caregiver of their child(ren), have not committed either a crime against a child or any sex offense, have less than nine months remaining before the end of their prison sentence, and either reside in a study institution or have the DOC be willing to transfer the parent to serve their sentence in a study institution. The final study sample comprised 359 parents. Mothers and BIPOC parents were oversampled, with 55% of the sample identifying as women, and 59% of the sample identifying as White, 13% as Black, 11% as Multiracial, 8% as Native American, and 8% as Hispanic/Latino/x. Participants had an average of three children and selected one "target child" in the primary school years to focus on in the assessment. The average child was eight years old. Prior to incarceration, 34% of parents lived with their children full time. In comparison to mothers, fathers were more likely to be serving a sentence for a violent crime, were more likely to have longer sentences, and were younger on average at the date of their first arrest. Additional information about the sample is available in Kjellstrand and colleagues (2012) and Borja and colleagues (2015). See Table 1 for demographic information.

Table 1 Participant Demographics

	Full Sample (<i>n</i> = 286)	Child Wit- nessed Arrest (<i>n</i> = 48)	Child Did Not Wit- ness Arrest (<i>n</i> = 238)
Child Age			
Younger than 8	125 (43.71%)	20 (41.67%)	105 (44.12%)
Aged 8+	161 (56.29%)	28 (58.33%)	133 (55.88%)
Child Sex			
Male	134 (46.85%)	23 (47.92%)	111 (46.64%)
Female	152 (53.15%)	25 (52.08)	127 (53.36%)
Child Race/Ethnicity			
White	157 (54.90%)	18 (37.50%)	139 (58.40%)
Black	31 (10.84%)	6 (12.50%)	25 (10.50%)
Other Children of Color	98 (34.27%)	24 (50.00%)	74 (31.09%)
Parent Sex			
Male	117 (40.91%)	30 (62.50%)	99 (41.60%)
Female	169 (59.09%)	18 (37.50%)	139 (58.40%)
Years of Co-Resi- dence (Years)	4.48 (3.85)	5.55 (3.91)	4.28 (3.81)
Length of Parents' Sentence (Years)	1.81 (1.67)	1.67 (1.79)	1.84 (1.65)

Key Variables

Outcome Variables

The Child Behavior Checklist (CBCL; Achenbach 1999) is an empirically-based assessment of child behavior with psychometrically sound properties. The CBCL comprises eight syndrome scales. The anxious/depressed, withdrawn-depressed, and somatic complaints scale scores can be combined to create a broadband scale of “Internalizing problems”, and the rule-breaking and aggressive behavior scale scores can be combined to create a broadband scale of “Externalizing problems”. The three remaining scales—social problems, thought problems, and attention problems—do not belong to either broadband scale and were not included in this analysis.

Predictor Variables

The predictor variable of interest was whether or not the target child witnessed their parent’s arrest for the crime for which the parent was currently incarcerated. This was based on a single incarcerated parent-rated item in the first “baseline” wave of data collection in the Parent Child Study and was coded as a binary variable, with a “1” indicating that

the child was present at their arrest and a “0” indicating that they were not present.

Control Variables

In each analysis, we controlled for various factors that may be associated with children’s exposure to parental arrest as well as their well-being while parents were in prison and upon release. *Children’s age* was dichotomized into groups of children younger than eight-years-old and eight years and older. This was both informed by data (eight years of age was the mean and median age of children in this study) as well as from previous work that finds variation in children’s well-being from eight years onward, both within this study and broadly among children with incarcerated parents (Muentner & Eddy, 2022; Poehlmann-Tynan & Turney, 2020). *Child gender* was coded as either boys (1) or girls (0). *Child race/ethnicity* categorizes whether the child was White (0), Black (1), or of other race(s) and ethnicit(ies) (2). *Pre-incarceration co-residence* accounts for the number of years in total that the child lived with their parent before their current imprisonment. *Treatment* controls for intervention status [i.e., PIO intervention (1) versus service-as-usual control (0)]. *Prison* accounts for study prison sites. The final models examining children’s behavioral health during reentry controlled for baseline measures of CBCL domains while parents were in prison.

