



# Mental Health and Behavioral Interventions for Children and Adolescents with Incarcerated Parents: A Systematic Review

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## Abstract

Parental incarceration is a traumatic experience that affects millions of children and adolescents worldwide. This population is at an increased risk of suffering from mental health problems and problematic behaviors that can lead to future delinquency, furthering the inter-generational cycle of criminality. The aim of this systematic review is to evaluate the effectiveness of different types of interventions for the mental health and behavior of children and adolescents with incarcerated parents. The following databases were searched to retrieve relevant studies from 1995 to 2021: PsycINFO, Psychology and Behavioral Sciences Collection, Child Development and Adolescent Studies, SocINDEX, CINAHL, MEDLINE, Embase, and the Web of Science Core Collection. Quality assessment was performed using the Critical Appraisal Skills Programme qualitative checklist and the “Quality Assessment Tool for Quantitative Studies” developed by the Effective Public Health Practice Project. The initial search yielded 2,711 records and 16 studies met the inclusion criteria. The narrative synthesis conducted determined that interventions focusing on improving caregiver outcomes and support, and maternal attachment may be effective in reducing mental health problems and problematic behaviors, however, findings need to be evaluated with regards to the included studies’ quality of evidence since many ( $n = 7$ ) had a weak rating. Future research should aim to conduct a comparative analysis between the effectiveness of different types of interventions, while focusing on improving the quality of the evidence.

**Keywords** Parental incarceration · Mental health · Behavior · Interventions · Systematic review

## Highlights

- First systematic review that examines the effectiveness of interventions for this population.
- Narrative synthesis was conducted for each individual type of intervention.
- Interventions with increased caregiver support and maternal contact show improvements in mental health and behavior.

## Introduction

In 2015, the global prison population totaled 10.3 million, with the United States of America (USA) leading with more than 2.2 million people in prison (Walmsley, 2015). In 2019, the USA had a prison population rate of 531 per 100,000 of the national population (World Prison Brief,

2019). Among them, many are parents who have to leave their children behind. It is estimated that millions of children worldwide have at least one parent in prison, with the number in Europe going up to 2.1 million (Ayre et al., 2014), and 1.5 million in the USA (Maruschak et al. (2021)). A growing body of research has categorized parental incarceration as one of the adverse childhood experiences (ACE) known to have short- and long-term consequences on the physical and mental health of children (U.S. Department of Health and Human Services, 2011). It is not only in and of itself an ACE, but it can also lead to an increased risk of exposure to other types of ACEs such as abuse, household dysfunction, and poverty (Scott et al., 2013). Child’s exposure to the parent’s criminal activity and the incident that led to the arrest, the nature of the parent’s

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sentencing, and the visitation experience are all events that can have collateral damage on children and adolescents' mental health and wellbeing (Dallaire & Wilson, 2010).

Parental incarceration can lead to the development of many mental health problems in children and adolescents. They experience a significantly higher rate of mental health difficulties compared to children who do not have parents in prison (Jones et al., 2013). Moreover, maintaining close contact with an incarcerated parent can prove to be difficult because of the long distance and restricted visiting times (Shlafer & Poehlmann, 2010). This long-term separation for a child can contribute to their insecure attachment (Murray & Murray, 2010) which has been linked to the development of various mental health problems and harmful coping mechanisms such as harmful drinking patterns (Spruit et al., 2020). Additionally, the stigma associated with having an incarcerated parent can pose a major difficulty in a child's life (Phillips & Gates, 2011). It can lead to reduced social support from teachers and members of the community, as well as increased hostility and rejection from their peers (McGinley & Jones, 2018). Social support has a significant effect on mental health, with reduced social support and frequent peer victimization found to be highly correlated with increased mental health problems (Huang et al., 2021).

Parental incarceration can also lead to the development of problematic behaviors in children and adolescents. They are at a significantly higher risk of developing antisocial behaviors and substance abuse compared to their peers without incarcerated parents (Davis & Shlafer, 2017). Likewise, children are at greater risk to be involved with criminal activity with various studies showing a positive association between parental incarceration and children and adolescents' future criminal convictions (Van de Rakt et al., 2012). Labeling theory explains these associations by proposing that people may behave according to the labels attached to them by society (Scheff, 1974). Children and teens with incarcerated parents may be perceived as destined for a life of crime (Phillips & Gates, 2011). These social expectations can have a strong influence on their self-perceptions producing self-fulfilling prophecies, and thus, amplifying their antisocial behavior (Bernburg et al., 2006). This also applies to official justice systems, which may display institutional bias by discriminating against children of already convicted parents, hence increasing their risk of conviction (Besemer et al., 2017). These mechanisms demonstrate the cyclical nature of intergenerational criminality which has long-term detrimental effects on the livelihoods of this vulnerable population.

