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Recommended Citation

Woo, Y., Kowalski, M.A. Child (Un)Awareness of Parental Incarceration as a Risk Factor: Evidence from South Korea. *J Child Fam Stud* (2020). <https://doi.org/10.1007/s10826-020-01835-w>

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Child (Un)Awareness of Parental Incarceration as a Risk Factor: Evidence from South Korea

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Child (Un)Awareness of Parental Incarceration as a Risk Factor: Evidence from South Korea**Abstract**

A large body of research has been devoted to the relationship between parental incarceration and adverse outcomes for children, but such studies often compare children of incarcerated parents to those whose parents have never been imprisoned. Research is lacking regarding the effects of parental incarceration on children aware of their parent's imprisonment compared to those who are unaware of their parent's incarceration. In the current study we use propensity score weighting with a sample of 219 incarcerated Korean parents to examine differences in developmental outcomes between children cognizant of their parent's incarceration and those who are unaware of parental imprisonment. We found that, compared to a control group of children not aware of their parent's imprisonment, children aware of their parent's incarceration demonstrate decreases in educational attainment but increases in depressive symptoms, victimization, and criminal justice system involvement. We also reveal that maternal incarceration has a larger impact on children's developmental consequences than paternal incarceration. We discuss implications from our research, which may inform how children of incarcerated parents are treated in schools and their communities, so they do not face the stigmatization that their parent faces. Additionally, we recommended that said children receive more contact with their incarcerated parent as well as acknowledgement that awareness of a parent's imprisonment may present as a risk for children regarding their education, depressive symptoms, victimization, and criminal justice system involvement in South Korea.

Keywords: Children of incarcerated parents, depressive symptoms, educational attainment, criminal justice involvement, South Korea

Highlights

- Assessed South Korean youth aware of parental incarceration and those unaware.
- Awareness resulted in worse outcomes regarding multiple developmental outcomes.
- Revealing parental incarceration may have unexpected outcomes.

Child (Un)Awareness of Parental Incarceration as a Risk Factor: Evidence from South Korea

Introduction

Existing literature has generally shown that parental incarceration is associated with several harmful effects for children, including mortality, mental health problems, poor educational attainment, school dropout, homelessness, substance abuse, aggressive behavior, and criminal justice (CJ) system involvement (Mears & Siennick, 2016; Murray, Farrington, & Sekol, 2012; Murray, Loeber, & Pardini, 2012). Recent studies have utilized national-level, large-scale longitudinal data, and rigorous methods (e.g., matching), to shed light on the relationship between parental incarceration and consequences for children (Besemer, Van De Weijer, & Dennison, 2018; Mears & Siennick, 2016; Turney, 2017). However, there has been heterogeneity in empirical evidence regarding whether negative outcomes result from parental incarceration itself or other dynamic risk factors associated with the individual, family, and/or community (Murray, Bijleveld, Farrington, & Loeber, 2014; Rodriguez, 2016).

Much of the prior research concerning adverse effects of parental incarceration on children compares children of incarcerated parents to those whose parents have never been imprisoned (for exceptions, see Huebner & Gustafson, 2007; Murray & Farrington, 2008). Along with heterogeneity in effects, Turney and Goodsell (2018) have indicated that a limitation of research concerning intergenerational outcomes of parental incarceration involves ambiguity in which comparison group of children should be used. They suggested further examination with other appropriate comparisons, including children of parents who may be likely to engage in criminal behavior or children exposed to familial instability (e.g., parental separation). Consequently, it is essential to explore other relevant comparison groups to understand the heterogeneous effects of parental incarceration on children.

Children's awareness of parental incarceration may be a risk factor that affects their developmental trajectory. As an example, Kjellstrand, Reinke, and Eddy (2018) found that parental incarceration was associated with an increase in externalizing problems in a sample of youth followed from fifth to tenth grade. Unlike other forms of parental absence or separation, parental incarceration may produce the most serious outcomes for children if they are aware of it, as awareness may result in stigma that is not present when parents either divorce, are ill or die. Indeed, it is difficult to disclose parental incarceration to children due to several reasons. Families may not have adequate opportunity to disclose the truth of parental absence to their children. In some cases, children may be too young to understand the meaning of incarceration. Additionally, some families decide to conceal parental incarceration due to potential shame and stigma (Lockwood & Raikes, 2016). Without clear explanations for

ongoing parental absence, the “ambiguous loss” of parents may result in detrimental impacts on children across the life course (Boss, 2010, p.137).

Moreover, the National Prisoners’ Families Helpline (2020) suggests that honesty regarding where a parent is may help children cope better with the entire situation. Failure to explain where the parent has gone may result in a child becoming scared or confused. Additionally, the child may imagine things that are worse than incarceration. However, awareness of a parent’s incarceration may not be sufficient. Knowing *and* understanding about the parent’s incarceration can help a child to adapt (Muller, 2015). Actively lying about the parent’s whereabouts may also be problematic, as the child could find out the truth from a different source (National Prisoners’ Families Helpline, 2020). Regardless, if a caregiver decides to tell a child about the parent’s location, it is important to consider the child’s individual attributes, and explanations should be age-appropriate.

When discussing child awareness of parental incarceration, the issue of visitation is also relevant. Children who are unaware would have no visits with parents. While lack of contact may result in children feeling alienated (Shlafer & Poehlmann, 2010), the potential impact of visitation is pertinent to whether it is healthy for children to know about their parent’s incarceration. Results regarding visitation have been mixed. Contact visits between a child and a parent, if offered in a child-friendly setting and part of a family strengthening program, can be beneficial if proper emotional preparation and debriefing are conducted prior to and after the visit (Fraser, 2011). Visits may help children have fewer feelings of abandonment and anxiety (Hairston, 2007) in addition to increasing emotional security and adjustment, parent-child attachment, school behavior, and self-esteem (Poehlmann, Dallaire, Booker Loper, & Shear, 2010). The child’s overall well-being and social adjustment may also improve. Yet, poorly implemented visits may re-traumatize or harm children (Fraser, 2011, Hairston, 2007), especially visits involving high-security correctional facilities where children are subject to invasive searches. Moreover, the setting and length of visit may not be conducive to addressing issues between children and parents, which could negate possible benefits (Cramer, Goff, Peterson, & Sandstrom, 2017). Overall, the effect of visitation may be therapeutic or harmful, and the outcome on children depends on the nature and environment of the visit.

