Review Article

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Health Outcomes of Youth in the United States Exposed to Parental Incarceration: An Integrative Review

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In the United States, parental incarceration (PI) has been increasingly recognized as an understudied adverse childhood experience. In response, a rapidly expanding body of research has begun to investigate the effects of PI on youth mental and physical health outcomes.

Objective: The purpose of this integrative review was to synthesize recent quantitative evidence investigating the effects of PI on youths' mental and physical health outcomes.

Design and Measures: Electronic strategies were used to find relevant quantitative articles published between September 2006 and 2016 using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses–Equity guidelines. Articles in the review (N = 17) varied in study design and methodologic rigor, complicating the analysis.

Results: In general, U.S. youth exposed to PI are more likely than their unexposed peers to exhibit internalizing and externalizing behavioral difficulties. There is substantially less evidence on the associations between PI and the physical health of youth, in addition to the proposed linkages between exposure to PI and poor health. Overall, there is limited inclusion of contextual specifics of PI (e.g., type and duration of incarceration, relationship quality), which hampers generalizability.

Conclusion: Future research could investigate the biological and social linkages between PI and health outcomes. Forensic nurses could help build supportive environments and meaningful behavioral health interventions to assist the health of those youth with a parent incarcerated.

KEY WORDS:

Adolescent health; adverse childhood experience; child health; incarceration; jail; parental incarceration; prison

Compared with all other developed nations, the United States has maintained the highest incarceration rate for several decades, housing more inmates than the top 35 European countries combined (International Centre for Prison Studies, 2011). In 2015, the Bureau of Justice Statistics estimated that one in every 37 adults or 6.7 million people were under correctional supervision (prison, jail, parole, or probation) in the United States (Kaeble & Glaze, 2016). Furthermore, 52% of the persons incarcerated in state prison and 63% of those incarcerated in federal prison are parents of minor youth (Glaze & Maruschak, 2008). Thus, research is rapidly expanding to understand the consequences of incarceration on the health of families and communities (Dumont, Brockmann, Dickman, Alexander, & Rich, 2012; Kruger & De Loney, 2009).

The most recent prevalence rate of U.S. children and adolescents' current exposure to parental incarceration (PI) is from the 2007 Bureau of Justice Statistics report in which approximately 2.3% of youth or 1.7 million youth had a parent currently in state or federal prison (excluding jails and those on parole; Glaze & Maruschak, 2008). However,

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prevalence rates for exposure occurring at any time during childhood or adolescence are much higher. For example, a recent report based on nationally representative data from the National Survey of Children's Health (NSCH), 2011–2012, indicated that nearly 7% of youth in the United States, or more than 5 million youth (approximately one in every 14 youth), had experienced PI at least once during their childhood (Murphey & Cooper, 2015). In addition, the report indicated that exposure to PI is more concentrated among economically disenfranchised youth, as low-income youth were more likely to be exposed in comparison with higher-income youth (approximately 12.5% in comparison with 3.9%, respectively; Murphey & Cooper, 2015). Black youth are also more likely to be disproportionately exposed in comparison with White youth, as one in every nine Black youth had a parent incarcerated in comparison with one in every 17 White youth (Murphey & Cooper, 2015). However, prevalence rates most likely underestimate the number of youth affected by PI because most studies typically include parents in local, state, or federally operated jail and/or prisons and often exclude those persons serving time on probation or parole or those housed in privately operated facilities.

Historically, the effects of PI on child and adolescent health outcomes in the United States have been studied using various survey items addressing adverse childhood experiences, such as the Adverse Childhood Experiences (ACEs) study (Felitti et al., 1998). In the ACEs study, household member incarceration is included in a cumulative index measure with other adverse events including abuse (e.g., emotional, physical, or sexual; witnessing violence against mother), household challenges (e.g., living with household members who were mentally ill, suicidal, substance abusers, or imprisoned), and neglect (e.g., emotional or physical; Felitti et al., 1998). The findings from the plethora of research investigating ACEs indicate that the greater the number of adverse exposures that children and adolescents experience, the greater the likelihood for increased maladaptive coping behaviors (e.g., cigarette, alcohol, illicit drug use, or violent delinquent behaviors) and internalizing mental health outcomes (e.g., depression, anxiety, posttraumatic stress disorder) during childhood and adolescence (Hussey, Chang, & Kotch, 2006; Lansford et al., 2002). Furthermore, the cumulative effect of ACEs on health outcomes is often evident across the life course in which higher scores on the index have been associated with poor mental health and behaviors (e.g., alcoholism, depression, suicide attempts), in addition to poor physical health (e.g., ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease) in adulthood (Felitti et al., 1998). The accumulation of adverse exposures is hypothesized to contribute to poor health outcomes through the dysregulation of the stress response system and concomitant engagement in maladaptive coping behaviors (e.g., smoking, drinking, illicit drug use; Shonkoff et al., 2012). Altogether, the findings from the ACEs studies have elucidated the long-lasting and significant impact that ACEs can have on health across the life course, and they are increasingly being used to inform the development of health and social policies (e.g., early screening for diagnostic and treatment, trauma-informed healthcare and educational approaches, behavioral interventions, and home visitations; Bethell et al., 2017; Nelson, Selph, Bougatsos, & Blazina, 2013; Rosenbaum, 2017).

