

Levels of Involvement with Child Protection Services Associated with Early Adolescent Police Contact as a Victim and Person of Interest

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Abstract

The relationship between childhood maltreatment and subsequent offending/victimization is well established. However, the magnitude of this relationship for different levels of child protection services (CPS) involvement is poorly understood, due to measurement issues, lack of longitudinal data, and reliance on reports of substantiated maltreatment, which can underestimate

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the impact of maltreatment. This study examined associations between CPS involvement during childhood (ages 0 to <11 years) and police services contact (as a victim and/or a person of interest) for criminal incidents in early adolescence (11 to ~14 years), differentiated according to levels of CPS involvement (i.e., no risk of significant harm [non-ROSH], unsubstantiated ROSH, substantiated ROSH, and out-of-home care; each examined relative to no CPS contact). Data for 71,465 children were drawn from the New South Wales Child Development Study, an intergenerational, longitudinal investigation that uses administrative records from CPS and police alongside other health, justice, and education data. Multinomial regression analyses were conducted to determine associations between increasing levels of CPS involvement and police contact as a victim only, a person of interest only, and as both victim and person of interest while accounting for covariates (i.e., child's sex, Aboriginal, and/or Torres Strait Islander background, socioeconomic status, maternal age at child's birth, and parental offending history). Children exposed to any of the four levels of CPS involvement had higher odds of police contact, relative to children with no CPS involvement. Odds ratios were higher for contact with police as both a victim and a person of interest, compared to police contact as a victim or a person of interest only. These findings highlight that children with even unsubstantiated CPS reports (i.e., non-ROSH and unsubstantiated ROSH reports) are at heightened risk of police contact compared to children who are unknown to CPS, underlining the need to support all families in contact with CPS.

Keywords

neglect, child abuse, physical abuse, prevention of child abuse, criminology

The long-term cognitive, mental, physical, social, and behavioral consequences of child maltreatment are well established (Widom, 2014). Victims of child maltreatment experience a variety of difficulties including poor educational attainment (Laurens et al., 2020; Romano et al., 2015), low life success/quality of life (Najman et al., 2022), mental ill health (Li et al., 2016; O'Hare et al., 2021), intergenerational maltreatment (McKenzie et al., 2021), and intimate partner violence perpetration (Li et al., 2020). One of the most well-documented consequences of child maltreatment is criminal offending in adolescence and adulthood (Malvaso et al., 2018). However, the magnitude of this relationship for different levels of child protection services (CPS) involvement is poorly understood, in large part due to measurement issues

and the lack of longitudinal data (Font & Kennedy, 2022), which is a common issue in child maltreatment research (Thornberry et al., 2012). There are numerous challenges to measuring maltreatment; using official records and particularly relying on substantiations can result in underestimating the impact of maltreatment (Shenk et al., 2021). This study aims to examine several levels of involvement with CPS (i.e., spanning notifications, substantiations, and out-of-home care placements) in childhood, in relation to police contact for criminal incidents as a victim and/or a person of interest in early adolescence, using data from a population-based study of over 70,000 Australian children.

There is a growing body of work on “crossover” or “dual system” youth, defined as those who are involved with both the criminal justice and child protection systems (Baidawi, 2020; Modrowski et al., 2023). The intersection between maltreatment and criminal offending is most strongly evidenced in children who experience out-of-home care placement (Yi & Wildeman, 2018; Yoon et al., 2018). For example, a study of 364 young people with a history of serious and violent offending found that youth in care (e.g., foster or youth homes) had an earlier age of first criminal conviction (on average age 15 vs. 16 years), were convicted more frequently (mean of 20 vs. 14 offenses), and were more likely to be incarcerated longer (mean of 750 vs. 650 days) than those who had never experienced a care placement (Yang et al., 2017). Similarly, the more severe and persistent the abuse, the more likely young people are to become involved with the criminal justice system as a perpetrator earlier and for more serious offenses (Baidawi, 2020; Ireland et al., 2002). Moreover, maltreated individuals who experience multiple types/forms of victimization are more likely to be involved in delinquency compared to non-victims and those who experience lower levels of victimization (Cudmore et al., 2017; Turner et al., 2016). Other research involving incarcerated young people indicates that experiencing multiple types of child abuse (i.e., “poly-victimization”) is associated with high rates of early onset of violence perpetration (Papalia et al., 2020). Much research in this area relies on specialized samples of incarcerated or “at-risk” young people and does not include population-based samples.