However, as Fritsch and Burkhead (1981) explained, the impacts of parental incarceration on adverse outcomes for children may be reduced or nullified if children are unaware. Thus, it is important to compare two groups – children aware and those who are incognizant of parental incarceration – to assess the effect of parental incarceration on children’s developmental outcomes. Little research has estimated how children’s (un)awareness of

parental incarceration affects developmental outcomes. We address this gap in the current study. However, prior to discussing our hypotheses and methods, we provide greater context regarding South Korea, theories used to describe the association between paternal incarceration and children's adverse outcomes, child awareness of parental incarceration as a risk factor, and the differential impact of maternal and paternal incarceration on children.

The South Korean Context

South Korea is traditionally ethnically homogeneous but has recently shifted toward multiculturalism due to an increase of marriage migrants from neighboring countries and migrant employees (Woo, Pedneault, Willits, Stohr, & Hong, 2020). Historically, East Asian countries have developed distinctive cultural values over centuries, such as collectivism, Buddhism, Confucianism, shaming and informal social control (Hwang, McGarrell, & Benson, 2005; Woo, Maguire, & Gau, 2018). Informal social control and moral socialization have traditionally been utilized to deal with public disorder and deviance (Hwang et al., 2005). Therefore, involvement of legal authorities has been regarded as a last resort, and these cultural values may have an impact on South Korean legal systems.

South Korea is one of the fastest urbanizing East Asian nations (Hwang et al., 2005). As a result of rapid industrialization and urbanization, the overall crime rate in South Korea has more than tripled from the mid-1970s to the mid-2000s (Legal Research and Training Institute [LRTI], 2007; Moon & Morash, 2008) and has remained somewhat stable since then (LRTI, 2017). Traditional cultural values have gradually been mixed with those from Western democracies, such as individualism, autonomy, and importance of formal social control. As a result of the cultural values in South Korea, parental incarceration may be associated with social stigma and potentially result in detrimental outcomes for a family if one applies the normalization thesis, where stigma resulting from incarceration may be more likely if incarceration is not a common occurrence (see Hirschfield & Piquero, 2010). Application of this hypothesis within the South Korean context may imply that social stigma resulting from imprisonment would be heightened, as incarceration is uncommon (e.g., 109 per 100,000 people; Walmsley, 2018). For example, Nam and Shin (2002) reported that Korean children of incarcerated parents have become psychologically traumatized as the result of social stigma associated with parental imprisonment.

Theoretical Linkages between Parental Incarceration and Children's Adverse Outcomes

Prior literature has linked parental incarceration to adverse outcomes for children through several mechanisms. Stress process theory (Turney, 2014) and strain theories (Agnew, 1992) provide relevant mechanisms of intergenerational consequences for children following parental incarceration. For most children of incarcerated

parents, parental absence often results in distress and potentially shock-inducing experiences, such as witnessing the arrest scene, sudden parental loss, and unexpected caregiver change (Murray & Murray, 2010; Murray et al., 2012). Additionally, children and families of incarcerated parents are likely to suffer from economic strains (Geller, Garfinkel, & Western, 2011; Western & Smith, 2018). Moreover, parental incarceration may result in family dissolution. Prior literature has shown that incarceration often disrupts marital relationships (Huebner & Gustafson, 2007). Children of incarcerated parents may also become disadvantaged (Wildeman, 2009), as they are frequently exposed to adverse experiences that may lead to social, psychological, structural, and economic strain (Turney, 2018; Turney & Goodsell, 2018). Such experiences include emotional absence, place and relationship instability, isolation, and victimization (Murray et al., 2012; Poehlmann, 2005).

Attachment and control perspectives (Bowlby, 1973; Hirschi, 1969) offer a second theoretical framework to explain the negative outcomes of parental incarceration on children. These theories explain how separation from parents early in life deprives children of the opportunity to establish a secure attachment, which offers children with psychological safety and supervision. In turn, secure attachments may prevent internalizing and externalizing problems (Hirschi, 1969; Murray et al., 2014). Moreover, attachment theory (Bowlby, 1973) suggests that separation can disrupt parent-child bonds (Burgess-Proctor, Huebner, & Durso, 2016; Dallaire, 2007). Parental incarceration may be particularly harmful when compared to other forms of parent-child separation, as incarcerated parents have limited contact with their children. Inconsistent or unstable contact may hamper the child's ability to establish a strong attachment (Hagen & Myers, 2003), impacting the child's development (Swisher & Waller, 2008).

Finally, labeling and social stigma may be unintended collateral consequences for family members of incarcerated parents (Murray & Murray, 2010; Phillips & Gates, 2011). Drawing upon labeling perspectives (Goffman, 1963; Lemert, 1967), parental incarceration may result in negative societal responses to family members despite them having no hand in the delinquent behavior (Luther, 2016). A self-fulfilling prophecy may occur, in which the child envisions him- or herself as delinquent and may become marginalized from conventional community values and practices. Children may then engage in antisocial behavior and secondary deviance (Lemert, 1967; Murray et al., 2012). Stated otherwise, labelling and stigma can present as a substantial collateral consequence for families of the incarcerated (Luther, 2016; Murray & Murray, 2010; Phillips & Gates, 2011).

Child Awareness of Parental Incarceration as a Risk Factor

Children's awareness of parental incarceration may be an important risk factor for developmental outcomes for several reasons. First, unlike other forms of parental absence, incarceration may produce a stigma that is not associated with divorce, illness or death (Burgess-Proctor et al., 2016). If children are not aware of their parent's incarceration, the relationship between parental absence resulting from incarceration and negative outcomes for a child may be decreased or nullified (Fritsch & Burkhead, 1981).

Previous literature has demonstrated that many children do not know that their parents are imprisoned because their caregivers conceal the parent's whereabouts (Johnston, 1995; Murray et al., 2014). Awareness of a parent's incarceration may produce stigma (Braman, 2004) and result in children facing unintended adverse outcomes, including social isolation and marginalization, bullying and victimization, internalizing problems, association with delinquent peers, academic failure, and/or school dropout (Bryan, 2017; Murray et al., 2014; Phillips & Gates, 2011). Children may also experience mental health problems, and/or engage in antisocial behavior (Murray et al., 2014; Murray et al., 2012).

Awareness of parental incarceration may also affect a child's personal identity (Luther, 2016). Again, drawing upon labeling perspectives (Goffman, 1963; Lemert, 1967), incarceration as a formal sanction can be stigmatizing and increase risk of subsequent offending through changes in self-image (Murray et al., 2012). Children may view themselves as 'bad', potentially resulting in social marginalization within the child's community and/or peers. In turn, the child may demonstrate behavioral problems. For example, Murray and colleagues (2012) utilized data from the Pittsburgh Youth Study and concluded that the significant association between parental incarceration and youth theft may be explained by stigma and labeling mechanisms, wherein children of incarcerated parents adopt a "delinquent identity" (p. 284). However, there may be disparate outcomes depending on the parent's gender.