However, more recently, researchers and practitioners have called for the need to view PI as a unique marker of risk for public health intervention as exposed youth frequently experience additional adverse exposures (e.g., poverty, abuse, exposure to violence) before, during, and after PI (Binswanger & Elmore, 2015; Harlow, 2003; Harris, Graham, & Oliver Carpenter, 2010; Western & Pettit, 2010). Murphey and Cooper (2015) showed that youth exposed to PI have, on average, three times as many additional ACEs in comparison with youth unexposed to PI, but timing of these exposures was not examined in relation to PI. Phillips and Gates (2011) also endorsed the use of stigmatization as key to understanding the conceptualization of how children are uniquely affected by parental separation via incarceration (vs. separation by divorce or military involvement). Discrimination against people currently or previously incarcerated is evident by limited rights (e.g., denial to housing, voting, employment), and researchers have hypothesized that the ramifications of discrimination likely carry over and affect well-being across generations through familial association (Pager, 2003; Schnittker & John, 2007). Although others posit that isolating the incarcerated parent may benefit the child overall because of physical separation from a parent who may have been physically or sexually abusive (Johnson & Easterling, 2012), a paucity of research examines PI by type of offense (Wildeman, Wakefield, & Turney, 2013). Furthermore, there is limited research on the role of institution facility barriers (e.g., visitation/calling restrictions, distance to institution) that may limit parent–child communication, attachment, and other bonding processes during incarceration (Arditti, 2012; La Vigne, Davies, & Brazzell, 2008; Makariev & Shaver, 2010) that may be important to the development of youth. As research on the effects of PI on the development of youth is burgeoning in the United States, the purpose of this integrative review was to synthesize the current quantitative evidence on the associations between PI and the health outcomes of youth 0–18 years old in comparison with those youth without this adverse exposure.

Methods

To synthesize the available quantitative literature, we conducted an integrative review based on strategies proposed

by Whittemore and Knafl (2005). An organization of the literature was guided systematically through the matrix method (Garrard, 2010) and then evaluated by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)–Equity (Welch et al., 2012). The checklist for PRISMA-Equity has been endorsed and advocated for use to standardize the quality of systematic reviews to enhance scientific investigations on health (Welch et al., 2012).

We performed electronic database searches throughout the month of September 2016 in PubMed, Web of Science, Cumulative Index of Nursing and Allied Health Literature with Full Text, MEDLINE with Full Text, SocIndex with Full Text, PyscINFO, and Criminal Justice Abstracts with Full Text. The following parameters were used for the search: (a) quantitative studies with a comparison group (e.g., youth exposed to PI in comparison with those unexposed), (b) peer-reviewed journals, (c) published in the past 10 years (2006–2016) to ascertain current evidence, (d) human subjects under the age of 18 years who were living in the United States, and (e) published in English. Consistent with other research that advocate for broad conceptual understandings of health (Bilal & Beheshti, 2014; Liu, 2004; Manderscheid et al., 2010; Sartorius, 2006), broad search terms were used with the following formula to obtain a wide body of literature: ("parental incarceration" OR "parent incarcerated" OR "parent in prison" OR "parent in jail") AND ("physical health" OR "mental health" OR "health" OR "behaviors") AND ("child" or "youth" OR "adolescent" OR "children" OR "adolescents"). "Behaviors" was included as a relevant search term because researchers and practitioners commonly use the Child Behavior Checklist (CBCL) to screen and assess the mental health of youth (Achenbach & Ruffle, 2000).

Articles were assessed using the article abstract and were eligible for inclusion if they met the following criteria: original research report, peer reviewed, and conducted in the United States. We excluded studies conducted in other nations because of the vast differences in governmental oversight and educational, healthcare, and correctional policies that may differentially impact youth health and well-being. One hundred seventy-two articles resulted when duplicates were removed. After scanning abstracts, 141 articles were excluded. Of those excluded, 29 studies examined non-American samples and 112 studies either were qualitative in design or examined a nonhealth outcome. The remaining 31 articles were selected for a closer in-text review.