Data Analysis Plan

Ordinary Least Squares (OLS) regressions were run using Stata/SE 17.0 (StataCorp, 2021). The first set of regressions predict associations of children’s well-being while parents are incarcerated for the full sample; these are then re-estimated separately by children’s age to assess differences by developmental stage. The models were then rerun using post-release well-being as the outcome, controlling for baseline, to account for the initial influence of witnessing arrest on well-being after release, net of initial influence, both for the full sample and again separately by child age.

Missing data were a consideration in our analyses. In particular, while 359 incarcerated parents participated in the baseline interview (Eddy et al., 2013), data were missing on the CBCL for 19.8% of parents, reducing the analytic sample for in-prison child well-being to *n* = 286. Additionally, only 299 of the original 359 parents were retained in the final six-months post-release interview wave within which our post-release child well-being surveys are measured (see Muentner & Eddy 2022). Again, of those included in this wave, data were missing for children’s well-being outcome measures from baseline in 18.1% of cases and from the reentry wave in 15.7% of cases, thus reducing the sample

Table 2 Children's Behavioral Health during Incarceration

	Full Sample (<i>n</i> = 286)		Young Children (<i>n</i> = 125)		Older Children (<i>n</i> = 161)	
	Internalizing <i>B</i> (<i>SE</i>)	Externalizing <i>B</i> (<i>SE</i>)	Internalizing <i>B</i> (<i>SE</i>)	Externalizing <i>B</i> (<i>SE</i>)	Internalizing <i>B</i> (<i>SE</i>)	Externalizing <i>B</i> (<i>SE</i>)
Witnessing Arrest	0.36 (0.16) *	0.03 (0.16)	0.55 (0.25) *	0.12 (0.24)	0.19 (0.21)	-0.02 (0.22)
Child Aged 8+	0.09 (0.13)	-0.03 (0.13)				
Male Child	-0.01 (0.12)	0.28 (0.12) *	-0.05 (0.18)	0.11 (0.17)	-0.02 (0.16)	0.35 (0.17)
Child Race/Ethnicity						
Black	-0.32 (0.20)	-0.02 (0.20)	-0.34 (0.25)	-0.14 (0.24)	-0.38 (0.34)	0.25 (0.35)
Other Children of Color	-0.17 (0.13)	-0.17 (0.13)	-0.16 (0.20)	0.01 (0.20)	-0.24 (0.17)	-0.34 (0.78) †
Pre-incarceration Residence	0.03 (0.02) †	-0.00 (0.02)	0.05 (0.04)	0.02 (0.03)	0.03 (0.02)	-0.01 (0.02)
Treatment	0.02 (0.12)	0.12 (0.12)	-0.30 (0.18)	-0.14 (0.17)	0.29 (0.16) †	0.33 (0.17) †
Prison Site						
Prison Site 2	0.06 (0.16)	0.33 (0.16) *	0.07 (0.23)	0.47 (0.23) *	0.08 (0.23)	0.21 (0.23)
Prison Site 3	-0.30 (0.18) †	-0.00 (0.18)	-0.43 (0.25) †	0.06 (0.25)	-0.17 (0.26)	-0.02 (0.27)
Prison Site 4	-0.18 (0.27)	0.24 (0.27)	0.10 (0.34)	0.57 (0.33) †	-0.059 (0.43)	-0.14 (0.45)

Notes: † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.00$.

for the six-month follow up waves to $n = 224$. Jakobsen and colleagues (2017) provide guidance on how to handle missing data when this is the case, concluding that when data are only missing on the dependent variable that analyses should use observed data and include a discussion of limitations. To further inform this decision, a series of sensitivity analyses were conducted after completing multiple imputation procedures, which revealed similar results. However, the complete case analyses were both more robust and consistent with statistical recommendations and thus are presented below.

The nesting of participants within prisons was also a consideration in the analyses. Though participants were nested within prisons at baseline, previous analyses found no significant nesting using Stata's multilevel mixed-effects procedures (Eddy et al., 2013). As such, the analyses here control for the site (prison) as well as hold constant any potential treatment effects and additional demographic covariates described above. *P*-values are reported using the "language of evidence" as suggested by Muff and colleagues (2021).