Maternal versus Paternal Incarceration

Prior studies have demonstrated mixed findings regarding outcomes for children of incarcerated parents. While some researchers have found that parental incarceration can have a detrimental effect on children (Burgess-Proctor et al., 2016; Mears & Siennick, 2016; Muftić, Bouffard, & Armstrong, 2016; Murray et al., 2012), others have shown that parental incarceration may be inconsequential (Turanovic, Rodriguez, & Pratt, 2012; Turney, 2017), have no effect (Giordano, 2010; Wildeman & Turney, 2014), or be beneficial (Murray et al., 2014). These heterogeneous outcomes may vary by the parent's gender (Wildeman, Andersen, Lee, & Karlson, 2014).

For example, mother-child relationships are regarded as expressive in nature and characterized by emotional closeness (Swartz, 2009), while father-child relationships are often instrumental and activity-based (Umberson, 2003). Additionally, Foster and Hagan (2013) proposed the gendered loss hypothesis, which describes how loss of the mother and father leads to adverse behavioral outcomes for children. These authors hypothesized that paternal incarceration may predict substance related problems for children while maternal incarceration may result in depressive symptoms. Due to the differential nature of these relationships, maternal incarceration may result in a greater disruption of secure attachments (Dallaire, 2007; Murray & Murray, 2010). For instance, Fritsch and Burkhead (1981) found that children of incarcerated mothers were more likely to display internalizing behavioral problems, such as withdrawal, drop in school work, fear of school, and nightmares.

Furthermore, Fritsch and Burkhead (1981) discovered that children of incarcerated fathers were more likely to engage in externalizing problems, including aggressive behavior, delinquency, and substance use. Wilbur and colleagues (2007) also found that teachers reported more externalizing behaviors of children of incarcerated fathers. Additionally, they discovered that children of incarcerated fathers had more depressive symptoms. Other studies have reported that paternal incarceration has a stronger effect on aggressive behaviors (Geller, Cooper, Garfinkel, Schwartz-Soicher, & Mincy, 2012; Wildeman, 2010) for boys compared with girls. Furthermore, using a social network analysis, Bryan (2017) found that adolescents with recently incarcerated fathers were socially marginalized in their schools and had more antisocial peers.

Different studies have demonstrated conflicting results. Tasca, Rodriguez, and Zatz (2011) revealed that only maternal incarceration was positively associated with rearrest among youth while Turney and Wildeman (2015) found that only paternal incarceration was related to children's behavioral problems. Conversely, Muftić et al. (2016) demonstrated that adult offspring who experienced maternal incarceration were more likely to have an adult arrest, conviction, and incarceration compared to children whose parents were never incarcerated. In short, the relationship between intergenerational consequences and parental incarceration relies on several risk factors.

The Present Study

Thus far, previous research has not afforded much attention to the potential impact that a child's awareness of parental incarceration may have on subsequent developmental outcomes. We address this gap through an examination of the effect of such cognizance and how it may be a risk factor affecting child outcomes through propensity score weighting (PSW) in a sample of 219 incarcerated, Korean parents to examine differences in the

developmental outcomes of their children. We utilized statistical weighting to establish two similar groups of children – those knowledgeable of their parent’s incarceration and those who are not. This technique permits a rigorous test regarding child awareness and whether such knowledge plays a role in shaping adverse outcomes. We also examine the disparate impact of maternal and paternal incarceration on developmental outcomes for children. This research is unique in its focus on child awareness of parental incarceration as a potential risk factor as well as the differences between the effects of maternal and paternal incarceration on outcomes for children. Moreover, our work contributes to the literature in that it considers a relatively understudied population of children and examines incarcerated parents within an Asian context. Most of the extant research involves the United States and some European countries (see Murray et al., 2014). Our examination of children of incarcerated parents from South Korea is essential to understanding the effects of parental incarceration outside of Western cultures. Awareness of parent’s incarceration as a risk factor for developmental outcomes within an Asian context may provide important policy implications for children of incarcerated parents in cultures with practices similar to those of South Korea.

Our general hypothesis is that children aware of parental incarceration (CAPI) will be more likely to have adverse developmental outcomes compared to children who are unaware. We have outlined six specific hypotheses addressing a variety of developmental outcomes. First, we anticipate that CAPI will be more likely to demonstrate higher levels of depressive symptoms compared to those who are unaware. Second, we expect that CAPI will be more likely to have poorer school performance. Third, we hypothesize CAPI will be more likely to be bullied compared to those who are not knowledgeable. Fourth, we anticipate CAPI will be more likely to engage in delinquent behavior. Fifth, we expect CAPI will be more likely to have CJ involvement, such as arrest and probation or community service, and incarceration in a youth detention facility. Lastly, we hypothesize that paternal incarceration will be associated with behavioral problems (e.g., delinquency and CJ involvement) while children who experience maternal incarceration will evidence more internalizing problems, such as depressive symptoms.

Method

We utilized secondary data from “A Study on the Quality of Family Relationship among Inmates,” conducted by the Korean Institute of Criminology (KIC) in South Korea, from October to November of 2007 (Jeon, Shin, & Kim, 2007). The primary aim of that study was to examine determinants that are associated with the maintenance of a healthy family relationship among prison inmates. The survey was approved by the Institutional Review Boards of the KIC. Using stratified sampling based on the location of correctional facilities, Jeon and

colleagues originally invited 600 inmates to participate in the survey. Respondents were instructed that their participation was completely voluntary, and their responses were confidential.

The data contains information regarding individuals' lives pre-incarceration and while incarcerated, including demographic characteristics (age, gender, marital status, employment, living with children prior to incarceration, prior incarceration records, length of time served, and emotional support from family), family complexities and visitations (current relationship with children, spouse living with children after incarceration, grandparents living with children after incarceration, change of family socioeconomic status [SES], change of caregiver after incarceration, family visits, calls, and letters), and characteristics of children and their behavioral change since the incarceration (age, siblings, school performance, internalizing and externalizing problems, and CJ involvement). While much of the prior research on this topic has been unable to account for factors that may affect intergenerational consequences, such as number of prior incarcerations and length of time served, we are able to control for these factors, as information on them was obtained via self-report surveys completed by the parents.

Participants

In 2007, a total of 51 correctional institutions under four regional corrections headquarters were operating in South Korea. To obtain a nationally representative sample in the survey, Jeon and colleagues (2007) randomly selected two correctional facilities for each regional headquarter for a total of eight institutions, including seven male penitentiaries and one female institution. Single inmates who had never been married were excluded.