During the full-text review phase, we recorded study design, conceptual framework, aims, sample size, sample characteristics, measurement of PI, measurement of outcomes, and a summary of findings. We recorded the data into a spreadsheet and reviewed the articles using the matrix method (Garrard, 2010). Approximately 14 articles were excluded, and 17 were included in the integrative review. Of those articles excluded, one article was qualitative in design, one article focused on adult outcomes, five articles lacked an explicit focus on a physical or mental health/behavioral outcome (e.g., educational outcomes or health resources such as food security), two focused on maternal health, and five articles did not have a comparison group. See Figure 1 for the PRISMA diagram showing the flow of information for this review.

Analysis and synthesis of the articles were complicated by variation in study design, methodology, and conceptualization of a mental health outcome. Therefore, to facilitate analysis and in line with encompassing biosocial perspectives of mental health (Liu, 2004), we categorized the various outcomes of the 17 articles by three domains of interest: (a) externalizing mental health outcomes (13 of the 17 articles highlighted at least one externalizing outcome), (b) internalizing mental health outcomes (eight of the 17 articles highlighted at least one internalizing outcome), or (c) physical health outcomes (two of the 17 articles highlighted at least one physical health outcome). In this review, externalizing mental health outcomes (e.g., rule-breaking, acting out, fighting) included externalizing "symptoms," "behaviors" or "behavioral problems," antisocial behaviors, aggressive behaviors, mental health risk behaviors (e.g., problematic substance use), and attention deficit disorder and attention deficit/hyperactivity disorder (ADD/ADHD). Delinquent behaviors were also included as an externalizing mental health outcome as these behaviors are typically classified as an externalizing, antisocial, or risk behavior that resulted or could have resulted in criminal arrest (e.g., physical assault; Liu, 2004). Internalizing mental health outcomes (e.g., shy, withdrawn, self-conscious, depressive symptomatology) included internalizing "symptoms," "behaviors" or "behavioral problems," "trauma symptoms," and mental health symptomatology or conditions of anxiety and depression. Articles that highlighted both externalizing and internalizing mental health outcomes were listed by domain of interest (refer to Tables, Supplemental Digital Content 1 http://links.lww.com/JFN/A28).

Results

Description of the Characteristics of Articles

Among the 17 articles included in this review, 82% (n = 14) were published from 2012 to 2016 indicating a rapid expansion of more recent investigations on the effects of PI on youth health outcomes. Seven articles examined the effects of paternal incarceration, seven articles examined the effects of parental (maternal and/or paternal) incarceration, and three examined the effects of maternal incarceration. However, only one article specified the parent incarcerated as "biological" (Swisher & Shaw-Smith, 2015), one article specified the incarceration as "parent and/or guardian" (Turney, 2014), and all other articles (n = 15) lacked clear specification on the type of the parent incarcerated (e.g.,