The effects of parental incarceration on children have become an increasing concern in public health. In order to prevent future hardships for this group, many interventions have been developed to enhance their wellbeing. In recent

years, there has been an expansion in mentoring programs for at-risk youth (Bruce & Bridgeland, 2014) with the goal to build strong positive relationships with an adult. Most evaluations of those interventions have shown a modest effect on youth developmental and behavioral outcomes such as academic performance and delinquency (Hagler et al., 2019). However, due to more complex needs, youth with incarcerated parents showed little change in behavioral outcomes and parental trust, and had shorter mentor relationships (Kupersmidt et al., 2017). This indicates a need for more specialized intensive interventions. Parenting programs are one of the most well-researched interventions related to parental incarceration with many literature and meta-analytic reviews looking at their effectiveness (Dallaire & Shlafer, 2017; Armstrong et al., 2017). One limitation of these studies is that they do not include measures that look at the interventions' impact on the children. If the objective is to improve parent-child relationships, there needs to be more documentation on changes observed in the child (Loper et al., 2019). Finally, many children and teens are left in the care of secondary caregivers, who are usually other family members, once a parent has been incarcerated. There are many interventions that focus on the parenting skills and mental health of those secondary caregivers. Three systematic reviews have found that cognitive behavioral interventions had positive effects on their wellbeing and parenting skills, indirectly having a moderate effect on improvements in the behavioral problems of the children (Chan, et al., 2019; McLaughlin et al., 2017; Sadruddin, et al., 2019), although the quality of the evidence is not strong. To date, it is still unclear how much of an impact these secondary caregiver interventions have on the wellbeing of children and teens of incarcerated parents (Matz et al., 2022).

Many of the evaluations of those interventions see children and teens of incarcerated parents as an afterthought, do not measure their outcomes, and are not specialized enough. There are many gaps in our understanding of the benefits of interventions designed for and/or targeting children and teens with incarcerated parents. It is important to examine which programs are the most beneficial in improving the wellbeing of this population. Despite this, no systematic reviews that examine the effectiveness of interventions for children and adolescents of incarcerated parents have been conducted to date. This is an important gap that needs to be addressed since understanding the effectiveness of interventions can help policy-makers push for the implementation of the most beneficial services. Therefore, the aim of this current study is to conduct the first systematic review of studies investigating the effectiveness of interventions targeting the mental health and/or behavior of children and adolescents with incarcerated parents. This review addresses the following research question:

What interventions are effective in targeting the mental health and/or problematic behaviors of children and adolescents with incarcerated parents?

## Methods

This systematic review was conducted in accordance with the ‘Preferred Reporting Items for Systematic Reviews and Meta-Analyses’ (PRISMA) statement (Page et al., 2021).

### Search Strategy and Selection Criteria

To identify relevant studies, the following electronic databases were searched: PsycINFO, Psychology and Behavioral Sciences Collection, Child Development and Adolescent Studies, SocINDEX, CINAHL, MEDLINE, Embase, and the Web of Science Core Collection. Specific subject headings and keywords related to parental incarceration, mental health and problematic behaviors, and intervention were adapted for each database with the help of university librarians (Supplementary Fig. S1, see supplementary material). The keywords related to incarceration and parents were searched in titles and abstracts to narrow down the search results. The searches were not limited to articles published in peer-reviewed journals, and thus, also included dissertations, theses, reports, and policy documents. This was done to reduce publication bias (Paez, 2017). The search included publications between the 1<sup>st</sup> of January 1995 to the 1<sup>st</sup> of May 2021. Backward and forward citation searches were conducted for relevant articles whose topics of interest were about interventions for children and adolescents and/or parental incarceration.

Using the PICOTS (Population, Intervention, Comparator, Outcome, Timing and Setting) framework (Page et al., 2021), we developed the study inclusion and exclusion criteria. For population, other than the upper participant age limit of 19 years old and the experience of having an incarcerated parent, no other restrictions were included. As incarceration is defined as confinement in jail or prison (Merriam-Webster, 2023), we included studies that evaluated interventions for children and adolescents with parents in either prison or jail. Interventions were included if they targeted children and adolescents with incarcerated parents, and aimed to reduce mental health problems and problematic behavior within the chosen population. No restrictions regarding the setting where the intervention takes place or its duration were imposed. In non-RCT studies where a control group was not included, studies using cohort data collected from previous studies as a comparator are included. Our main outcome of interest is improvement of mental health problems and/or problematic behaviors amongst the population.