Qualitative research similarly supports the maltreatment and criminal offending link; young people who experienced trauma report increased feelings of aggression and antisocial behavior as a result of those experiences (Paton et al., 2009). A key theme is that maltreated young people often become involved in violence as both a perpetrator and a victim (Heath & Priest, 2016; Paton et al., 2009). This is supported by longitudinal studies which also demonstrated high levels of revictimization (Desai et al., 2002; Finkelhor et al., 2007), although much of this body of work has focused on

sexual victimization (Walker et al., 2019) or intimate partner victimization (Li et al., 2020; Widom et al., 2014). A prospective longitudinal study of 892 participants found that child maltreatment increased the risk of physical and sexual victimization in middle adulthood for both men and women (McIntyre & Widom, 2011). Moreover, a nationally representative U.S. sample of over 4,000 participants found that child maltreatment was associated with 69% greater odds of experiencing physical victimization (e.g., being threatened with a gun/knife, jumped/beaten up) across adolescence and adulthood for both men and women (Smith et al., 2018). Thus, there is a growing body of research that suggests that maltreated individuals are more vulnerable to experiencing different types of victimization, not limited to sexual or intimate partner victimization.

For the most part, the research on maltreatment victimization and maltreatment-offending tends to be conducted separately. A recent nationally representative cross-sectional Canadian population-based study of 23,846 adults examined the relationship between child maltreatment and self-reported contact with police as a victim and as an offender in adulthood (Tiwari et al., 2021). Findings showed associations (adjusted odds ratios ranged from 2 to 3) between the number of child maltreatment exposure types (1, 2, and 3 types of exposure) and adult criminal victimization and offending (Tiwari et al., 2021). The authors also found a dose-response relationship between child maltreatment and victimization; the risk of victimization increased with exposure to more types of maltreatment. However, despite the large sample size, the prevalence of those who reported involvement in crime was low and the authors did not examine the co-occurrence of victimization and offending.

Criminal offenders are disproportionately more likely to also be the victims of crime (Jennings et al., 2012). There is a substantial overlap between the risk factors associated with criminal offending and victimization, and those who are both a victim and offender are more likely to experience negative consequences than those who are a victim or offender alone (Berg & Mulford, 2020). Despite the overlap between criminal victimization and offending being well established in criminology, research, and theory have tended to be either victim focused or offender focused (Berg & Schreck, 2022; Jennings et al., 2012). Individuals who are both offenders and victims have greater risk factors such as alcohol use and involvement in violence (Erdmann & Reinecke, 2021; Reingle & Maldonado-Molina, 2012). However, there is a lack of high-quality longitudinal data collected on both criminal offending and victimization; most research has been cross-sectional and there is little research on the early life predictors of those who are involved in offending and who also

experience victimization (Jennings et al., 2012; Mulford et al., 2018). Only one recent study has examined early maltreatment and the co-occurrence of criminal offending and victimization in adolescence (Beckley et al., 2018). Using the UK Environmental Risk Study of 2,232 twins, Beckley et al. (2018) found a cumulative effect of childhood adversity, with each additional adverse childhood experience resulting in a 12% increase in the odds of experiencing co-occurring victimization and offending, compared to experiencing victimization or offending alone.

The use of administrative data in child maltreatment research has facilitated several large population-based studies on the relationship between CPS contact and criminal justice involvement (Hurren et al., 2017; Sonesson et al., 2022). Although these studies are not without limitations, they allow for large representative samples and can encompass different levels of CPS involvement (i.e., notifications, substantiations, and out-of-home care) (Font & Kennedy, 2022). There is some debate regarding the utility of substantiated and unsubstantiated CPS reports in child maltreatment research (Kohl et al., 2009; Leiter et al., 1994). A recent review indicated that most studies on child maltreatment and criminal offending include only substantiated reports (Font & Kennedy, 2022). While including unsubstantiated reports will undoubtedly yield some false positives, some children with unsubstantiated reports are maltreated or are at high risk for future maltreatment/offending.

The present study used a longitudinal population-based sample of 71,465 children for whom detailed administrative records were obtained from CPS and police, where available. CPS records included information on unsubstantiated and substantiated reports, whether there was a risk of significant harm to the child, and whether they had ever been placed in out-of-home care. We set out to investigate the relationship between different levels of CPS involvement in early and middle childhood (<11 years old) and police contacts in later childhood and early adolescence (11 to ~14 years old). These age cutoffs were selected based on data availability and developmental periods, with consideration of the importance and effectiveness of intervention for vulnerable children during early and middle childhood (Shaw et al., 2019). The aim was to examine the extent and magnitude of the associations between discrete levels of CPS involvement and police contact as a victim and/or person of interest, after accounting for other known covariates. Considering that a recent review highlighted the need to examine how gender moderates the maltreatment–offending relationship (Baidawi et al., 2021), a secondary aim was to examine whether the patterns of association between CPS involvement and police contact differed for boys and girls.