For the present study, we restricted the original data ($N = 556$) to include respondents who had at least one child aged 4 to 19 ($N = 236$). Missing data pertaining to child awareness of parental incarceration (17 cases) and the outcome variables resulted in additional restrictions. Accordingly, 219 responses were included in the final analytic sample. Missing data was missing completely at random and constituted a small proportion (9.9%) of the overall sample. Thus, we took no further steps to address missing data. Demographic characteristics for respondents and their children are presented in Table 1.

---Table 1 about here---

Measures

Study outcomes. Drawing on prior literature, we identified five-domain dependent variables for the present study: (1) Depressive symptoms; (2) school performance; (3) delinquency; (4) victimization; and (5) CJ involvement following parental incarceration. For depressive symptoms, we included three symptom items: Felt down; avoided people; and depression. The response categories for these items were from 1 (*strongly disagree*) to 4 (*strongly*

agree) on a 4-point Likert scale. We used three types of school performance items: Dropped grade (e.g., B to a D); truancy; and dropped out of school. The response categories for these items were from 1 (*strongly disagree*) to 4 (*strongly agree*) on a 4-point Likert scale. We utilized two types of delinquent behavior: Ran away from home and hangs out with delinquent peers. The response categories for these items were from 1 (*strongly disagree*) to 4 (*strongly agree*) on a 4-point Likert scale. We included a single type of victimization in the analyses: Bullied by school friends and peers. The response categories for this item were dichotomously coded (0 = *no* and 1 = *yes*). We included three types of CJ involvement items: Arrested; juvenile adjudication (probation or community service); and incarcerated in a youth detention center. The response categories for these items were dichotomously coded (0 = *no* and 1 = *yes*).

Child awareness of parental incarceration. We assessed awareness of parental incarceration through a single item that asked whether respondents' children were aware of their incarceration. We coded awareness as 0 (*no*) or 1 (*yes*) to indicate whether children were knowledgeable of their parent's incarceration.

Balancing Covariates

We selected 16 covariates as potential confounders to control for possible selection biases (see Appendix A). These variables consist of socio-demographics, including respondents' (parents) age in years, gender, marital status (divorce) after incarceration, employment before incarceration, living with children prior to incarceration, number of prior incarceration records, and length of time served. It is important to note that, along with whether fathers and mothers are incarcerated, prior incarceration records and length of time served may be critical confounders in shaping children's developmental outcomes (Murray et al., 2014). Additionally, living with children prior to incarceration may be an important factor that affects intergenerational consequences (Burgess-Proctor et al., 2016).

Moreover, we selected several risk factors associated with negative developmental outcomes for children of incarcerated parents, including complexity of family relationships (current relationship with children, spouse living with children since incarceration, grandparents living with children since incarceration, change of family SES after incarceration, change of caregiver since incarceration, parental visits, and spouse visits), and children's information such as age and siblings. There was no information on children's gender in the data, and the children visits variable was excluded due to multicollinearity between this item and the measure of children's awareness of parental incarceration. As Korean inmates and their children are primarily homogenous in terms of race and ethnicity, a race/ethnicity variable was not included in these analyses. Items for each variable are presented in Table 1.

Analytic Plan

We used propensity score analysis to examine the effects of awareness of parental incarceration on developmental outcomes for children. It is worth noting that heterogeneity exists on outcomes for these children, as these conditions vary in the context of pre-incarceration and incarceration. Also, incarceration effects on children and families are not universal (Giordano, 2010; Rodriguez, 2016). Existing literature has further demonstrated that some children may be more vulnerable to paternal incarceration (Braman, 2004; Turanovic et al., 2012). In short, the effects of awareness of parental incarceration on adverse outcomes should be isolated from potential effects of confounding factors by using PSW to provide a more accurate estimate on whether children who are aware of their parent's incarceration have more deleterious outcomes than children who are not informed.

The pool of comparison subjects ($n=111$) was nearly equivalent in size to the treatment subjects ($n=108$); consequently, PSW was utilized, as it is preferred when the pool of treatment subjects is small or less than twice the size of the comparison subjects (Hamilton, Kigerl, & Hays, 2015). The procedure for the PSW analysis includes four steps. First, we estimated predicted probabilities (propensity) of the child's awareness using a binary logistic regression. We also examined a Receiver Operating Characteristic curve to assess the predictive accuracy of the model as a sensitivity and specificity test. In the pre-weighting assessment, the Area Under the Curve (AUC) value was .80, indicating that the model and its covariates were strong predictors of treatment group assignment. Second, we computed weights by taking one divided by the propensity score for treatment subjects (CAPI), and the inverse was processed ($1/1$ -propensity score) for comparison subjects. Third, we standardized the weight by dividing each study group's weight by the group mean propensity score to reduce the influence of extreme scores. Finally, diagnostics were completed to examine whether the weighting procedure adequately balanced the two groups with respect to observed covariates. This assessment included examination of a box-plot of predicted probability and bivariate tests comparing covariate means between the two groups prior to, and following, the weighting procedure.

Appendix A presents sample descriptive statistics and balancing characteristics of observed covariates by study group prior to and following PSW. Before the procedure, five of the 16 item means were significantly different between the two study groups. Prior to balancing, parents whose children were aware were older ($t = -2.41$, $df = 205$, $p < .05$) and had higher employment rates prior to incarceration compared to parents in the second group ($t = -2.47$, $df = 179$, $p < .05$). Additionally, CAPI were significantly more likely to have lived with their parents prior to the incarceration ($t = -2.81$, $df = 186$, $p < .01$). It is also notable that parents of children who were not cognizant of

parental incarceration had a significantly better relationship with their children ($t = 3.18, df = 189, p < .01$). Moreover, CAPI were older than those from the control group ($t = -3.18, df = 217, p < .01$). Regarding other covariates, CAPI were more likely, but not significantly more likely, to experience a change in their family SES and caregiver. Following the weighting procedure, all group differences dropped out of significance. Through the PSW procedure, the two groups were equally balanced on all relevant covariates, and study outcomes were compared by a mean differences test (Rosenbaum & Rubin, 1983).