Thus, based on the PICOTS framework outlined, studies were included in the systematic review if they (i) evaluated the effectiveness of an intervention for children or adolescents with parents in either prison or jail, (ii) focused on interventions that aimed to reduce mental health problems or problematic behaviors, (iii) used qualitative or quantitative measures pertaining to mental health problems or problematic behaviors (i.e. interviews, focus groups, checklists, surveys and scales), (iv) included outcomes reported by either the child or their caregiver, (v) evaluated interventions conducted in any setting (i.e. clinical, educational, at home, in prison/jail, community centers), (vi) had a qualitative or quantitative comparative or experimental research, and (vii) measured outcomes directly after the intervention or after a follow-up period of any length. Studies were excluded if they (i) were case studies, (ii) were literature, scoping, rapid and other systematic reviews, (iii) described a parenting intervention for incarcerated parents, (iv) had a population of interest older than 19 years of age (WHO, 2021), (v) did not report on the effect of the intervention, (vi) did not report the relevant outcomes, (vii) had missing abstracts, (viii) did not have a full-text available, (ix) were written in any non-English language, (x) were published before 1995, and (xi) were books.

After de-duplication, the remaining studies were imported onto Rayyan (Ouzzani et al., 2016). A single reviewer screened titles and abstracts for eligibility. To ensure objectivity, a second reviewer independently screened a sample of 10% of the total records. Any conflicts in decisions were resolved through discussion.

### Data Extraction and Quality Assessment

For each study, the data extracted were divided into subsections that included: sample characteristics (e.g., age, gender, ethnicity, sample size, etc.), study characteristics (e.g., study design, study setting, intervention type, comparator/control conditions), methods (e.g., mental health measures, problematic behavior measures, analysis) and results (e.g., main findings). The outcomes of interest were mental health and problematic behaviors for children and adolescents. For mental health problems, we included studies with a variety of measures including rates of sadness, self-esteem, anxiety, depression, self-worth, suicidal ideation, self-harm and confidence. For problematic behaviors, we included studies with measures including rates of social problems (with friends and family), attention problems, rule/law breaking, aggression, academic behavior, defiance with authority, substance misuse, eating problems and risky sexual behavior. No exclusion criteria regarding the type of measure used were imposed, therefore both quantitative and qualitative measures were included. For example, many studies used reliable and validated scales and checklists

such as the “Child Behavior Checklist” (Achenbach, 1991). Other studies used qualitative measures such as self-reports and interviews. Moreover, the outcome data were extracted for any time points after the intervention, including right after the intervention and any follow-up points. The “Quality Assessment Tool for Quantitative Studies” was used to assess risk of bias in quantitative studies (EPHPP, 1998). For the “Confounders” component of this tool, we were not particularly interested in specific confounders, but rather if the studies included controls or comparator groups. The Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist (2018) was used for the assessment of qualitative studies. For mixed method studies, a mixture of both checklists was used to assess quality. The second reviewer assessed the quality of 20% of the included studies, and any discrepancies in ratings were discussed to agreement.

## Narrative Synthesis

Due to the heterogeneity of the studies, a meta-analysis was deemed unsuitable (Charrois, 2015) and a narrative

synthesis was conducted by grouping the studies based on intervention type. Since we included both quantitative and qualitative studies, some studies did not report effect sizes. For that reason, the direction of effect was the standardized metric used to synthesize intervention effects across studies. The “Synthesis Without Meta-analysis” (SWiM) guidelines were used to aid the narrative synthesis of results (Campbell et al., 2020).

## Results

### Study Selection

The initial database search result, without de-duplication, filtering or selection, yielded 2,711 studies. Following de-duplication, a total of 1,633 records remained for title and abstract screening where another 1,568 records were excluded. Full-texts for the remaining 59 records were assessed for eligibility and 16 studies met all the inclusion criteria (Fig. 1). Main reasons for exclusion were studies (i) did not explore effectiveness, (ii) did not measure the