Method

Procedures and Participants

Data were drawn from the New South Wales Child Development Study (NSW-CDS), an Australian longitudinal population-based study of 91,635 children and their parents from NSW, the most populous State in Australia (Green et al., 2018). The child cohort is representative of the general state and national populations in terms of sex, Aboriginal and/or Torres Islander background, and Language background other than English. A third-party agency, the Center for Health Record Linkage, conducted successive waves of record linkage in early and middle childhood, with the second wave of linkage conducted in 2016, when the children were approximately 13 years old (Green et al., 2018). Child and parent records were linked using probabilistic record linkage methods across a set of minimal identifiers (i.e., name, date of birth, residential address, and sex). Personal identifiers were held separately from research content and all participants remained anonymous to the researchers. The false-positive linkage rate was low, with an estimated rate of $<0.5\%$. Administrative data were linked from the NSW Departments of Communities and Justice (DCJ), Education, and the NSW Ministry of Health. Police contact data from the NSW Police Force were added in 2018 (Whitten et al., 2020) when the children were approximately 14 years old. Ethical approval was obtained from the NSW Population & Health Services Research Ethics Committee (PHSREC AU/1/1AFE112) and data custodian approvals were granted by the relevant government departments.

Of the 91,635 children in the NSW-CDS, it was possible to identify parents for 75,184 children using birth registrations. To ensure the temporal order of the exposure and outcome, we excluded 2,335 children who had a police contact only prior to age 11 years, and 697 were excluded whose first CPS contact occurred after age 11 years. An additional 687 children with missing data for the covariates were excluded. A final sample of 71,465 children provided data for analysis in the present study. Just over half of the children in the sample were male (51.7%) and 7.3% were Aboriginal and/or Torres Strait Islander.

Outcome Variable: Police Contact as a Victim and/or Person of Interest

Police contact data were retrieved from the NSW Police Force Computerized Operational Policing System (COPS; 2002–2018) for all criminal (e.g., assault, robbery, theft, drug offenses) and non-criminal (e.g., traffic checks, criminal justice system checks) incidents as a victim, person of interest, or

witness reported to or detected by the NSW Police Force (NSW Bureau of Crime Statistics and Research, 2018). These data do not include other categories of police contact such as children at-risk (i.e., where there is a risk of harm such as children present at domestic violence incidents), mandatory reporting, or other positive police interactions. The outcome variable in this study was limited to police contacts for criminal incidents as a victim and a person of interest. A victim is defined as a person who suffers harm as a direct result of an act committed, or apparently committed, by another person during a criminal offense (not limited to violence; including all criminal offenses categories such as assault, sex offenses, theft, property damage, etc.). A person of interest is defined as an individual who has not necessarily been arrested or formally accused of a crime but is of interest to the police during their investigation. A categorical outcome variable was computed for criminal incidents from age 11 years until approximately age 14 years (mean age = 14.6; $SD = 0.4$; range = 13–16): (0) no police contact; (1) police contact as a victim only; (2) police contact as a person of interest only; and (3) police contact as a victim and person of interest.

Exposure Variable: CPS Involvement

Data regarding the children's contact with CPS were obtained from the NSW DCJ Case Management System (2001–2016)—Key Information Directory System (CMS-KIDS). This includes multiple levels of involvement with CPS that can be categorized hierarchically from notifications, through to removal of the child from the family as the highest level of service received. CPS reports are assessed to determine whether they meet the threshold of “risk of significant harm” (ROSH) based on the information provided and not all ROSH reports that do meet this threshold are substantiated. To analyze the full range of CPS responses, a hierarchical variable was computed to reflect the highest level of CPS response prior to age 11 years as follows: (0) no contact with CPS; (1) non-ROSH report (i.e., below the ROSH threshold); (2) unsubstantiated ROSH report (i.e., met the threshold for further investigation, but actual or risk of harm could not be sufficiently determined, or was not prioritized for investigation due to resource constraints); (3) substantiated ROSH report (i.e., actual or risk of harm verified by child protection case-workers); and (4) out-of-home care (i.e., removal of child from family).

Covariates

Five covariates were included in the analyses based on their known association with child maltreatment and/or police involvement (Allard et al., 2010;

Baidawi et al., 2021; Jolliffe et al., 2017; Stith et al., 2009). These included the child's sex (male, female) and maternal age at the child's birth (≤ 25 years, > 25 years), which were obtained from the NSW Registry of Births, Deaths and Marriages Birth Registrations and NSW Ministry of Health Perinatal Data Collection records. Socioeconomic disadvantage was computed using the Socio-Economic Index for the Area's Index for Relative Socioeconomic Disadvantage national quintiles based on the child's residential postcode at birth. A binary indicator was computed reflecting the most disadvantaged (quintile 1) and least disadvantaged (quintiles 2–5). Since parental criminal offending is a strong risk factor for both child maltreatment and young people's involvement with the criminal justice system (Jolliffe et al., 2017; Stith et al., 2009; Tzoumakis et al., 2020), an indicator of parental history of criminal offending (yes, no) was derived for all parents convicted of at least one offense using data from the NSW Bureau of Crime Statistics and Research Reoffending Database, which includes information on all finalized court appearances (i.e., where there is a determination of guilty or not guilty) since 1994. Considering the overrepresentation of Aboriginal and/or Torres Strait Islander young people in the criminal justice and child protection systems (Allard et al., 2010; Cunneen, 2020), a covariate reflecting Aboriginal and/or Torres Strait Islander background (yes, no) was derived from consensus data across all available linkage datasets for the child, mother, or father in the NSW-CDS.