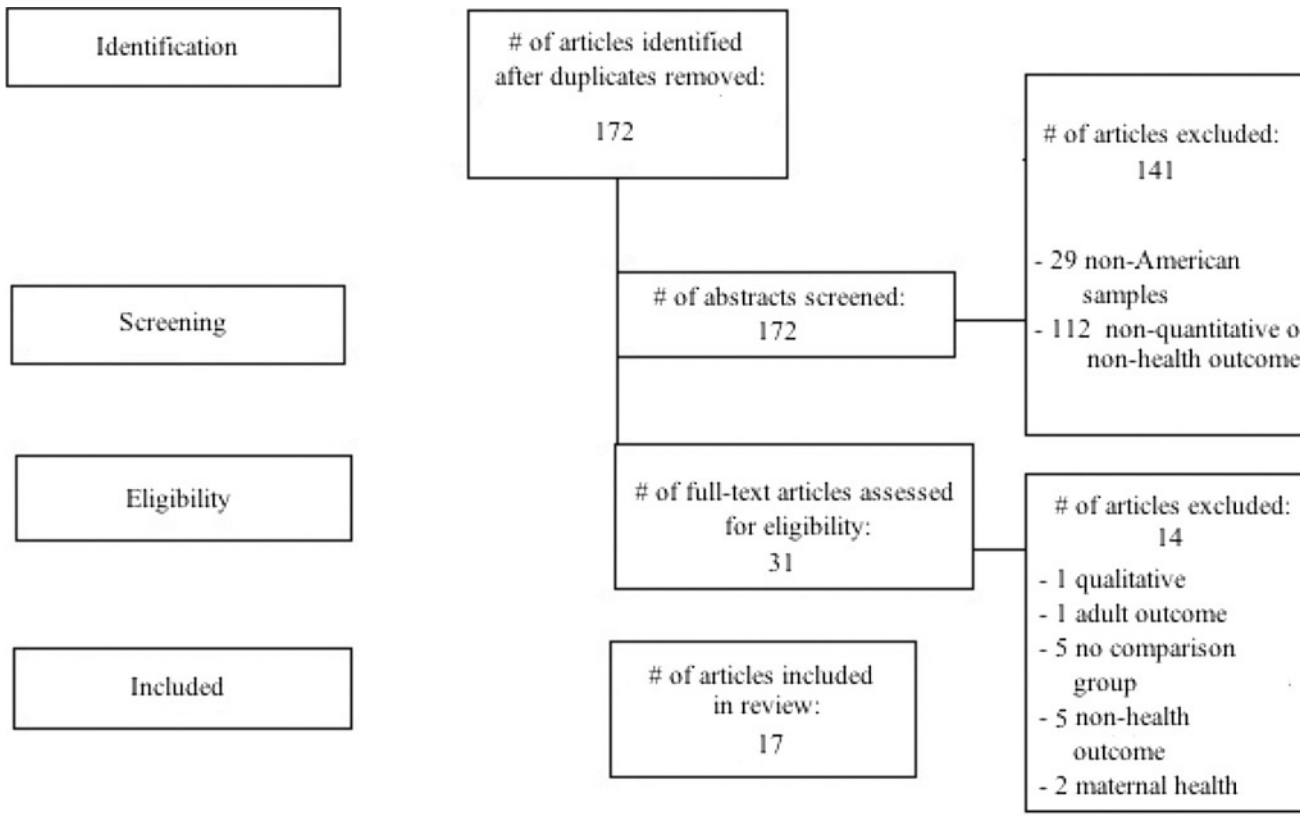

FIGURE 1. PRISMA diagram of article inclusion for the review.

caregiver, stepparent, biological). Approximately 47% (n = 8) of the articles examined the exposure of PI on youth outcomes occurring in mid to late childhood (6–11 years old). In addition, most studies (n = 12) analyzed the effects on youth samples that were predominately Black or other racial/ethnic minority youth. Last, the number of youth exposed to any type of PI ranged from 27 to 6,601 of sample sizes as large as 95,677 (data garnered from the NSCH). Highlights of the description of the characteristics of the articles included in this review are found in Table 1 (see Table 2 for a synthesis of the health outcomes examined in the review).

Mental Health Outcomes

Researchers primarily used the CBCL (Achenbach & Ruffle, 2000) to measure the mental health outcomes of the youth, a questionnaire widely used in research and clinical practice for further referral for psychological evaluation that allows for parents, caregivers, or others to rate the youth's common socioemotional or mental health behavioral problems. Specifically, 53% of the articles (n = 8) used the CBCL to measure internalizing, externalizing, and/or total problem behaviors as reported by either their caregiver and/or parent (Geller, Cooper, Garfinkel, Schwartz-Soicher, & Mincy, 2012; Haskins, 2015; Kjellstrand & Eddy, 2011; Markson, Lamb, & Lösel, 2016; Perry & Bright, 2012; Turney & Wildeman, 2015; Wakefield & Wildeman, 2011; Wilbur et al., 2007; Wildeman & Turney, 2014), with only one study examining CBCL outcomes at more than two time points (outcomes examined in fifth, eighth, and 10th grades; Kjellstrand & Eddy, 2011). Six of the articles used various survey items to measure externalizing mental health outcomes (Aaron & Dallaire, 2010; Dallaire & Zeman, 2013; Porter & King, 2015; Shlafer, Poehlmann, & Donelan-McCall, 2012; Swisher & Shaw-Smith, 2015; Tasca, 2014; Turney, 2014), whereas others used items from the Health and Behavior Questionnaire (Casey, Shlafer, & Masten, 2015) or the Child/Parent Report of Posttraumatic Symptoms (Arditti & Savla, 2015).