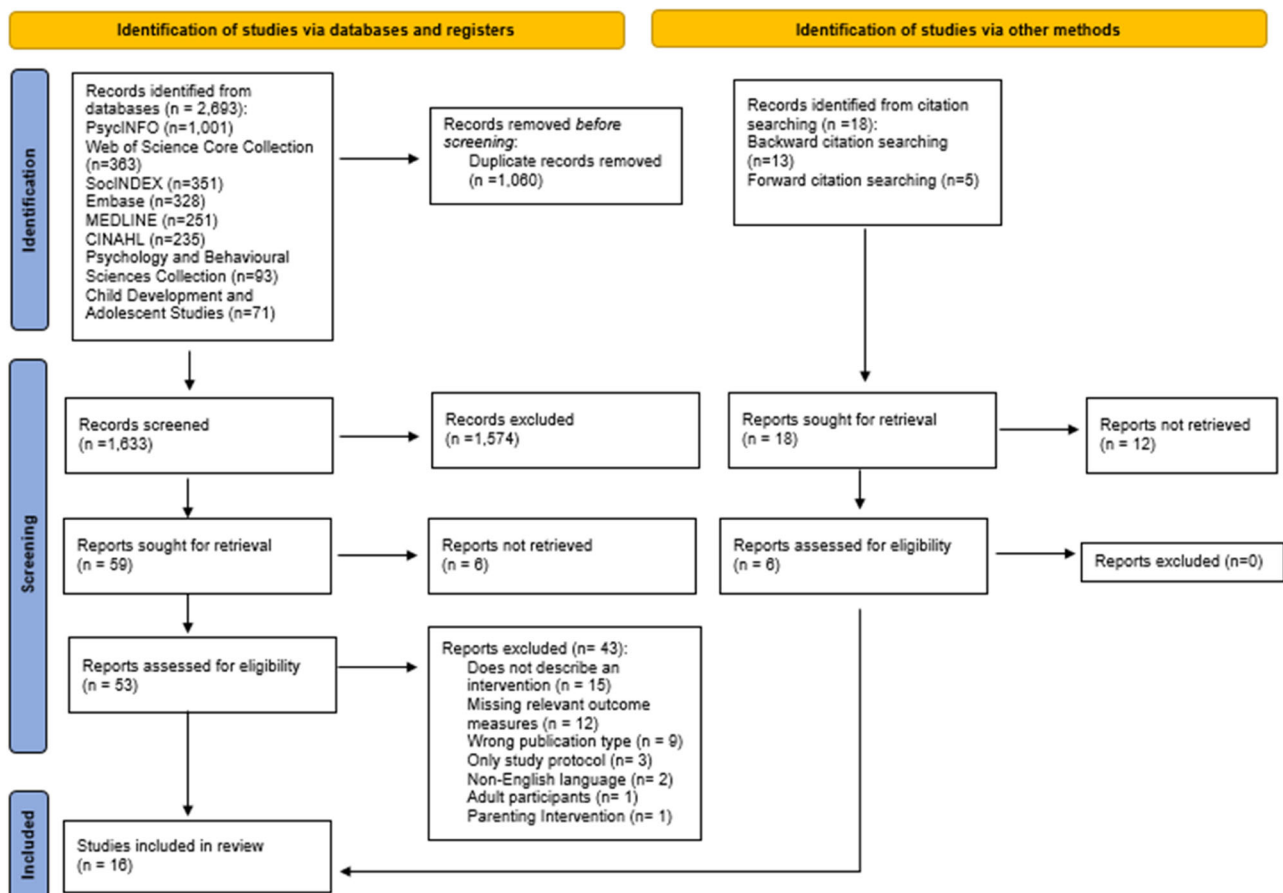


Fig. 1 PRISMA flow diagram of the study selection process

relevant outcomes, (iii) were the wrong publication type, (iv) only described a study protocol, and (v) were non-English language. The inter-rater reliability between the first and second reviewers on the randomly selected 10% sample was 93%, indicating high levels of agreement.

## Study Characteristics

The study characteristics of all included studies are presented in Table 1. Sample sizes were wide-ranging with one study only involving three participants, 11 studies with sample sizes ranging between 10 and 85, and four studies with sample sizes ranging between 103 and 351. The age of all study participants ranged from a minimum of 3 years old to a maximum of 18 years old, with the majority of studies based in the United States of America ( $n = 15$ ). In total, 7 studies examined parents in both prison and jail, 6 studies examined parents in prison only, and 2 studies examined parents in jail only. Most interventions were conducted in community-based settings ( $n = 5$ ), followed by school-based settings ( $n = 3$ ), prison-based settings ( $n = 3$ ), home-based ( $n = 2$ ), in a charity organization ( $n = 1$ ), a clinic ( $n = 1$ ), and one compared a community setting to a home-based one ( $n = 1$ ). Mentoring interventions were the most frequent intervention type ( $n = 5$ ). Group interventions were the second most popular ( $n = 4$ ), followed equally by case management and counseling ( $n = 1$ ), visitation ( $n = 1$ ), alternative sentencing ( $n = 1$ ), educational materials ( $n = 1$ ), family-focused ( $n = 1$ ) and prison nursery ( $n = 1$ ). Only one study compared a mentoring intervention to a case management and counseling one ( $n = 1$ ).

Most studies ( $n = 11$ ) reported only quantitative results with six having a cohort design, two having a case-control design, two being randomized control trials and one having a controlled clinical trial design. Three studies reported both quantitative and qualitative results while two studies reported only qualitative results. Nearly all studies ( $n = 14$ ) considered both mental health and problematic behavior constructs with the other two studies focusing only on mental health constructs: one focusing on both depression and anxiety; and the other focusing on self-esteem. Nine studies used checklists or scales for quantitative data collection. Focus groups, interviews and reports were commonly used methods in mixed-method and qualitative studies.