Analytic Strategy

First, descriptive and bivariate statistics were obtained for the exposure variable (i.e., levels of CPS) and the five covariates (i.e., child's sex, Aboriginal and/or Torres Strait Islander status, maternal age at child's birth, socioeconomic status, and parental offending) stratified by police contact. Second, adjusted multinomial regression models were used to determine the associations between CPS involvement and police contact while accounting for the five covariates; all analyses were conducted for the full sample as well as separately for boys and girls. Third, sex differences for CPS involvement and police contact were formally tested using the method outlined by Altman and Bland (2003). Sensitivity analyses controlling for the child's age were also completed to account for the fact that the children were not all the same age at the time of the police data collection (mean age = 14.6 years; $SD = 0.4$). Odds ratios (ORs) from the multinomial logistic regression analyses were considered statistically significant if the 95% confidence intervals (CIs) did not cross 1. Analyses were completed in IBM SPSS 27 (IBM, 2020).

Results

Descriptive and Bivariate Analyses

Descriptive statistics for the sample are provided in Table 1 (and for boys and girls separately in Supplemental Tables S1 and S2). Most of the sample did not have a police contact (91.4%), 3.8% had been in contact with the police as a victim only, 3.4% had been in contact with the police as a person of interest only, and 1.4% of the sample had been in contact with the police as both a victim and a person of interest. Similarly, most children in the sample were not involved with CPS (78.1%). Among those children who did have contact with CPS, 3.6% had non-ROSH reports only, 13.7% had unsubstantiated ROSH reports, 2.7% had substantiated ROSH reports, and 1.9% were placed in out-of-home care as their highest level of service.

Bivariate associations are also reported in Table 1; all chi-square tests were statistically significant. The largest bivariate associations with police contact were for CPS involvement, parental offending, and Aboriginal and/or Torres Strait Islander background. A pattern of increasing prevalence of CPS involvement and police contact (in all categories) emerged at the bivariate level. For example, among children placed in out-of-home care, only 1.2% had no police contact, followed by 6.8% of those with a “victim” contact, 8.6% with a “person of interest” contact, and 18.5% with both police contact categories. Descriptive and bivariate results were similar for boys and girls (see Supplemental Tables S1 and S2). However, one notable difference was observed for police contact: 4.8% of boys had been in contact with police as a person of interest, compared to 1.9% of girls.

Multinomial Regression Analyses Examining CPS and Police Contact

A multivariate multinomial regression model on the full sample ($n=71,465$) was used to examine associations between the levels of CPS involvement and the police contact categories while accounting for the covariates (see Table 2). The 95% CIs for socioeconomic disadvantage crossed 1.00, indicating that it was not statistically significant; all other variables were statistically significant and associated with the police contact categories. Children with any of the four levels of CPS involvement had higher odds of police contact relative to children with no CPS contact. Among the levels of CPS, the lowest magnitudes of association were observed between non-ROSH reports and police contact (ranging from 2.16 to 2.91) followed by unsubstantiated ROSH reports and police contact (ranging from 2.81 to 5.87). The two highest levels of CPS

Table I. Descriptive Statistics for the Sample Stratified by Police Contact Category.