Externalizing Mental Health Outcomes

Exposure to PI. There were five articles that examined an externalizing mental health outcome of youth exposed to PI (mother and/or father). Two of the articles were cross-sectional in design, whereas three were prospective. Among the cross-sectional studies, one study found that youth aged 0–17 years who were ever exposed to PI were more likely to have ADD/ADHD and "behavioral/conduct problems" in comparison with their unexposed peers, controlling for youth demographic variables and other types of childhood

TABLE 1. Description of the characteristics of articles included by category

Characteristic	Category	Number of articles (%) or range
Study design	Prospective/ longitudinal	10 (58)
	Cross-sectional/ descriptive	7 (41)
Publication year	2006–2011	3 (18)
	2012–2016	14 (82)
Secondary data source	Add Health	2 (12)
	FFCW study	6 (1 = FFCW/ PHDCN; 35)
	Experimental study[a]	3 (18)
	NSCH	1 (6)
Size of *n*	Number of youth affected	Range = 27–6,601 children
Age of youth at outcome (years)	0–1	1 (6)
	2–5	3 (18)
	6–11	8 (47)
	12–17	4 (24)
	0–17	1 (6)
Racial/ethnic majority of sample	White majority	3 (18)
	Black majority	12 (71)
	Hispanic or "other" majority	2 (12)
Type of outcome	Mental health externalizing outcome[b]	13 (76)
	Mental health internalizing outcome	8 (47)
	Physical health outcome	1 (6)
	Both mental and physical outcomes	1 (6)
Type of incarceration	Maternal	3 (18)
	Paternal	7 (41)
	Parental (mother and/or father)	7 (41)
Type of informant on youth outcome	Youth report only	4 (24)
	Caregiver/parent report only	3 (18)
	Teacher report only	1 (6)
	Multiple informants	9 (53)
Prospective study design rigor	Propensity score models	4 (20)
	Sensitivity analyses	2 (12)
Conceptual framework	Identified	9 (53)
	Not identified	8 (47)

Note. Percentages are rounded to the largest number. Add Health = National Longitudinal Study of Adolescent to Adult Health Study; FFCW = Fragile Families and Child Well-Being Study; PHDCN = Project on Human Development in Chicago Neighborhoods study; NSCH = National Survey of Children's Health. [a]Nurse Family Partnership study, Children at Risk Program study, and Linking the Interests of Families and Teachers study. [b]Mental health/behavior, includes delinquency.

adversity (e.g., parental death; Turney, 2014). Furthermore, PI had a larger negative effect on ADD/ADHD and "behavioral/conduct problems" in comparison with other types of parental absences examined (e.g., parental death, parental divorce or separation, and living with a household member who has a drug problem; Turney, 2014). However, in a cross-sectional study of youth who were homeless (aged 4–7 years), lifetime exposure to PI (vs. being never exposed to PI) was not significantly associated with "externalizing symptoms," controlling for other demographic variables of the youth and caregiver (Casey et al., 2015). The effect of current PI exposure (occurring at the time of the interview) was examined less frequently, but one cross-sectional study of youth aged 7–12 years found current PI to be associated with more aggressive behaviors, after accounting for other previous types of parental separation (e.g., divorce or military) and prior incarceration (Dallaire & Zeman, 2013).

The two prospective studies were secondary analyses using data from longitudinal interventions. In one study, exposure to PI (both a lifetime history and recent exposure) was strongly associated with delinquent externalizing behaviors, accounting for other types of adverse childhood exposures (e.g., parental drug use) and risks (e.g., family financial problems; Aaron & Dallaire, 2010). In the analyses for both the lifetime history and recent PI exposures, the effect was explained in part by family victimization and conflict (e.g., exposure to family member being attacked). Another study examining data from a different longitudinal intervention study found that youth ever exposed to PI exhibited more delinquent and externalizing behavioral problems across multiple time points (in fifth, eighth, and 10th grades); however, only bivariate analyses were conducted (Kjellstrand & Eddy, 2011).

Exposure to Maternal Incarceration. There were only two (prospectively designed) articles that examined an externalizing mental health outcome of youth exposed to a mother incarcerated, and results were mixed. In one secondary

TABLE 2. Synthesis of health outcomes results

Category	Mental health externalizing outcomes	Mental health internalizing outcomes	Physical health findings
Mother and/or father incarceration	(+) (+) Parent- or youth-reported delinquent behaviors (–) Teacher-reported externalizing symptoms (+) Peer-reported aggressive behaviors (+) Parent/teacher-reported externalizing behavioral problems (+) Parent/caregiver-reported ADD/ADHD (+)(+) Parent/caregiver-reported behavioral or conduct problems	(+) Teacher-reported internalizing symptoms (–) Parent/caregiver-reported anxiety (–) Parent/caregiver-reported depression (+) Parent/youth-reported trauma symptoms	(–) Caregiver-reported diabetes, epilepsy, hearing problems, vision problem, bone/joint/muscle problems, asthma, obesity, and activity limitations
Mother incarceration	(+) Youth-reported antisocial behaviors (+) Youth-reported substance use problem (–) Youth-reported delinquency (–) Caregiver-reported externalizing behaviors	(–) Caregiver-reported internalizing behavioral problems	(+) Early infant mortality
Father incarceration	(+) (+) Parent/caregiver-reported aggressive behaviors (+) (+) Parent/caregiver-reported externalizing behavioral problems (+) (+) (+) Youth-reported delinquent behaviors	(+) (+) (–) Parent/caregiver-reported internalizing behavioral problems (+) Youth-reported depressive symptoms	