## Quality Assessment

Many studies ( $n = 7$ ) had a weak quality rating, five were considered to be fair and four were regarded to be of strong quality. The seven studies that were found to be ‘weak’ had lack of blinding, low follow-up rates, high withdrawal rates, lacked control of confounding variables, no justification of

the qualitative methods used, and no description of the qualitative data analysis. Studies rated to be ‘fair’ ( $n = 5$ ) had low participation rates and lack of blinding, however they also showed rigorous data analysis and a clear statement of findings. The four studies with a ‘strong’ rating included the use of valid and reliable measures, control of confounders, blinding of participants, justification of qualitative methods, and thorough data analysis (Supplementary Fig. S2, see supplementary material). Inter-rater reliability between the reviewers on the randomly selected 20% sample was 100%.

## Results of Individual Studies

### Mentoring interventions

Supplementary Fig. S3 in the supplementary materials summarizes the results of each included study. Six studies looked at the effectiveness of mentoring interventions. The mentoring interventions involved matching older volunteers from the community to support children with incarcerated parents by doing various activities together. Five out of the six studies evaluated the effectiveness of the Big Brothers Big Sisters Amachi mentorship program, which is specifically designed for children and teens with incarcerated parents. Young people are matched with adults from the same neighborhoods, with a particular focus on adults from local religious organizations. They are encouraged to meet on a weekly basis for recreational or cultural activities (Amachi, 2023). The only study that evaluated a different mentoring intervention, the Mentoring Children’s Prisoners (MCP) Program offered by Seton Youth Services, was the study by Bruster & Foreman (2012). This also has the same goal to encourage mentors and mentees to meet for recreational, educational and cultural activities. The study by Laakso & Nygaard (2012) identified six positive outcomes related to happiness, self-confidence and improved social behaviors and in the study by Shlafer et al. (2009) caregivers reported positive changes in the children’s behaviors after six months of mentoring. However, this is not reflected in the quantitative measure where there were no significant improvements on the internalizing and externalizing behaviors scores of the Child Behavior Checklist (CBCL). The study by Bruster & Foreman (2012) found that the majority of survey respondents agreed that the mentoring intervention was beneficial in improving children’s behaviors. The report by ICF International (2011) found that children enrolled in the mentoring intervention showed significant improvements in their self-reported self-esteem, sense of future, and positive feelings about themselves. However, when it came to suspension from school, the treatment group did not have significantly lower rates, and at follow-up, their suspension rates increased to levels



**Table 1** Characteristics of included studies

Author(s), (Year) & Country	Sample characteristics	Study design	Intervention description and setting	Measures	Problematic behavior measure
Block and Pothast (1998) & USA	N = 40, aged 7–17 years, from a non-profit agency, 100% females experiencing maternal incarceration	Cohort Study, follow-up not specified	Visitation intervention in a prison	Piers-Harris Children's Self-Concept Scale (Piers, 1984) + Interviews	Conner's Parent Rating Scale (Conners, 1990) + Interviews
Bruster and Foreman (2012) & USA	N = 35, aged 10–11 years, from a non-profit agency, 64% males and 29.7% females, experiencing either paternal or maternal incarceration	Cohort Study, follow-up not specified	Mentoring intervention in a community	Survey developed by the principal investigators	Survey developed by the principal investigators
Fry-Greier and Hellman (2016) & USA	N = 29, aged 8–14 years from a non-profit agency, 59% males/41% females experiencing maternal incarceration	Case-Control Study, follow-up not specified	Alternative Sentencing intervention	CBCL (Achenbach, 1991)	CBCL (Achenbach, 1991)
Lopez and Bhat (2007) & USA	N = 3, aged 10–12 years, from a school, 75% females/25% males experiencing either paternal or maternal incarceration	Qualitative Study, follow-up not specified	Group intervention in a school	Referring Party Reports + Children's Self-Reports	Referring Party Reports + Children's Self-Reports
Poehlmann-Tynan et al. (2021) & USA	N = 71, aged 3–8 years, 56% males/44% females experiencing paternal incarceration	RCT Study, follow-up not specified	Educational Materials intervention in a prison and home	JPOC (Poehlmann, 2012) + SDQ (Goodman, 1997, 2001)	JPOC (Poehlmann, 2012) + SDQ (Goodman, 1997, 2001)
Jalali et al. (2019) & Iran	N = 85, aged 8–12 years, from a clinic, 55.3% females/44.7% males experiencing either paternal or maternal incarceration	Controlled Clinical Trial, follow-up not specified	Group intervention in a clinic	CDI (Kovaacs, 1978) + RCMAS (Reynolds & Richmond, 1978)	N/A
Shlafer et al. (2009) & USA	N = 57, aged 4–15 years, from a non-profit agency, 60% females/40% males experiencing paternal or maternal incarceration	Cohort Longitudinal Study, 6 month follow-up	Mentoring intervention in a community	CBCL (Achenbach, 1991) + Interviews	CBCL (Achenbach, 1991) + Interviews
ICF International (2011) & USA	N = 351, aged 6–14 years, from a non-profit agency, 63% males/37% females experiencing paternal or maternal incarceration	Longitudinal RCT Study, 12 and 18 month follow-ups	Mentoring intervention in a community	72-item Child Self-Reported Surveys + 27-item Parent/Caregiver Survey	72-item Child Self-Reported Surveys + 27-item Parent/Caregiver Survey
Conway and Keays (2015) & USA	N = 103, aged 5–18 years, from non-profit agencies. Divided into a BBBS group and an FIC group	Cohort Study, 7 and 13 month follow-ups	Mentoring intervention in a community VS Home-Based Case Management and Counseling intervention	Ohio Scales Short Form (Ogles et al., 2000; 2001) + BERS-2 (Buckley & Epstein, 2004)	Ohio Scales Short Form (Ogles et al., 2000; 2001) + BERS-2 (Buckley & Epstein, 2004)
Miller et al. (2013) & USA	N = 29, aged 4–14 years, from a non-profit agency, 62% females/38% males with 62% incarcerated mothers/38% incarcerated fathers	Cohort Study, 4 month follow-up	Family-Focused intervention in an organization	53-item POCA (Kellam et al., 1991) + 50-item BERS (Epstein, 2000)	53-item POCA (Kellam et al., 1991)
Will et al. (2006) & USA	N = 125, aged 5–18 years, from a non-profit agency, 82.3% females/17.7% males experiencing paternal or maternal incarceration	Cohort Study, follow-up not specified	Home-Based Case Management & Counseling	Focus Groups	School Attendance + FJIS data sets + Focus Groups
Lasko and Nygaard (2012) & USA	N = 23, aged 10–16 years, from a non-profit agency, 52.2% females/47.8% males experiencing paternal or maternal incarceration	Qualitative Study, follow-up not specified	Mentoring intervention in a community	Semi-Structured Interviews	Semi-Structured Interviews
King-White (2012) & USA	N = 11, aged 13–14 years, from a school, 82% females/18% males experiencing paternal or maternal incarceration	Cohort Study, follow-up not specified	Group intervention in a school	Rosenberg Self-Esteem Scale (Rosenberg, 1965)	CBCL (Achenbach & Rescorla, 2001)
Morris (2017) & USA	N = 109, mean age of 12.48 years, from a non-profit agency, 55% females/45% males experiencing paternal or maternal incarceration	Longitudinal Cohort Study, 6 and 12 month follow-up	Mentoring intervention in a community	Self-Reported Sadness Scale	Standardized Scales for Deviant Behavior