Variable	Police contact category						Bivariate association*	
	Total sample (n = 71,465)	None (91.4%; n = 65,338)	Victim only (3.8%, n = 2,730)		Person of interest only (3.4%, n = 2,409)			Victim and person of interest (1.4%, n = 988)
			% (n)	% (n)	% (n)	% (n)		
Level of child protection involvement								
None	78.1 (55,804)	81.4 (53,212)	48.4 (1,320)	43.3 (1,044)	23.1 (228)	7861.46 (12)	0.19	
Non-ROSH report	3.6 (2,574)	3.4 (2,247)	5.9 (160)	5.3 (128)	3.9 (39)			
Unsubstantiated ROSH report	13.7 (9,784)	12.2 (7,944)	28.2 (770)	30.2 (727)	34.7 (343)			
Substantiated ROSH report	2.7 (1,961)	1.8 (1,168)	10.8 (294)	12.6 (304)	19.7 (195)			
Out-of-home care	1.9 (1,342)	1.2 (767)	6.8 (186)	8.6 (206)	18.5 (183)			
Child's sex								
Male	51.7 (36,922)	51.0 (33,338)	47.1 (1,287)	73.0 (1,758)	54.6 (539)	474.54 (3)	0.08	
Female	48.3 (34,543)	49.0 (32,000)	52.9 (1,443)	27.0 (651)	45.4 (449)			
Aboriginal and/or Torres Strait Islander								
Yes	7.3 (5,247)	5.8 (3,778)	17.0 (463)	27.1 (652)	35.8 (354)	3160.99 (3)	0.21	
No	92.7 (66,218)	94.2 (61,560)	83.0 (2,267)	72.9 (1,757)	64.2 (634)			
Mother's age at child's birth								
≤25 years	17.9 (12,802)	16.4 (10,683)	31.2 (851)	35.5 (854)	41.9 (414)	1325.44 (3)	0.14	
>25 years	82.1 (58,663)	83.6 (54,655)	68.8 (1,879)	64.5 (1,555)	58.1 (574)			
Socio-economic disadvantage								
Most disadvantaged	19.1 (13,667)	18.6 (12,146)	24.1 (658)	24.1 (581)	28.5 (282)	151.33 (3)	0.05	
Less disadvantaged	80.9 (57,798)	81.4 (53,192)	75.9 (2,072)	75.9 (1,828)	71.5 (706)			
Parental offending								
Yes	31.5 (22,498)	28.7 (18,777)	52.5 (1,432)	63.9 (1,540)	75.8 (749)	2860.33 (3)	0.20	
No	68.5 (48,967)	71.3 (46,561)	47.5 (1,298)	36.1 (869)	24.2 (239)			

Note. ROSH = risk of significant harm.

*All chi-square tests are significant at $p < .001$.

Table 2. Multinomial Regression Model Examining the Level of Child Protection Involvement and Police Contact Adjusted for Covariates for the Full Sample ($n = 71,465$).

Variable	Victim only ($n = 2,730$)	Person of interest only ($n = 2,409$)	Victim and person of interest ($n = 988$)
Level of child protection involvement ^a			
Non-ROSH report	2.45 (2.07–2.91)	2.16 (1.78–2.62)	2.91 (2.06–4.11)
Unsubstantiated ROSH report	3.05 (2.76–3.37)	2.81 (2.52–3.13)	5.87 (4.89–7.05)
Substantiated ROSH report	6.99 (6.02–8.12)	6.76 (5.79–7.88)	18.15 (14.57–22.62)
Out-of-home care	6.09 (5.08–7.31)	5.67 (4.73–6.81)	21.31 (16.88–26.91)
Male child	0.88 (0.81–0.95)	2.70 (2.46–2.97)	1.24 (1.09–1.41)
Aboriginal and/or Torres Strait Islander	1.48 (1.31–1.66)	2.48 (2.23–2.77)	2.46 (2.12–2.86)
Mother ≤ 25 years at child's birth	1.33 (1.21–1.46)	1.33 (1.21–1.46)	1.29 (1.12–1.50)
Socioeconomic disadvantage	1.04 (0.95–1.14)	0.94 (0.85–1.04)	1.01 (0.87–1.17)
Parental offending	1.42 (1.30–1.56)	2.14 (1.94–2.36)	2.37 (2.00–2.81)

Note. ROSH = risk of significant harm; Odds ratios and 95% confidence intervals. The reference group for the outcome variable is "no police contact as a victim or person of interest."

^aReference group is "no contact with child protection services." Odds ratios were considered statistically significant if the 95% confidence intervals did not cross 1.00.

involvement were similar in magnitude across the police contact categories: ORs ranged from 6.76 to 18.15 for substantiated ROSH reports and from 5.67 to 21.31 for out-of-home care. The largest ORs were observed for children with police contact as both a victim and a person of interest (substantiated ROSH report: OR = 18.15, 95% CI [14.57, 22.62] and out-of-home care: OR = 21.31, 95% CI [16.88, 26.91]). Across all levels of CPS involvement, the magnitude of the ORs was largest for those with police contact as both a victim and a person of interest. Sensitivity analyses controlling for children's age (not presented here) to account for the fact that they were not all the same age at the police data extraction revealed results that were unchanged.

Multinomial regression models are presented separately for boys ($n = 36,922$) and girls ($n = 34,543$) in Table 3, showing similar patterns of association overall, particularly for the covariates. As with the full sample, the largest ORs for both boys and girls were for CPS (i.e., substantiated ROSH reports and out-of-home care) and police contact as both a victim and person of interest. The ORs for the CPS levels tended to be higher for girls compared to boys, and formal tests of interaction were conducted to determine whether

Table 3. Multinomial Regression Models Examining the Level of Child Protection Involvement and Police Contact Adjusted for Covariates for Boys ($n = 36,922$) and Girls ($n = 34,543$).