Note. (+) indicates one article with evidence of a positive relationship between exposure to incarceration and the outcome, (–) indicates one article with evidence of no relationship (null effects) once control variables were included in the analysis, and multiple (+) or (–) indicate another article of evidence. ADD/ADHD = attention deficit disorder/attention deficit hyperactivity disorder.

analysis of a longitudinal interventional study, independent analyses found that youth who had a mother with a history of arrest, conviction, or jail time were more likely to engage in "antisocial behaviors" (e.g., stopped by the police) and substance use (e.g., smoke cigarettes) in comparison with their unexposed peers (Shlafer et al., 2012). The associations between maternal jail time and conviction were attenuated and nonsignificant in the combined model. However, these two measures of maternal incarceration are most likely highly correlated with one another and, in turn, may have contributed to the nonsignificant findings (Shlafer et al., 2012).

Another article using data from the Fragile Families and Child Wellbeing (FFCW) study found no effect between youth ever exposed to maternal incarceration and "externalizing behavioral problems" (including juvenile delinquent behaviors) at the age of 9 years in comparison with youth matched on socioeconomic characteristics (e.g., childhood adversity) using propensity score modeling (Turney & Wildeman, 2015). However, Turney and Wildeman (2015) did find a heterogeneous effect of maternal incarceration through propensity score matching by stratum (on levels of incarceration propensity preincarceration). The authors found that children exposed to maternal incarceration who were "least likely to experience the event" (e.g., youth from higher-income families) had more externalizing and delinquent problems in comparison with youth exposed to maternal incarceration who were "most likely to experience the event" (e.g., youth from lower-income families; Turney & Wildeman, 2015).

Exposure to Paternal Incarceration. Six studies included in this review examined the effects of youth exposed to an incarcerated father (in jail and/or prison) on externalizing mental health outcomes. The articles included mostly prospective studies and two articles conducting cross-sectional analyses. Most findings indicate an overall increase in externalizing mental health outcomes, above and beyond socioeconomic disadvantage and other adverse childhood experiences (Geller et al., 2012; Haskins, 2015; Perry & Bright, 2012; Porter & King, 2015; Swisher & Shaw-Smith, 2015; Wakefield & Wildeman, 2011), with two studies showing unique effects of paternal incarceration with propensity score models using kernel matching techniques (Haskins, 2015; Wakefield & Wildeman, 2011). However, a cross-sectional study that only included a Black sample (average age = 5 years) found no effect between paternal incarceration on behavioral problems (e.g., has a hot temper) after controlling for

sociodemographic factors and mother/father engagement, mother's parenting stress, and mother's depression (Perry & Bright, 2012). There were also mixed findings on the effect of paternal incarceration by gender of the child and residency status. For example, Swisher and Shaw-Smith (2015) showed a positive effect between a history of paternal incarceration and youth delinquency (aged 11–21 years). However, for male youth, this effect did not vary by whether the youth ever lived with the father before incarceration. For female youth, the positive effect was only observed for youth who had ever lived with their father (Swisher & Shaw-Smith, 2015). In contrast, Geller et al. (2012) found a stronger effect between paternal incarceration and "aggressive behavior" (e.g., attacks others, screams, sulks) for youth (both male and female, aged 3–5 years) who lived with their fathers before imprisonment, suggesting that imprisonment during sensitive developmental stages may be an important consideration. Last, the effect of paternal incarceration on delinquency was found to be greater for those youth who had also experienced repeated physical and/or sexual abuse (Swisher & Shaw-Smith, 2015); however, these measures did not account for timing of the abuse in relation to incarceration (see Table, Supplemental Digital Content 2, http://links.lww.com/JFN/A25).