Results

Children witnessed their parents' arrest in 16.8% of participating families. Chi-square tests were conducted and revealed no evidence of differences in this experience by child age, race, or whether they visited their parents during the incarceration after the arrest. That said, children who lived with their soon-to-be-incarcerated parents during the month before the imprisonment were significantly more likely to be present for the arrest ($p < 0.001$), accounting for 71.4% of all children who were exposed to this potentially traumatic event.

To determine whether this exposure influenced children's behavioral health while parents were in prison, a series of OLS regression models were conducted; first with the whole sample and then again within child age-specific groups (Table 2). Among the full sample of children, there was strong evidence that witnessing parents' arrest was associated with greater internalizing behavior problems ($p = 0.027$; 0.36 standard deviations) while parents were currently in prison, net of covariates. There was no evidence that witnessing parental arrest was associated with greater externalizing behavior ($p = 0.855$). To better understand heterogeneity by child age, these models were then run separately for children younger than age eight years and age eight years and older, revealing that evidence of adverse internalizing behavioral responses in the whole sample may be largely concentrated among children younger than eight-years-old. Pointedly, younger children who witnessed their parents' arrest had an associated 0.55 standard deviations greater internalizing behavior problems, and there was strong evidence for a difference between children who did and did not witness parental arrest ($p = 0.028$) while parents were incarcerated. Nevertheless, there was no evidence of associations between witnessing parents' arrest and children's behavioral health for younger children's externalizing behaviors ($p = 0.626$) nor for either internalizing ($p = 0.379$) or externalizing ($p = 0.939$) domains for older children while parents were in prison.

This series of OLS regression models was then repeated with children's behavioral health measured six months after parents' release from prison as the outcome to better understand the role of witnessing arrest on children's well-being within the first six months that parents return to the community (Table 3). For the full sample, there was marginal evidence that witnessing parental arrest was associated with elevated externalizing problems during reentry ($B = 0.26$,

Table 3 Children's Behavioral Health 6-Months following Parents' Imprisonment

	Full Sample (<i>n</i> = 224)		Young Children (<i>n</i> = 100)		Older Children (<i>n</i> = 124)	
	Internalizing <i>B</i> (<i>SE</i>)	Externalizing <i>B</i> (<i>SE</i>)	Internalizing <i>B</i> (<i>SE</i>)	Externalizing <i>B</i> (<i>SE</i>)	Internalizing <i>B</i> (<i>SE</i>)	Externalizing <i>B</i> (<i>SE</i>)
Witnessing Arrest	0.02 (0.15)	0.26 (0.14) †	0.48 (0.19) *	0.66 (0.20) **	-0.18 (0.21)	0.02 (0.20)
Child Aged 8+	0.20 (0.12)	0.10 (0.12)				
Male Child	-0.03 (0.11)	-0.05 (0.11)	-0.26 (0.14) †	-0.09 (0.15)	0.19 (0.17)	-0.04 (0.16)
Child Race/Ethnicity						
Black	0.29 (0.19)	0.00 (0.18)	-0.05 (0.19)	-0.01 (0.21)	0.84 (0.35) *	-0.11 (0.34)
Other Children of Color	0.09 (0.12)	0.02 (0.12)	0.11 (0.16)	0.05 (0.17)	0.14 (0.18)	0.00 (0.17)
Pre-incarceration Residence	-0.05 (0.02) **	-0.04 (0.02) *	-0.05 (0.04)	-0.08 (0.04) *	-0.05 (0.02) *	-0.02 (0.02)
Treatment	0.01 (0.11)	0.13 (0.11)	0.23 (0.14) †	0.25 (0.15) †	-0.24 (0.17)	0.04 (0.17)
Prison Site						
Prison Site 2	-0.37 (0.16) *	-0.28 (0.16) †	-0.46 (0.19) *	-0.33 (0.21)	-0.33 (0.25)	-0.28 (0.24)
Prison Site 3	-0.08 (0.17)	0.10 (0.17)	-0.25 (0.20)	-0.04 (0.22)	0.03 (0.27)	0.16 (0.26)
Prison Site 4	-0.21 (0.33)	-0.54 (0.32) †	-0.35 (0.29)	-0.45 (0.32)	0.50 (0.94)	-0.81 (0.91)
Baseline Outcome	0.34 (0.06) ***	0.55 (0.06) ***	0.27 (0.07) ***	0.44 (0.08) ***	0.42 (0.09) ***	0.65 (0.09) ***