Results

Developmental Outcomes

Table 2 displays results concerning differences in developmental outcomes for children prior to and following PSW. There were five statistically significant and two marginally significant differences between the two groups before balancing techniques were performed. These findings indicate that CAPI were more at risk for internalizing problems, including feeling down ($t = -2.98, df = 181, p < .01$), avoiding people ($t = -2.51, df = 180, p < .05$), and depression ($t = -2.69, df = 172, p < .01$). Moreover, these children demonstrated a greater risk for poor school performance, such as being truant ($t = -1.99, df = 151, p < .05$) and dropping out of school ($t = -1.98, df = 141, p < .1$). CAPI also experienced significantly more bullying victimization ($t = -2.37, df = 146, p < .05$) and marginally higher rates of adjudication ($t = -1.75, df = 144, p < .1$). However, following the weighting procedure, only differences in bullying victimization remained statistically different ($t = -2.60, df = 167, p < .05$) while differences in feeling down ($t = -1.91, df = 224, p < .1$), avoiding people ($t = -1.86, df = 223, p < .1$), and depression ($t = -1.89, df = 216, p < .1$) dropped to marginal significance. In addition, differences regarding dropping out of school ($t = -2.71, df = 141, p < .01$), running away from home ($t = 2.67, df = 173, p < .01$), arrests ($t = -2.07, df = 122, p < .05$), and adjudication ($t = -2.07, df = 122, p < .05$) became statistically significant. After the weighting procedure, incarceration became marginally significant ($t = -1.94, df = 122, p < .1$).

---Table 2 about here---

Findings demonstrated that CAPI statistically had higher levels of depressive symptoms, dropping out of school, bullying victimization experiences, and CJ involvement compared to children who were unaware following weighting procedures. However, the comparison group had more instances of running away from home. Nonsignificant differences were found for dropped grade, truancy, and hanging out with delinquent peers. Nonetheless, these results are generally consistent with prior literature and theoretical explanations.

Developmental Outcomes by Maternal and Paternal Incarceration

After we implemented weighting procedures, we further examined the differential impact of maternal and paternal incarceration on developmental outcomes to test our sixth hypothesis. Table 3 shows the results for study outcomes by paternal and maternal incarceration before and after PSW. Prior to balancing, there were significant differences in all forms of school performance between the two groups, indicating that, compared to children of incarcerated mothers, children of incarcerated fathers had poorer grades ($t = -2.29, df = 172, p < .05$), marginally more truancy ($t = -1.88, df = 171, p < .1$), and were significantly more likely to drop out of school ($t = -2.03, df = 158, p < .05$). Additionally, children of incarcerated fathers were marginally more likely to get arrested compared to children of incarcerated mothers ($t = -1.82, df = 160, p < .1$).

---Table 3 about here---

Following weighting, we found several outcomes that were significantly different between the two groups. Specifically, the findings demonstrate that, compared to children of incarcerated fathers, children of imprisoned mothers had statistically higher levels of depressive symptoms, including avoiding people ($t = 3.30, df = 163, p < .01$) and depression ($t = 3.09, df = 176, p < .01$). These children also evidenced a greater likelihood of running away from home ($t = 1.89, df = 184, p < .1$) and hanging out with delinquent peers ($t = 2.27, df = 148, p < .05$). Conversely, children of incarcerated fathers had statistically greater reports of dropping out of school ($t = -2.97, df = 145, p < .01$), arrests ($t = -2.07, df = 130, p < .05$), and adjudication ($t = -2.07, df = 130, p < .05$).

Discussion

A large body of research regarding parental incarceration has generally shown harmful consequences for children, yet much remains to be determined concerning how parental incarceration affects different subsets of youth. It is unclear whether the deleterious outcomes children face are largely the result of parental incarceration itself, or a combination of other factors, such as traumatic separation, poor child rearing, economic hardships, and other external disadvantages that occur pre-incarceration, throughout incarceration, and post-incarceration (Murray et al., 2014; Turanovic et al., 2012). A potential explanation for these heterogeneous findings may be due to ambiguities in past comparison groups of children without incarcerated parents (Turney & Goodsell, 2018).

We attempted to fill this gap by comparing two equivalent groups of children, except for awareness concerning their parent's incarceration. To the best of our knowledge, past research has not assessed the effects of the child's knowledge of parental incarceration and how such information relates to adverse outcomes in the child's

life. Such research has not been completed within the South Korean context. Our results generally support the study hypotheses that CAPI would be more likely to have adverse developmental outcomes. Specifically, CAPI evidenced more depressive symptoms, poor school performance, bullying victimization, and justice system involvement. These findings support our first, second, third, and fifth hypotheses. Our fourth hypothesis was not supported, as treatment subjects had less delinquent, non-criminal behavior (e.g., running away) when compared to the control group.

Though results from the PSW illustrated statistically nonsignificant *t*-tests in several outcomes, this does not mean that there is no difference between the two groups. Given the relatively small samples, some of the nonsignificant results may reflect Type II errors. Therefore, we conducted a standardized metric, Cohen's *d*, for each outcome variable, as standardized differences allow for better indication of true group differences. As presented in Table 4, only dropping out of school and bullying victimization were substantively affected by awareness of parental incarceration. These effect sizes were medium in magnitude. The findings indicate that awareness of parental incarceration for children in South Korea may produce undesirable outcomes such as school dropout and bullying victimization. This effect may be due to the special cultural context found in South Korea. Overall, parental incarceration had somewhat low to medium effect sizes for all other outcomes. These small effects can be important because these outcomes could lead to detrimental consequences for their future career and, broadly, public safety.

---Insert Table 4 about here---

Regarding developmental outcomes by maternal and paternal incarceration, maternal incarceration had more of an impact on children. Specifically, compared to children of incarcerated men, children of incarcerated women were more likely to avoid people, had higher levels of depression, and hung out with delinquent peers. Children of incarcerated fathers tended to have more school dropout and higher CJ system involvement. These findings support prior literature that compared children of incarcerated fathers and mothers, where children of the latter group were more likely to display internalizing behavioral problems (Foster & Hagan, 2013; Fritsch & Burkhead, 1981), and adolescents with incarcerated fathers were socially marginalized in their schools (Bryan, 2017) and were more likely to display externalizing behaviors (Fritsch & Burkhead, 1981).

Due to differences in historical backgrounds and cultural values, the effects of parental imprisonment on children in South Korea may differ from those in Western nations. For instance, the effects following parental incarceration may be especially impactful in South Korea and may result in more stigma due to infrequency of incarceration (Hirschfield & Piquero, 2010). Additionally, legal interference in South Korea is not preferred, as both

informal social control and moral socialization (Hwang et al., 2005; Woo et al., 2018) are typically utilized to monitor deviance. Furthermore, considering the cultural context of this study, it may be the case that, in addition to financial difficulties resulting from parental incarceration, CAPI were more likely to be depressed, strained, frustrated, and eventually deviate from conventional social norms and practices. Due to awareness of their parent's incarceration, these children may have recognized that their parents were unable to support their education. Korean society has traditionally emphasized scholarship and academic success. This desire for education is derived from Confucian values that emphasize the importance of discipline to gain knowledge and competence through education (Lee, Bell, & Watson, 2007). Higher education is considered vital for obtaining wealth and honor, and the level of education is an important indicator of one's social status. Hence, CAPI may have had less optimism about their future prospects, potentially abandoned their dreams, and dropped out of school. It is possible that children of incarcerated parents had lesser, or lack of, enthusiasm for education prior to their parent's incarceration. However, our results show that, compared to children unaware of parental incarceration, CAPI dropped out of school more as well as experiencing more bullying victimization. Though our results demonstrate nonsignificant differences by study group for other developmental outcomes, findings provide evidence for the supposition that awareness of parental incarceration may be an important risk factor for children's developmental outcomes in South Korea.