Internalizing Mental Health Outcomes

Exposure to PI. Three articles in this review (cross-sectional in design) examined the effects of youth exposed to PI on internalizing mental health outcomes. Among the literature that examined lifetime exposure to PI, Turney (2014) found that youth aged 0–17 years who were ever exposed to PI (vs. those with no PI exposure) were more likely to have anxiety and depression (caregiver reported), controlling for youth demographic variables. However, no effect was observed on either outcome once other types of adverse exposures were included into the final model (e.g., parental death, witness of parental abuse; Turney, 2014). In addition, a study of homeless youth (aged 4–7 years) found that lifetime exposure to PI (vs. no PI exposure) was associated with more "internalizing symptoms," controlling for demographic variables (Casey et al., 2015). In a study with a much smaller sample size (N = 45), current exposure to PI (vs. no PI exposure) was associated with increased trauma symptoms (youth and parent reported) after controlling for the child's race (Arditti & Savla, 2015). The authors also reported that the effect of PI on parent-reported trauma symptoms was fully mediated by the quality of the visitations while the parent was incarcerated (e.g., more frequent visitations) but that these results should be interpreted with caution because of the small sample size.

Exposure to Maternal Incarceration. Only one of the 17 articles examined an internalizing mental health outcome of a youth with a mother incarcerated. Turney and Wildeman (2015) found that youth ever exposed to maternal incarceration, in comparison with their unexposed peers, were more likely to have internalizing behavioral problems. However, no effect was found when youth exposed to PI were compared with youth with similar socioeconomic background considerations through propensity score matching. Turney and Wildeman did find a heterogeneous effect of maternal incarceration through propensity score matching by stratum (on levels of incarceration propensity preincarceration). The authors found that the children exposed to maternal incarceration who were "least likely to experience the event" (e.g., higher-income or advantaged families) had more internalizing behavioral problems in comparison with youth exposed to maternal incarceration who were "most likely to suffer the experience" (e.g., lower-income families; Turney & Wildeman, 2015).

Exposure to Paternal Incarceration. Approximately four of the 17 articles examined an internalizing mental health outcome of youth exposed to a father incarcerated. The four articles were prospective in design, but results were mixed, dependent on methodology. Using data from the FFCW study, Geller and colleagues (2012) found no statistically significant differences between youth at the age of 3 and 5 years ever exposed to paternal incarceration (vs. youth unexposed) on internalizing behavioral problems (e.g., self-conscious, worried that no one loves them). However, using the same data set and internalizing mental health behavioral measure (the CBCL), Wakefield and Wildeman (2011) showed in their modeling strategy that youth aged 5 years ever exposed to PI were more likely to have internalizing behavioral problems than their unexposed peers in the full, male, and female samples.

Other studies found evidence of internalizing mental health problems later in childhood and adolescence. Using the same data set (FFCW study), Haskins (2015) showed that female youth aged 9 years with a history of paternal incarceration were more likely to have internalizing problems (e.g., depression, withdrawn) than their unexposed female peers matched on individual, household, and census tract characteristics. This effect was not observed in the male sample (Haskins, 2015). Others found gender differences in relation to the frequency of father incarceration. Using data garnered from the Add Health study, Swisher and Shaw-Smith (2015) found that male youth who experienced the event of paternal incarceration only once (in comparison with those unexposed male youth) had increased depressive symptomatology, whereas multiple incarcerations of the father were significantly associated with more depressive symptomatology in female youth (see Table, Supplemental Digital Content 3, http://links.lww.com/JFN/A26).

Physical Health Outcomes

Only two articles examined the effects of PI (mother and/or father) on physical health outcomes of their youth. No articles

in this review examined the effect of PI by gender of the parent incarcerated on physical health. Using cross-sectional data garnered from the NSCH, youth ever exposed to PI were more likely to have asthma, be obese, and experience activity limitations, controlling for youth and parent demographics (Turney, 2014). However, these effects did not remain once analyses were adjusted for other types of childhood adversity (e.g., parental death, witness of parental abuse). In contrast, another study found an increase in early infant mortality (measured as death within the first 4 months of life) among mothers who reported recent incarceration of themselves or of the father in comparison with those newborns unexposed to incarceration, controlling for numerous maternal variables known to impact infant mortality (e.g., smoking status, adequate prenatal care; Wildeman, 2012; see Table, Supplemental Digital Content 4, http://links.lww.com/JFN/A27).

Conclusion and Future Directions

Overall, the evidence from the quantitative research in this integrative review supports the negative ramifications and unique effects of PI on externalizing and internalizing mental health outcomes, above and beyond correlated socioeconomic disadvantage across all developmental stages of youth. However, the strength of the effect of PI on youths' internalizing and externalizing mental health outcomes varies across the literature because of study design (e.g., cross-sectional vs. prospective) and methodology (e.g., measurement of the mental health outcome). There were mixed findings on whether youth exposed to current or history of PI had worse mental health outcomes in comparison with their unexposed peers when accounting for other types of childhood adversity. None of the articles examined temporality of the adverse childhood exposures in relation to the timing of incarceration (Shin, McDonald, & Conley, 2018). In addition, there is a paucity of research on the physical health outcomes of youth with a parent incarcerated in relation to the body of literature examining its effects on the mental health outcomes of youth.