Variable	Boys ($n = 36,922$)			Girls ($n = 34,543$)		
	Victim only ($n = 1,287$)	Person of interest only ($n = 1,758$)	Victim and person of interest ($n = 539$)	Victim only ($n = 1,443$)	Person of interest only ($n = 651$)	Victim and person of interest ($n = 449$)
Level of child protection involvement ^a						
Non-ROSH report	2.70 (2.13–3.43)	2.04 (1.62–2.57)	2.45 (1.50–3.99)	2.23 (1.74–2.86)	2.57 (1.80–3.68)	3.57 (2.17–5.86)
Unsubstantiated ROSH report	2.89 (2.50–3.33)	2.57 (2.27–2.92)	5.32 (4.19–6.77)	3.23 (2.81–3.71)	3.56 (2.89–4.38)	6.69 (5.03–8.88)
Substantiated ROSH report	5.46 (4.32–6.89)	5.81 (4.80–7.02)	16.52 (12.29–22.20)	8.43 (6.92–10.27)	8.89 (6.79–11.64)	20.43 (14.66–28.47)
Out-of-home care	4.70 (3.53–6.26)	5.31 (4.26–6.61)	18.49 (13.48–25.36)	7.39 (5.81–9.40)	6.38 (4.58–8.88)	25.13 (17.71–35.64)
Aboriginal and/or Torres Strait Islander	1.51 (1.29–1.80)	2.35 (2.06–2.68)	2.60 (2.12–3.20)	1.44 (1.23–1.69)	2.77 (2.28–3.36)	2.30 (1.84–2.87)
Mother ≤ 25 years at child's birth	1.15 (1.00–1.31)	1.31 (1.17–1.47)	1.16 (0.96–1.41)	1.51 (1.34–1.71)	1.34 (1.12–1.60)	1.47 (1.20–1.81)
Socioeconomic disadvantage	1.06 (0.92–1.21)	0.95 (0.85–1.07)	1.02 (0.83–1.24)	1.03 (0.90–1.17)	0.90 (0.75–1.09)	1.01 (0.81–1.26)
Parental offending	1.35 (1.19–1.54)	2.09 (1.87–2.35)	2.22 (1.78–2.78)	1.50 (1.32–1.70)	2.28 (1.87–2.77)	2.59 (1.99–3.36)

Note. ROSH = risk of significant harm; Odds ratios and 95% confidence intervals. The reference group for the outcome variable is "no police contact as a victim or person of interest."

^aReference group is "no contact with child protection services." Odds ratios were considered statistically significant if the 95% confidence intervals did not cross 1.00.

these differences were statistically significant. Sex comparisons for the levels of CPS involvement and the police contact categories were completed (see Supplemental Table S3). Four of the 12 comparisons were statistically significant indicating that girls had higher ORs compared to boys as follows: (1) substantiated ROSH report and police contact as a victim only ($d = -0.43$; 95% CI $[-0.74, -0.13]$); (2) out-of-home care placement and police contact as a victim only ($d = -0.45$; 95% CI $[-0.83, -0.08]$); (3) unsubstantiated ROSH and police contact as a person of interest only ($d = -0.33$; 95% CI $[-0.57, -0.08]$); and (4) substantiated ROSH report and police contact as a person of interest only ($d = -0.43$; 95% CI $[-0.76, -0.10]$).

Discussion

Drawing on data from a longitudinal population-based sample of more than 71,000 Australian children, this study demonstrates higher odds of police contact among children with any level of CPS involvement, compared to children unknown to CPS. Due to the large sample size, it was possible to examine several different levels of CPS involvement, which revealed that the association was not limited to substantiated reports. Children with unsubstantiated notifications to CPS, including those whose reports met the risk of significant harm threshold for further follow-up but were not substantiated, were also more likely to have police contact compared to children with no CPS involvement. However, children with substantiated reports of maltreatment, and those who had been placed in out-of-home care, had the largest odds of police contact relative to those unknown to child protection (with ratios similar in magnitude across the police contact categories). Overall, the odds of police contact as both a victim and person of interest were higher than those for police contact as a victim or person of interest only. Moreover, the patterns of association for boys and girls were similar, although girls involved with CPS tended to be at somewhat greater risk of police contact compared to boys.