Our findings seem to indicate that children in South Korea should be kept uninformed regarding a parent's incarceration. However, that is not something we recommend, as families and children vary immensely. Moreover, there are limitations to the study discussed below that preclude this kind of suggestion. There may be several reasons why a child is not told about a parent's incarceration. Issues concerning the child's age, stigma, and shame (Lockwood & Raikes, 2016) are especially pertinent. Generally, lying or failing to discuss parental incarceration is an unexplored area in child development, especially within the South Korea context. However, more general research regarding how parental dishonesty impacts children's development demonstrates that there may be some risks involved. For instance, more exposure to parenting by lying (e.g., lying to children to manipulate their behaviors and emotions; Heyman, Luu, & Lee, 2009) is related to greater dishonesty toward parents in adulthood, which is associated with higher levels of externalizing, internalizing, and antisocial personality issues in adulthood (Santos, Zanette, Kwok, Heyman, & Lee, 2017). Moreover, children who know a parent is gone but do not know why may become confused or scared (National Prisoners' Families Helpline, 2020). Our results seem to contradict this, insofar that CAPI evidenced more severe outcomes. However, there is a difference between active lying and

passive omission of a parent's whereabouts. It is possible that the stigma and shame invoked by awareness outweighed the effect of simply not knowing at all in our study. More research is needed regarding this subject. Longitudinal research would be especially useful, as work could be done to evaluate the age at which the child became aware and how the child's behavior changed between unawareness and awareness. Another explanation for our findings may be that awareness was not accompanied by full understanding. Children may better adapt to a parent's incarceration if they are both aware and understand what is happening (Muller, 2015). The child's age can impact such understanding, but this was not something we examined in our study.

Although the current research provides empirical evidence that contributes to the literature concerning the effects of parental incarceration on children, there are some notable limitations. First, the data is cross-sectional in nature. Although our dependent variables indicated developmental changes in children following parental incarceration, recent research on children of incarcerated parents has utilized longitudinal data to examine the effects of parental incarceration on outcomes for children (e.g., Kjellstrand et al., 2018; Mears & Siennick, 2016; Muftić et al., 2016; Turney, 2017). Longitudinal research is necessary to examine the causal relations between awareness of parent's incarceration and adverse outcomes for children.

Next, we used a quantitative-oriented approach. Although our purpose was not to understand the subjective views of children, quantitative tactics are limited in understanding the negative life events of specific group members. Future research could utilize qualitative or mixed methods approaches to provide a fuller picture of developmental outcomes (Western & Smith, 2018). Such studies may better illuminate the interacting social processes (e.g., parental absence, low income, poor education, changes in caregivers) that contribute to children's detrimental outcomes. We were also unable to test the effect of the child's gender. Past research has demonstrated that aggressive behavior is more likely in sons of incarcerated parents (Geller et al., 2012). Although internalizing behaviors were associated with maternal incarceration and externalizing problems with paternal imprisonment in the current study, we were not able to examine whether mother-daughter, mother-son, father-daughter, and father-son pairings differed on the outcomes. Future research could assess these various combinations.

Additionally, a potential limitation of the data concerns reliability surrounding subjects' responses. This limitation is specifically common for research on parental incarceration and children's outcomes. For example, several studies (Johnson, 2009; Wilbur et al., 2007) used a measure of child behavior reported by caregivers and school teachers, but a measure of parental incarceration by children's caregivers may not be reliable (Murray, 2010).

As such, studies may produce biased results if information about their children is not accurately measured. Data used for current study was collected through self-report surveys completed by incarcerated parents; thus, parents had to rely on others to obtain information about their children. It is possible that parents' responses may be inaccurate. However, a variable available in the data allowed us to explore this limitation. Parents were asked how they heard about their children's behavior and/or development. The majority of incarcerated parents (48%) spoke to their spouses (biological parents) about their child(ren), while 23.6% communicated with a non-biological parent caregiver, and 13% received letters from their children. There were also parents (15.4%) who were not aware of their child(ren's) behavior and development. Although incarcerated parents were not able to directly witness their child or children's behavior, the veracity of information provided by these sources offers a reasonable measure for the current study in light of incarcerated parents' physical separation from their child(ren). Nevertheless, it is possible that a parent or caregiver is unaware that a child is cognizant of their parent's incarceration. Therefore, the effects of parental incarceration on children's outcomes may be biased.

Finally, although selection bias between the two groups was identified and controlled through PSW, unknown factors that affected differences between the two groups may exist. One of the limitations of propensity score matching is that it cannot manage unknown or hidden potential covariates in the data (Rosenbaum & Rubin, 1983). Thus, findings from the current study may be limited as a result of important covariates that were not available to analyze, such as attachment prior to the parent's incarceration, self-control, family relations, and neighborhood disadvantage (Burgess-Proctor et al., 2016; Geller et al., 2011; Turney, 2017). Nevertheless, this is one of the first, if not the first, empirical studies to examine developmental outcomes for children of incarcerated parents within an Asian context that uses a quasi-experimental design.

Our findings demonstrate that parental incarceration can have a negative impact on CAPI and that the effect of parental incarceration varies by the parent's gender, which is in line with past findings. Child outcomes may also differ with other risk factors and conditions, including different developmental stage (age), gender, family relations and child rearing, family SES, mental health problems, and disadvantaged environmental conditions (Huebner & Gustafson, 2007; Murray, 2010). These results have several policy implications. Apart from the general recommendation that children of incarcerated parents in South Korea may require additional support, recommendations for improving outcomes involve the following:

- (1) Increased contact between CAPI and incarcerated parents to maintain, or reestablish, the parent-child bond.