Notes: † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

$p = 0.069$) and there was no evidence for internalizing problems ($p = 0.896$). Separate models by child age suggest that children aged eight years and older seem to reflect weaker levels of evidence, which may be driving these results, and that witnessing arrest may, again, have more salient ongoing consequences for younger children throughout reentry. For children younger than age eight years, models measuring behavioral health six months after parents were released from prison revealed strong evidence of associations between witnessing arrests and increased internalizing behavior ($p = 0.011$; 0.48 standard deviations) as well as increased externalizing behavior ($p = 0.002$, 0.66 standard deviations), controlling for other potential confounders. For children eight years and older, there was no evidence for association with either internalizing ($p = 0.394$) or externalizing behavior ($p = 0.925$).

Discussion

These analyses examined childhood exposure to witnessing the arrest of a parent, and the subsequent risk for child internalizing and externalizing disorders. In general, witnessing a parent's arrest predicted greater internalizing behavior concerns while parents were incarcerated, with a greater magnitude of effect for younger children. Six months post-release of the parent, there was little to no evidence that witnessing a parent's arrest predicted outcomes for the full sample (largely driven by non-significant findings for older children), but children younger than age eight years did show consistently higher behavioral concerns for both internalizing and externalizing behaviors. These results suggest that witnessing parents' arrest prior to prison sentences

is associated with adverse behavioral health for children, especially for those younger than eight years.

The current study contributes to a growing body of literature on the impacts associated with witnessing parental arrest for children. Although our results suggest that younger children seem to be more strongly impacted than older children, this does not mean that older children are free from consequences. However, these findings are consistent with previous work by Roberts and colleagues (2014), who found that, in children who knew about or were otherwise exposed to the arrest, imprisonment, or removal by police or soldiers of a family member, young children experience greater adverse outcomes. The authors of that paper attributed their findings to limited coping skills in young children as well as attachment concerns.

Notably, much of what is known about children who witness parental arrest comes from the context of incarceration within jail rather than prison (e.g., Muentner et al., 2021). For these analyses, parents were incarcerated in prisons, which are characterized by longer periods of isolation away from family and community. As a result, it is possible that older children's distress is more diffused over the length of their parents' sentences (i.e., approximately two years in this sample). Indeed, both of the time points analyzed in this study were after a substantial delay following parental arrest. Thus, it is noteworthy that the findings here reflect statistically significant long-term impacts in a sample that is already at risk for behavioral health concerns by virtue of having an incarcerated parent (cf. Eddy & Poehlmann-Tynan, 2019).

Physiological stress is one potential pathway through which young children may see adverse behavioral health responses that continue upon release (e.g., Muentner et al., 2021). Chronic exposure to stress hormones is implicated in

childhood psychopathology and physical health and commonly referred to as “toxic stress” (Shonkoff et al., 2012). This framework helps to explain how early childhood experiences can, in the absence of adequate supports and buffers, influence biological factors, resulting in long-term developmental concerns (Garner & Yogman, 2021). This is sometimes referred to as the *biological embedding* of traumatic experiences. Toxic stress is associated with both severity and chronicity of stressors (Shern et al., 2016). Children in this sample who witnessed parental arrest may face both severe, acute traumas (witnessing the arrest incident) and chronic trauma (parental incarceration), putting them at particular risk of toxic stress.