Just over one-fifth of this child population cohort had been in contact with CPS before the age of 11 years, and of these, only 22.6% had contact with police for a criminal incident as a victim or person of interest. This means that the majority of children (77.4%) in contact with CPS *do not* subsequently become involved with police as a victim or person of interest during early adolescence. This is important to highlight because some of the effect sizes in this study were large; as a result, the focus should be on the patterns of association while the magnitudes of association should be interpreted with caution. Furthermore, these are official data that reflect service use and contact with the child protection system and police; the associational findings

reported here do not imply a causal relationship between CPS involvement and police contact. Instead, the findings are more likely to reflect either shared risk factors for CPS and police involvement or heightened visibility of families that come to the attention of formal systems like CPS. Some young people are considered more socially visible to formal social controls such as the police (McAra & McVie, 2005; Saarikkomäki & Kivivuori, 2013). In Australia, Aboriginal people are over-represented in both the CPS and criminal justice systems, and over-policing is an important contributor (Cunneen, 2020; Papalia et al., 2019). It should also be noted that the history of colonization, individual and intergenerational trauma, systemic racism, and government interventions have particularly impacted Aboriginal families involved with CPS (Newton, 2019).

There is some debate in the child maltreatment literature about whether research should include or exclude unsubstantiated maltreatment to minimize bias. Including non-substantiated cases can result in false positives but excluding them can lead to false negatives. Researchers are increasingly arguing that there is no meaningful difference or reason to limit analyses to substantiated reports of maltreatment. For example, no significant differences were found for the mean scores on a range of behavioral problems, mental health, and developmental skills of children whose maltreatment has been substantiated compared with those for whom child protection notifications remained unsubstantiated (Hussey et al., 2005). Also, many children with unsubstantiated reports are re-reported, and are subsequently found to have substantiated reports (Jedwab et al., 2017); although this issue is minimized in the current study as the CPS measure reflects the highest level of interaction with CPS for each child. Our findings show that those who do not receive formal services from CPS (i.e., non-ROSH and unsubstantiated ROSH reports) are at heightened risk of police contact compared to those with no CPS involvement. This supports the idea that families at the “front end” of the CPS system could benefit from preventative interventions, which would require systematic and coordinated infrastructure in place to do so (Slack & Berger, 2020).

Considering that there is a strong relationship between out-of-home care and criminal offending in the literature, it was perhaps surprising that the patterns and magnitudes of association for individuals placed in out-of-home care and those with substantiated maltreatment were similar in this study. Nine out of 11 studies identified in a systematic review found higher rates of criminal offending for maltreated young people placed in care compared to those who remained at home (Yoon et al., 2018). Our contrasting findings could be due to sampling (i.e., a relatively young, population-based sample). The young people in the sample were in early adolescence, prior to the typical peak in criminal

offending in middle to late adolescence (Loeber et al., 2015). As the cohort ages, future research will examine longer-term outcomes to determine whether the effects on children in out-of-home care become more prominent. This will be important to examine when the cohort reaches adulthood considering that many out-of-home care services and supports stop at 18 years of age and young people often have difficulties transitioning post-out-of-home care (Gypen et al., 2017). Moreover, children in out-of-home care are not a homogeneous group; it will be important for research to consider qualitative differences in out-of-home care placements. Placement type (e.g., kinship vs. nonrelative), quality (Font & Kennedy, 2022), and instability (Konijn et al., 2019) all influence the experiences of children placed in out-of-home care.

The present findings also suggest that it is important to further investigate the small group of individuals who are in contact with police as both victims and persons of interest. Although comprising only 1.4% of our sample, this small group seems to be more likely to have been involved with CPS and were over-represented among those in out-of-home care (18.5% of those with both types of police contacts were placed in out-of-home care, compared to 1.9% in the total sample). They also had a high prevalence of several other risk factors examined (e.g., young mothers, socioeconomic disadvantage, parental history of offending). Parental history of criminal offending in this group was high; over three-quarters had a parent with a criminal offending history compared to around one-third in the total sample. Research on young people who are both victims and offenders has similarly found higher levels of vulnerability for some risk factors (Athanasios et al., 2021; Cuevas et al., 2022; Randone & Thomas, 2022). Specifically, in their study of Latino young people, Cuevas et al. (2022) found that while cultural and mental health variables were not different across groups (i.e., delinquent-victims, primarily victims, primarily delinquent, or neither delinquent nor victims), delinquent-victim young people were differentiated by degree of family support and self-reported anger/hostility. Further research should attempt to better understand differences among those who experience victimization only, delinquency only, and both criminal victimization and offending. Since the children in our sample are only in early adolescence, it will be important to examine how much the overlap between criminal victimization and offending (and associated risk factors) changes over time, and within key developmental periods. Research on violence in a longitudinal self-report study of 2,414 German young people indicates that there is a substantial variance from adolescence to early adulthood regarding the strength of the victim-offender overlap (Erdmann & Reinecke, 2018). Another study using the same data found that time spent with peers increased the risk of violent victimization (Erdmann & Reinecke, 2021) but did not examine child maltreatment.