Table 1 (continued)

Author(s), (Year) & Country	Sample characteristics	Study design	Intervention description and setting	Measures	Problematic behavior measure
Goshin (2010) & USA	N = 47, mean age of 41.5 months, 53% females/47% males experiencing maternal incarceration	Longitudinal Case-Control Study, follow-up not specified	Prison Nursery intervention	CBCL for ages 1.5 to 5 years (Achenbach & Rescorla, 2000)	CBCL for ages 1.5 to 5 years (Achenbach & Rescorla, 2000) + ASBI (Hogan et al., 1992).
Springer et al. (2000) & USA	N = 10, aged 9–11 years, from a school, 60% females/40% males experiencing paternal or maternal incarceration	Cohort Study, follow-up not specified	Group intervention in a school	HSS (Hare, 1980)	N/A

USA United States of America, N/A Not Available, CBCL Child Behavior Checklist, RCT Randomized Control Trial, JPOC Jail-Prison Observation Checklist, SDQ Strengths and Difficulties Questionnaire, CDI Children's Depression Inventory, RCMAS Revised Children's Manifest Anxiety Scale, BBBS Big Brothers Big Sisters, FIC Families in Crisis, BERS Behavioral and Emotional Rating Scale, POCA Parent Observation of Child Adaptation, FJIS Florida Juvenile Justice Information System, ASBI Adaptive Social and Behavioral Inventory, HSS Hare Self-esteem Scale.

higher than those of the control group. The study by Morris (2017) found that the intervention had a significant effect on sadness with a steady decline in levels for the treatment group, however, they were still higher than the levels of the comparator group. The study by Conway & Keays (2015) found that children in the Big Brothers Big Sisters (BBBS) mentoring program showed no significant positive changes on the Ohio scale, which is a measurement scale used specifically with youth receiving mental health interventions or services (Ogles et al., 2001), and a significant negative change on the BERS Strengths scale.