Little policy or systems-level practice standards exist whereby children are protected from the trauma of witnessing a parental arrest. A report by the International Association of Chiefs of Police (IACP, 2014) outlines approaches that can be enacted through legislation and policing policy to protect and improve the well-being of children including the implementation of pre-arrest planning to decrease the likelihood of a child witnessing an incident, assessing for the presence and location of children at the time of arrest, and requiring adequate documentation of children present during arrest incidents. Further, Thureau (2015) discusses concrete strategies, consistent with the IACP report (2014), to reduce the harm of witnessing a parental arrest. These strategies can be briefly summarized as follows: (1) ensuring the arrest process itself is less traumatic for children (and most notably, choosing an appropriate time to make an arrest when the child is not present) and (2) ensuring that children are left in safe care and connected to services following witness of parental arrest to receive timely support. Of course, none of this can happen if police do not attempt to become aware of whether or not the person who they are going to arrest has a child.

In the face of rising arrests for persons with children (Murphey & Cooper, 2015), it should be noted that many of these recommendations do not capture wider systemic changes that may be necessary to protect children from witnessing parental arrest in the first place, and from experiencing negative development sequelae. One example of a potential systemic shift would be to improve cross-systems coordination. Specifically, close communication is needed to ensure child welfare and police agencies are able to address the needs of children in the face of parental arrest, with an emphasis on not arresting a parent when their child is present and on preferencing the provision of support services to remaining family members rather than child removal from the home. Alternatives to arrest are also important policy considerations.

Further, coordinated and sustained attention to how people of various races and ethnicities are treated by all parties

involved during the arrest process is needed. While not specific to witnessing parental arrest, the well-documented facts that people of color are disproportionately arrested and incarcerated (National Research Council, 2014), that children of color are more likely to have a parent who is incarcerated (U. S. Department of Health and Human Services, 2021; Glaze & Maruschak 2008), and that that children of color are more likely to be removed from their parent’s custody by child welfare (Child Welfare Information Gateway, 2021) highlight the need for additional research to not only understand the relationship among these factors, but also to identify and eliminate policies and practices that sustain racial and ethnic disparities within the criminal justice system and our communities (LaLiberte et al., 2018).

Our results, pointing to the potential harms of witnessing parental arrest, have implications for clinical practice, particularly practice settings that work to support children who have experienced parental incarceration and witnessed the arrest of that parent. It is incumbent upon professionals who serve children and families to screen for this particular adversity in addition to parental incarceration and the various other “adverse childhood experiences” (e.g., Felitti et al., 1998). Further, it is vital that children presenting with internalizing and externalizing symptoms are connected to appropriate and timely mental and behavioral health services (Finkelhor et al., 2021; Schweer-Collins & Lanier, 2021). Results from these analyses suggest that even when parent-child reunification occurs, the potential negative effects of witnessing parental arrest may persist. Therefore, addressing the potential trauma and adverse mental and behavioral health effects of witnessing parental arrest should be screened for and addressed even after parents and children are reunited.

Our study presents some important findings. However, there are several limitations to consider. First, although we found witnessing parental arrest to be more common than is often acknowledged in the literature, the power to detect differences between those who witnessed arrest and those who did not was limited by the relatively small number of children in the sample who witnessed parental arrest. Second, our dataset did not contain information on any traumatic responses by children immediately following the arrest of their parent, which may mask some impacts that are more temporarily related to the arrest incident. Additionally, due to the design of the study, we are limited in our ability to make causal statements. Various factors not considered may account for differences between the various groups we examined. In particular, unmeasured variables related to other exposures to traumatic experiences could influence findings. Finally, the results should be interpreted in the context of limitations related to missing data.

In the future, high quality research is needed to further our understanding of the impacts of witnessing parental arrest across a wide range of domains known to be associated with post-traumatic stress. Additionally, the literature may benefit from an examination of the impacts of various levels of confrontation or violence at an arresting incident on child witnesses. The use of causal inference strategies such as matching or regression discontinuity (e.g., based on police policy change) may further strengthen the ability to make causal statements in future studies. Future research should further examine issues related to incarceration and parent-child co-residence, which may both increase a child's risk of witnessing arrest while also easing post-release adjustments (Yaros et al., 2018).

Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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