In this review, most evidence examined the externalizing mental health outcomes of youth affected by an incarcerated father, with much less known about the relationships between (a) PI and internalizing mental health outcomes and (b) PI and physical health outcomes. We speculate that externalizing mental health outcomes may have been examined most as these behaviors are the most common and costly reason that youth, particularly male youth, are referred to mental health services in the United States (Odgers et al., 2008; Welsh et al., 2008). However, more research is needed to understand this discrepancy. In addition, small sample sizes may have precluded statistically significant differences in youth exposed to maternal incarceration as analyses in these studies were conducted on much smaller sample sizes of youth exposed to an incarcerated mother (less than 7% of the full sample size) in comparison with the other studies examining youth exposed to father or PI (10%–12% of the full sample size).

Research on the effects of exposure to PI on health outcomes of youth has been burgeoning, but the unique effects of the exposure are difficult to disentangle from those of additional adverse exposures (e.g., those who have experienced PI are also more likely to have experienced family victimization) that may have occurred before, during, or after the incarceration exposure. Furthermore, recent research suggests that adverse childhood exposures most likely occur in multiple rather than single experiences (Shin et al., 2018); thus, additional research is needed to explore the patterns of ACEs that commonly co-occur with PI and the potential for differing categories of risk. Longitudinal research is also needed to disentangle the temporal ordering of ACEs so that more targeted interventions can be developed earlier in the life course and, hopefully, prevent the accumulation of adversity and associated sequelae.

Although research on the effects of PI on the health of youth is becoming more methodologically rigorous (e.g., inclusion of propensity score models), there is a lack of contextual considerations of PI that may lead to differential health outcomes, such as the duration (e.g., sentence length) or frequency of incarceration, correctional offense (e.g., violent or nonviolent), distance to correctional placement, type of correctional involvement (e.g., private vs. local, state or federally operated facility, parole, probation, jail, or prison), or type of household placement for the child during the incarceration (e.g., other biological parent, foster care, adoption, or other familial member). In addition, there was a lack of specification on the type of parent incarcerated (e.g., caregiver, stepparent, biological), and future work could also examine these differences. These considerations were recently highlighted as necessary by other researchers advocating for further understanding and a more comprehensive investigation on the effects of PI on the overall well-being of youth (Wildeman & Wang, 2017). Furthermore, a paucity of research examines the role of social support buffers outside the parent–child relationship such as peer support or socially supportive communities (e.g., collective efficacy and intergenerational closure) that have been found to have positive effects on the health of children (Browning, Burrington, Leventhal, & Brooks-Gunn, 2008; Gunnar & Hostinar, 2015; Uchino, 2006). Understanding these differences among these contextual considerations may help inform the development of behavioral interventions as well as forensic health and social policies.

Future research could examine the associations between PI and physical health outcomes in youth as mental health behaviors might potentially mediate later physical health problems. In addition, more research is needed on the proposed physiologic mechanisms that may link exposure to PI to poor mental health in youth. Despite the breadth

of evidence supporting the exposure to PI as a chronic stressor, few studies have examined the contribution of PI to chronic physiologic stress—a known precursor to poor health (Baum & Posluszny, 1999; McEwen, 2008) and risk-taking behaviors (Gonzalez, 2013; Gordon, 2002).

Implications for Clinical Forensic Nursing Practice

Because of the significant proportion of children adversely affected by PI in the United States, PI is steadily gaining more attention as a deleterious social determinant of health. Thus, forensic nurses must be able to screen, identify, and understand particularly vulnerable youth, such as youth with an incarcerated or previously incarcerated parent. To do this, forensic nurses must be educators and advocates to assist practitioners and systems toward greater health equity for children of incarcerated parents. Forensic nurses could strategize with community organizations and correctional systems to help build more supportive environments and meaningful behavioral interventions geared toward youth who have a parent currently or previously incarcerated. Forensic nurses could advocate for improved correctional policies that help maintain better parent–child contact in addition to group and behavioral interventions within the school and community contexts. Furthermore, recent research highlights that youth with incarcerated parents have greater unmet healthcare needs over youth unexposed to PI, controlling for health insurance, parental employment, parental education, and household income (Turney, 2017). Thus, forensic nurses could strategize with prison institutions, schools, or communities to connect children of incarcerated parents to available healthcare resources.

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