### Group interventions

Four studies evaluated the effectiveness of group interventions. This type of intervention brings together children who are experiencing parental incarceration and allows them to interact with one another while participating in beneficial activities monitored by the group facilitator. The three school-based group interventions did not find any significant effect on child outcomes. The study by Lopez & Bhat (2007) found that students who participated in the group intervention gave positive feedback, connected with one another and served as positive sources of support. The study by Springer, Lynch & Rubin (2000) indicated no significant difference in post-test self-esteem levels between the treatment and control groups. However, for the treatment group alone, there was a significant increase in self-esteem levels from pre-test to post-test. Finally, the study by King-White (2012) evaluated the Children Having Incarcerated Parents Succeeding (CHIPS) school program and found no significant difference between the treatment and comparator groups on any of the measures of delinquency, self-esteem or aggressive behavior. The only study conducted in a clinical setting by Jalali et al. (2019) found that the treatment group showed a significant decrease on the depression and anxiety measures at post-test. Furthermore, compared to the control group, there was a significant difference on both scores.

### Case management and counseling interventions

Two studies evaluated the effectiveness of case-management and counseling interventions. The latter focus on building positive family relationships through counseling sessions and providing services to the children such as crisis intervention, sometimes in their own homes. The study by Conway & Keays (2015) found that the group undertaking the home-based case management and counseling program had a significant decrease in Problem Severity and a significant increase in Functioning and Strengths. However, these positive changes were not maintained after 13 months. The study by Will and

colleagues (2006) found that children and adolescents participating in the Children United with Parents (CUP) program had no significant changes in school attendance rates. Moreover, most participants who had contact with the juvenile justice system before entering the program did not have new contact after the program.

### Alternative sentencing intervention

Alternative sentencing interventions allow people with a criminal record to carry out community service, home detention, drug treatment programs or probation rather than a prison or jail sentence. The study by Fry-Geier & Hellman (2017) used the CBCL checklist (Achenbach, 1991) which evaluates internalizing and externalizing problems observed in children. The internalizing score evaluates levels of anxiousness/depression and withdrawal and the externalizing score evaluates levels of aggressive and destructive behavior. Scores for each, along with scores on somatic and sleep problems, are added to create a total problems score. The study found that the externalizing and total problems scores for children with alternatively sentenced mothers were significantly lower than the scores for children with normally incarcerated mothers. Moreover, the intervention was found to have a moderate effect on both externalizing problems and total problems.

### Visitation intervention

The visitation intervention studied by Block & Potthast (1998) allowed the daughters of incarcerated females to visit them more often and carry out traditional Girl Scout activities, such as badge work, with the wider group. The study found that caregivers reported a decrease in problematic behaviors and sadness of the girls participating in this intervention. However, the results indicate that the program's activities, rather than the time spent with their incarcerated mothers, have more of an effect on participant outcomes.

### Educational materials intervention

Sesame Street, a popular children's television show in the US, developed educational materials, including videos, children storybooks, and a caregiver guide, to support children through their experience of parental incarceration. The study by Pöhlmann-Tynan and colleagues (2021) that focused on children with incarcerated fathers found no significant main or interaction effects of the intervention on children's positive and negative behaviors during jail visits. However, caregivers who received the educational materials were significantly more likely to tell the child a developmentally appropriate explanation about their father's

incarceration which subsequently had a significant effect on the child's positive behaviors, such as verbalizing and listening to the incarcerated parent, and affect, such as happiness and excitement.

### Family-focused intervention

The family-focused "Strengthening Families Program" intervention was developed to promote positive growth by improving family communication and support. It is not specifically designed to target families affected by incarceration. It consists of three courses of weekly classes over 14 weeks that target both parents and children and teens that are aged 3 to 17 years old. They both have separate classes and then joint ones as well. The program has also been culturally adapted to benefit families from different ethnic backgrounds (Kumpfer & Magalhães, 2018). The study by Miller and colleagues (2013) found that the child outcomes of family involvement, interpersonal strength, social competence, behavior and concentration problems, and aggression showed no significant changes. However, there was a significant decrease in participants' overt aggression and criminal behavior from pre-test to follow-up.

### Prison nursery intervention

The prison nursery intervention studied by Goshin (2010) allowed newborn children to co-reside with their incarcerated mothers during their first 18 months. The study found no significant differences between the treatment and comparator groups on the externalizing behaviors subscales of aggression and attention-deficit/hyperactivity. On the other hand, they reported a significantly lower score on the internalizing behavior subscales of being depressed/anxious and withdrawn. There were no significant mean differences between both groups on the Behavior Competence subscale.