- (2) Community and school discussions of parental incarceration to decrease stigmatization surrounding it.
- (3) Provision of support within schools for children of the incarcerated.
- (4) Acknowledgement of parental incarceration as a risk or potential need factor for children who become justice system-involved.
- (5) Gender-specific interventions for families, wherein greater attention is given to internalizing behaviors for children of incarcerated mothers and externalizing problems for children of incarcerated fathers.
- (6) Discussions between parents, families, or caregivers with CAPI regarding what it means to be imprisoned, that incarceration does not reflect on their own behavior or character, and interdisciplinary strategies these children can follow (e.g., community, school, family, or peer involvement; individual or family counseling) to avoid intergenerational consequences associated with parental incarceration.
- (7) Lastly, and as suggested by Dallaire (2007), continued research regarding the intergenerational cycle of crime, and family processes/patterns that contribute to it, is needed so that the transmission of crime and other deleterious outcomes may be halted.

These recommendations are not intended to be exhaustive. Instead, they serve as a baseline for more effective care for, and reactions to, children of incarcerated parents. Essentially, these suggestions may help to reshape developmental outcomes of children whose parents are incarcerated and potentially break the cycle of deviance associated with parental incarceration, particularly for children of incarcerated parents in South Korea.

Compliance with Ethical Standards

Conflict of interest: The authors declare that they have no conflict of interest.

Ethical approval: The authors utilized secondary data. However, all procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee (Institutional Review Boards of the Korean Institute of Criminology, Project No. 11-1270000-000485-01) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. We used data that was already available, which does not require ethical, Institutional Review Board approval by our institution. This article does not contain any studies with animals performed by any of the authors.

Informed consent: Informed consent was obtained from all individual participants included in the study by the authors who conducted the original data collection.

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Appendix A: Balancing Statistics (N=219)

Variable	Before PSW			After PSW		
	CAPI (n=108) Mean(SE)	Comparison (n=111) Mean(SE)	<i>t</i>	CAPI Mean(SE)	Comparison Mean(SE)	<i>t</i>
<i>Offender Characteristics</i>						
Age	42.40(.63)	40.41(.54)	-2.41*	41.34(.56)	41.61(.51)	0.36
Gender (male = 1)	0.63(.05)	0.62(.05)	-0.12	0.64(.04)	0.61(.04)	-0.40
Divorced ^b	0.33(.05)	0.36(.05)	0.34	0.29(.04)	0.28(.04)	-0.14
Employment ^a	0.94(.02)	0.83(.04)	-2.47*	0.93(.02)	0.93(.02)	0.003
Living with children ^a	0.91(.03)	0.78(.04)	-2.81**	0.91(.02)	0.90(.03)	-0.42
Prior incarceration records	0.67(.12)	0.65(.11)	-0.14	0.67(.10)	0.62(.10)	-0.40
Length of time served	2.13(.15)	2.13(.15)	-0.02	2.10(.12)	2.03(.13)	-0.39
<i>Family Characteristics</i>						
Current relationship with children	2.78(.11)	3.26(.11)	3.18**	2.90(.10)	3.00(.08)	0.78
Spouse living with children ^b	0.46(.05)	0.48(.05)	0.27	0.51(.04)	0.52(.04)	0.21
Grandparents living with children ^b	0.22(.04)	0.21(.04)	-0.16	0.17(.03)	0.17(.03)	0.05
Family SES change ^b	2.13(.06)	2.11(.06)	-0.22	2.10(.05)	2.14(.05)	0.53
Caregiver change ^b	0.27(.04)	0.21(.04)	-1.03	0.26(.04)	0.20(.03)	-1.17
Parental visit	0.04(.02)	0.07(.03)	1.07	0.04(.02)	0.05(.02)	0.26
Spouse visit	0.38(.05)	0.50(.05)	1.70	0.54(.04)	0.53(.04)	-0.11
<i>Children's Characteristics</i>						
Age	13.81(.38)	12.09(.38)	-3.18**	13.13(.35)	13.45(.36)	0.63
Siblings	0.44(.05)	0.49(.05)	0.76	0.48(.04)	0.49(.04)	0.16
AUC		.80			.59	

Note: PSW = propensity score weighting; CAPI = Children Aware of Parental Incarceration; SE = standard error mean; AUC = area under the curve; *a* = circumstance before incarceration; *b* = circumstance after incarceration.

p* < .05. *p* < .01. ****p* < .001.

Table 1. Sample Descriptive Statistics (N=219)

Variable	Percentage	Mean(SD)	Range
<i>Characteristics of Incarcerated Parents</i>			
Age (years)		41.39(6.02)	25-60
Gender (male=1)	62.6%		0-1
Divorced (after incarceration)	34.5%		0-1
Employment (before incarceration)	88.1%		0-1
Length of time served		2.13(1.48)	0-5
<i>0 = less than 1 year (12 months)</i>	14.9%		
<i>1 = 13-24 months</i>	26.8%		
<i>2 = 25-36 months</i>	14.9%		
<i>3 = 37-72 months</i>	22.7%		
<i>4 = 73-132 months</i>	14.9%		
<i>5 = more than 11 years (133 months)</i>	5.7%		
Number of prior incarcerations		0.66(1.18)	0-4
<i>0</i>	68.8%		
<i>1</i>	13.9%		
<i>2</i>	6.3%		
<i>3</i>	4.8%		
<i>4 or more</i>	6.2%		
Living with child(ren) (before incarceration)	84.4%		0-1
<i>Family Characteristics and Visitations</i>			
Current relationship with child(ren)		3.00(1.08)	1-5
Spouse living with child(ren) (after incarceration)	47.2%		0-1
Grandparents living with child(ren) (after incarceration)	21.8%		0-1
Family SES change (after incarceration)		2.12(0.62)	1-3
Caregiver change (after incarceration)	24.3%		0-1
Parental visit	5.5%		0-1

Variable	Percentage	Mean(SD)	Range
Spouse visit	43.8%		0-1
<i>Characteristics of Children of Incarcerated Parents</i>			
Age		12.94(4.07)	4-19
Sibling(s)	46.1%		0-1
Awareness of parental incarceration	49.3%		0-1
Feeling down (after parental incarceration)		1.87(0.94)	1-4
Avoiding people		1.57(0.81)	1-4
Depression		1.41(0.73)	1-4
Dropped grade		1.44(0.78)	1-4
Truancy		1.21(0.57)	1-4
Drop out of school		1.17(0.57)	1-4
Run away from home		1.15(0.50)	1-4
Hang out with delinquent peers		1.21(0.53)	1-4
Bullying victimization	7.5%		0-1
Arrest	4.6%		0-1
Juvenile adjudication	4.0%		0-1
Incarceration	3.4%		0-1

Table 2. Outcome Comparisons by Study Group (N=227)