Associations between child protection and police contact were similar overall for boys and girls. Girls tended to have higher odds compared to boys but this was only statistically significant for two of the associations with police contact as a victim, and two of the associations with police contact as a person of interest. A recent scoping review has also revealed inconsistent results on whether gender moderates the maltreatment–offending relationship, although the authors did find that CPS involvement (especially out-of-home care placement) was more likely to increase the risk of convictions among girls compared to boys (Baidawi et al., 2021). Other research has found evidence of differences between boys and girls for risk factors leading to the onset of delinquency petitions (i.e., status offenses such as truancy or running away) (Bright & Jonson-Reid, 2008). Specifically, boys who experienced maltreatment and poverty were at heightened risk of delinquency petitions, whereas for girls, maltreatment alone was significant (Bright & Jonson-Reid, 2008). It is difficult to directly compare our findings with previous research that has largely examined convictions only and serious young offenders, rather than police contact, more broadly, in the general population.

Strengths and Limitations

The large longitudinal sample and detailed administrative records used in this study made it possible to examine several levels of CPS involvement and multiple categories of police contacts over key developmental periods. The use of administrative data minimizes loss to attrition and avoids recall error and self-report bias. However, administrative data are not collected for research purposes and may include data entry or classification errors. Moreover, administrative data are limited to those with official contacts with the child protection and justice systems, therefore actual experiences of victimization and maltreatment are underestimated. Furthermore, some severe child abuse cases require police investigation and may result in contact with police as a victim. It is not possible within this linked administrative data to determine whether the CPS and police contacts were for the same incident. However, we examined the proximity of CPS involvement and subsequent police contact as a victim within 1 month of the age 11 years cutoff for CPS exposure that was used in the study. Only 20 children were represented, which is unlikely to affect our findings given the small number and the uncertainty regarding whether these two contacts are for the same incident. Moreover, the police contact data are right censored as they were only available until the age of 14 years. Considering that the peak age of criminal offending is typically in middle to late adolescence (age 14–16 years) (Loeber

et al., 2015), it is likely that some of the young people in the cohort will have contact with police after this point. However, unlike most research in this area which relies on official convictions, the police contact measure used here is broader and reflects early contact with the criminal justice system. While the present analyses accounted for several key covariates, it would have been ideal to also examine other potentially important contributing factors such as parental stress, family cohesion, social support, and parenting practices (Stith et al., 2009). The use of an individual or family-level estimate of socioeconomic status would also have been preferable over the current area-based measure. The NSW-CDS is a population-based study that was found to be representative of the general population in terms of sociodemographic characteristics such as socioeconomic disadvantage, geographical remoteness, language background other than English, and Aboriginal and/or Torres Strait Islander background (Green et al., 2018). However, there is likely an underestimation of migrants in the sample since parental records were unavailable for children whose births were not registered in NSW. Moreover, it should be noted that our measure of sex is binary and based on biological sex from birth records and does not reflect gender identity, which is an important dimension that should be considered in future research on maltreatment, crime, and victimization (Davies, 2010).

Conclusion

Service provision and funding allocation are often focused on substantiated cases of serious maltreatment and children in out-of-home care for good reason but our findings suggest that families who do not receive formal services from CPS would also benefit from programs to prevent or reduce future involvement with police. Families that are “screened out” by CPS (i.e., those whose reports do not meet thresholds for risk of significant harm) are increasingly being seen as an underserved population where there is a missed opportunity for preventative intervention (Maguire-Jack & Bowers, 2014; Simon et al., 2021). Providing such services would require systematic changes to programming and infrastructure (Slack & Berger, 2020) that pose implementation challenges. Ideally, any such services would not be offered by formal government agencies but would be delivered by community-controlled organizations and be voluntary and trauma-informed, particularly for Indigenous communities (Duthie et al., 2019; Lonne et al., 2021). Moreover, considering that any contact with CPS in childhood and early adolescence increases the risk of subsequent police contact, police should consider the trauma histories of the young people with whom they come into contact, whether that be as a victim and/or person of interest. For instance, a recent study suggests that the

use of trauma-informed community-based primary mental health services for young people following early police contact could improve mental health (Baker et al., 2022). While trauma-informed practice in juvenile justice and with police would be helpful for these young people who experience maltreatment, there are also a number of implementation issues such as insufficient buy-in with police (Ezell et al., 2018). Thankfully, most children known to CPS do not have contact with police during early adolescence. Future research should attempt to understand individuals who can be considered “resilient” and disentangle the protective factors (e.g., self-control, extraversion, support at home/school, job satisfaction) that help to improve social, emotional, and cognitive functioning (Green et al., 2021; Wright et al., 2019).

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Supplemental Material

Supplemental material for this article is available online.

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Melissa J. Green, PhD, is a professor of psychiatry and mental health at the University of New South Wales, Australia. Her research uses methods from epidemiology, neuroscience, and genetics to understand life-course risk for mental disorders and related adverse outcomes. She is particularly interested in how stress and social determinants of health increase risk for mental disorders via biological or other mechanisms in early life.