## Discussion

This review found that mentoring interventions based in a community setting are the most common type of intervention for this target population. The overall evidence indicates that mentoring interventions do not lead to significant changes in mental health and behavior outcomes of children and adolescents experiencing parental incarceration. This conclusion should be taken with caution. According to the Laakso & Nygaard study (2012), there is a positive correlation between the duration of matches and the emotional closeness developed between mentors and mentees. Half of the studies had high withdrawal rates during follow-up which means time for the mentors and mentees to develop a meaningful relationship was lacking. This may have had an



effect on the follow-up results. Moreover, five out of the six studies evaluated the same BBBS mentorship program which was quite intense with weekly catch-ups between mentors and mentees which might have contributed to high withdrawal rates. The final mentoring intervention study had a smaller withdrawal rate which could be due to the fact that the program was less intense and, before participants were matched, they had to commit for at least one year. These factors may have had an effect on the positive results found in this study. Furthermore, the BBBS program focused on matching adults from local religious organizations with participants. These two groups may not have any similar attributes or experiences to bond over. However, qualitative studies that report on subjective experiences showed positive intervention effects on participant well-being such as increases in self-confidence, openness and trust. This should be taken into consideration since qualitative research can add an interpretative dimension to the findings and an increased understanding of the subjective experiences of participants, and the active mechanisms of the intervention (Thirsk & Clark, 2017). Similar to the mentoring interventions, quantitative findings from the case management and counseling interventions did not find significant improvements in child functioning and problematic behaviors, in contrast to qualitative results.

The overall evidence indicates that the effectiveness of group interventions depends on the setting in which they are conducted, with the suggestion that group interventions in clinically-based settings had a stronger effect compared to school-based ones. This can be due to the internal threat of ‘secondary’ diffusion of treatment (Hoag & Burlingame, 1997). Similarly, the visitation intervention that was explored had elements, such as group activities and the opportunity to make new friends, that were shown to be more effective than increased visits. However, the age of participants, which was between 7 and 17 years old, could have had an effect on the results since this can be a period in the life course where social support plays a more influential role on mental wellbeing and behavior than family support (Weinstein et al., 2006). For both the family-focused intervention and the educational material intervention, there was no direct effect on children’s aggression, interpersonal strength, and negative and positive behaviors. However, caregivers reported improvements on their own outcomes and parenting styles, which then had a significant effect on the children’s affect and behavior. This is a similar finding from previous papers about social support, indicating that the improvement of caregiver outcomes and responsive caregiving may lead to improvements in child outcomes (Scherer et al., 2019).

The findings of the prison nursery intervention point towards it being more effective for mental health problems than for behavioral problems. The aim of this type of

intervention is to improve maternal attachment which has been shown to lead to improved internalizing behaviors in children (Moss et al., 2011). Alternative sentencing had a similar aim to improve maternal attachment, but was effective for both behavioral and mental health problems. This may be due to the difference in the nature of parental contact. Alternative sentencing interventions can lead to parents living with their children again and an increase in parental monitoring which was found to mediate the relationship between attachment and externalizing problems (de Vries et al., 2016).

While the evidence of this review indicates that interventions with elements of social and caregiver support, and increased maternal contact show some promise in improving children and adolescent’s mental health and behaviors, findings should be interpreted with caution in light of this review’s limitations. Firstly, it was difficult to conduct a comparative analysis between studies evaluating intervention types since many did not have the same study design, the outcomes between studies differed greatly, or there were no statistical findings. Certain studies had to be excluded and therefore, there is a possibility that some relevant studies were missed. The quality of the majority of included studies was also considered ‘weak’ or ‘fair’, which affects our overall assessment about the interventions. Many studies scored well on certain components of the quality assessment tools, however their total scores were affected by having a weak score on the “Blinding” component. Blinding is difficult to achieve in social science research (Day & Altman, 2000). Many studies had a cohort study design which meant that the assessors knew which participants were taking part in the intervention. Even for both RCTs and the clinical trial studies, double blinding was not possible as researchers were studying a very vulnerable population and it would be unethical to keep them or their caregivers in the dark about what they were evaluating. Many interventions only had one single study to evaluate their effectiveness, therefore we couldn’t compare or synthesize their results with other studies. Lastly, even though the addition of a second reviewer decreased some bias, they only reviewed of a small sample of studies (Perestelo-Pérez, 2013).

Future research directions should focus on comparing the effectiveness of interventions and improving the methodological quality of studies. To aid the comparison of studies, researchers should consider using recommended standard measures of mental health outcomes, such as the “Revised Child Anxiety and Depression Scale RCADS-25” (Chorpita et al., 2005). More rigorous RCTs are also needed and further exploration of potentially important aspects of interventions, such as caregiver and social support is merited. Finally, as almost all the evidence stems from the USA and parental incarceration is experienced across the world, it

is important to conduct studies outside the USA where the culture, incarceration system and services are very different. This will allow us to understand the contextual factors that influence the acceptability, engagement and overall effectiveness of interventions and the challenges in implementing them.

This is the first study to synthesize current information on interventions for the mental health and behavior of children and adolescents with incarcerated parents. It provides the most up to date evidence on the effectiveness of these interventions across settings and highlights the gaps in knowledge and the needs for future international rigorous research. This review has shown that maternal, social, and caregiver support might be important elements that need to be incorporated into interventions. The wider implications of these findings might benefit future policy-making decisions when planning and implementing future intervention techniques.

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## Compliance with Ethical Standards

**Conflict of Interest** The authors declare no competing interests.

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