Outcome	Before PSW		<i>t</i>	95% CI	After PSW		<i>t</i>	95% CI
	CAPI Mean(SD)	Comparison Mean(SD)			CAPI Mean(SD)	Comparison Mean(SD)		
<i>Depressive symptoms</i>								
Feeling down	2.06(.93)	1.65(.92)	-2.98**	-.68, -.14	1.95(.92)	1.73(.79)	-1.91†	-.45, .01
Avoiding people	1.70(.83)	1.41(.74)	-2.51*	-.53, -.06	1.61(.79)	1.43(.63)	-1.86†	-.36, .01
Depression	1.54(.80)	1.25(.59)	-2.69**	-.49, -.08	1.43(.73)	1.27(.52)	-1.89†	-.33, .01
<i>School Performance</i>								
Dropped grade	1.50(.86)	1.36(.67)	-1.18	-.36, .09	1.48(.84)	1.35(.59)	-1.28	-.31, .07
Truancy	1.28(.69)	1.12(.36)	-1.99*	-.32, -.001	1.22(.63)	1.16(.37)	-0.93	-.20, .07
Drop out of school	1.23(.70)	1.08(.31)	-1.98†	-.31, -.001	1.17(.60)	1.02(.14)	-2.73**	-.26, -.04
<i>Delinquency</i>								
Run away from home	1.18(.52)	1.12(.40)	-0.84	-.20, .08	1.09(.36)	1.24(.46)	2.67**	.04, .27
Delinquent peers	1.27(.62)	1.14(.39)	-1.60	-.28, .03	1.16(.52)	1.17(.38)	0.09	-.11, .13
<i>Bullying Victimization</i>	0.11(.32)	0.03(.16)	-2.37*	-.16, -.01	0.09(.28)	0.01(.11)	-2.60*	-.13, -.02
<i>CJ System Involvement</i>								
Arrest	0.06(.24)	0.03(.16)	-1.16	-.10, .03	0.03(.18)	0.00(.00)	-2.07*	-.07, -.002
Juvenile adjudication	0.06(.24)	0.01(.11)	-1.75†	-.10, .01	0.03(.18)	0.00(.00)	-2.07*	-.07, -.002
Incarceration	0.05(.22)	0.01(.11)	-1.48	-.09, .01	0.03(.17)	0.00(.00)	-1.94†	-.06, .001

Note. PSW = propensity score weighting; CAPI = Children Aware of Parental Incarceration; SD = standard deviation; CI = confidence interval.

†*p* < .10. **p* < .05. ***p* < .01. ****p* < .001.

Table 3. Outcome Comparisons by Parent's Gender (N=227)

Outcome	Before PSW		<i>t</i>	95% CI	After PSW		<i>t</i>	95% CI
	Maternal Mean(SD)	Paternal Mean(SD)			Maternal (n=92) Mean(SD)	Paternal (n=135) Mean(SD)		
<i>Depressive symptoms</i>								
Feeling down	1.82(.98)	1.90(.92)	-0.63	-.37, .19	1.92(.90)	1.81(.85)	0.96	-.12, .35
Avoiding people	1.64(.89)	1.52(.74)	1.00	-.11, .36	1.72(.81)	1.39(.63)	3.30**	.13, .53
Depression	1.46(.75)	1.37(.71)	0.84	-.13, .31	1.52(.69)	1.24(.60)	3.09**	.01, .45
<i>School Performance</i>								
Dropped grade	1.29(.62)	1.54(.87)	-2.29*	-.48, .04	1.37(.65)	1.46(.81)	-0.89	-.28, .11
Truancy	1.12(.40)	1.27(.65)	-1.88†	-.31, .01	1.19(.43)	1.20(.59)	-0.11	-.15, .14
Drop out of school	1.07(.31)	1.23(.68)	-2.03*	-.30, -.004	1.01(.11)	1.17(.58)	-2.97**	-.26, -.05
<i>Delinquency</i>								
Run away from home	1.10(.39)	1.18(.51)	-1.16	-.22, .06	1.22(.41)	1.11(.41)	1.89†	-.01, .22
Delinquent peers	1.16(.50)	1.25(.55)	-1.11	-.25, .07	1.26(.54)	1.10(.39)	2.27*	.02, .29
<i>Bullying Victimization</i>								
	0.06(.24)	0.09(.28)	-0.65	-.11, .05	0.03(.17)	0.07(.26)	-1.34	-.10, .02
<i>CJ System Involvement</i>								
Arrest	0.01(.12)	0.07(.25)	-1.82†	-.11, .004	0.00(.00)	0.03(.18)	-2.07*	-.06, -.01
Juvenile adjudication	0.01(.12)	0.06(.23)	-1.57	-.10, .01	0.00(.00)	0.03(.18)	-2.07*	-.06, -.01
Incarceration	0.01(.12)	0.05(.21)	-1.30	-.08, .02	0.01(.12)	0.02(.13)	-0.21	-.04, .03

Note. PSW = propensity score weighting; CAPI = Children Aware of Parental Incarceration; SD = standard deviation; CI = confidence interval.

†*p* < .10. **p* < .05. ***p* < .01. ****p* < .001.

Table 4. Summary of Effect Sizes for Study Outcomes

Outcomes	Total Sample (CAPI = 1)		CAPI by Parent's Gender (Maternal = 0, Paternal = 1)	
	After Weighting		After Weighting	
	Cohen's <i>d</i>	95%CI	Cohen's <i>d</i>	95% CI
<i>Depressive Symptoms</i>				
Feeling down	0.255	-.01, .52	-0.131	-.40, .14
Avoiding people	0.243	-.02, .51	-0.468	-.74, -.20
Depression	0.247	-.02, .51	-0.433	-.70, -.16
<i>School Performance</i>				
Dropped grade	0.166	-.10, .43	0.117	-.15, .39
Truancy	0.119	-.15, .39	0.014	-.26, .29
Drop out of school	0.329	.06, .60	0.339	.07, .61
<i>Delinquency</i>				
Run away from home	-0.377	-.65, -.11	-0.261	-.53, .01
Delinquent peers	-0.012	-.28, .26	-0.333	-.61, -.06
<i>Bullying Victimization</i>				
	0.326	.06, .60	0.173	-.10, .45
<i>CJ Involvement</i>				
Arrest	0.248	-.02, .52	0.234	-.04, .51
Juvenile adjudication	0.248	-.02, .52	0.234	-.04, .51
Incarceration	0.233	-.04, .50	0.028	-.24, .30

Note: Bolding CIs indicates that no zero is contained in the range. CI = confidence interval; confidence interval (CI) is significant if zero is not contained in the range. Cohen's *d* was selected because the current study is comparing groups. Cohen (1988) outlined three cut-offs for interpreting effect sizes in terms of Cohen's *d*: small: *d* = .20; medium: *d* = .50; large: *d* = .80.