Aggression and Violent Behavior 88 (2026) 102156

Contents lists available at ScienceDirect

Aggression and Violent Behavior

journal homepage: www.elsevier.com/locate/aggviobeh

A longitudinal study on timing, type, and frequency of violence victimization and preterm birth

Diksha Sapkota [a,*], James Ogilvie [a,b], Carleen Thompson [a,b], Aydan Kuluk [a,b], Susan Dennison [a,b], Kathleen Baird [c,d]

[a] Griffith Criminology Institute, Griffith University, Brisbane, Australia
[b] School of Criminology and Criminal Justice, Griffith University, Brisbane, Australia
[c] School of Nursing and Midwifery, Faculty of Health, University of Technology Sydney, Australia
[d] School of Nursing and Midwifery, Griffith University, Australia

ARTICLE INFO

Keywords:
Childhood maltreatment
Domestic violence
Preterm birth
Linked data

ABSTRACT

Exposure to violence is a well-established risk factor for preterm birth (PTB), but the impact of the types, timing, and frequency of violence remains unclear. Research often dichotomizes violence exposure as ever/never and relies on self-reports.

We aimed to examine the impact of different violence victimization experiences on PTB utilizing linked administrative data for a birth cohort.

Data from a 1990 Queensland birth cohort of 22,039 females were analyzed. Data on PTB and mental disorders were drawn from inpatient health records and violence experiences from Child Protection Services and Domestic Violence Orders records. Multivariate logistic regression analyses were conducted to examine the association between violence experiences and PTB.

Out of 22,039 females, 4150 (18.8%) were registered as having at least one child, of which 11.1% ($n = 460$) had at least one PTB. Mothers identifying as Aboriginal and/or Torres Strait Islander and teenage mothers were at increased risk of having PTB. Experiencing violence for the first time within one-year before childbirth, being victimized both during childhood and adulthood, experiencing childhood neglect, or domestic violence during adulthood, and experiencing multiple episodes of victimization, were significantly associated with the risk of PTB.

This study expands upon existing evidence on the association between violence exposure and PTB by exploring different aspects of violence victimization. It calls attention to an urgent need for early interventions to address childhood maltreatment and provide ongoing support to prevent violence during adulthood, particularly during the prenatal period, for reducing PTB.

1. Introduction

Any birth that occurs prior to "37 completed weeks of gestation" is considered a preterm birth (World Health Organisation (WHO), 2023). Globally, it is estimated that about 14 million babies are born preterm each year and there has been no measurable change in preterm birth (PTB) rates over the last decade (Ohuma et al., 2023). In Australia, the prevalence of preterm births (PTBs) is significant, with over 26,000 babies born preterm annually, representing nearly 10% of all births (Australian Preterm Birth Prevention Alliance, 2023). Available figures indicate that PTBs are a global concern for public health; not only is it the leading cause of death in children but also one of the main contributors to lifelong illnesses, disability and developmental delays (WHO, 2023). Preterm births are influenced by a variety of individual risk factors among mothers. These include pre-existing health concerns, mental health issues, smoking or substance use during pregnancy, a history of PTBs, exposure to spousal or domestic violence, and living in socioeconomic disadvantage during pregnancy (Alijahan et al., 2014; Cammack et al., 2019; Department of Health and Aged Care, 2019). Moreover, research suggests that mothers who have experienced abuse, particularly sexual abuse, in childhood and/or adulthood are at an increased risk of PTB (e.g., Cammack et al., 2019; Margerison-Zilko

* Corresponding author at: Griffith Criminology Institute, Griffith University, 176 Messines Ridge Road, Mount Gravatt, QLD, 4122, Australia.
E-mail address: d.sapkota@griffith.edu.au (D. Sapkota).

https://doi.org/10.1016/j.avb.2026.102156
Received 3 February 2025; Received in revised form 2 February 2026; Accepted 27 April 2026
Available online 30 April 2026
1359-1789/© 2026 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

et al., 2017).

For this paper, violent victimization refers to experiences of any forms of violence or abuse, including physical, sexual, or psychological abuse, or neglect, either during childhood or adulthood (Krug et al., 2002). Despite increasing attention on the impact of violence on birth outcomes, very little research has comprehensively examined violent victimization among mothers over time and its impact on PTB. Additionally, very few studies have examined the combined effects of childhood abuse and adulthood violence (i.e., domestic violence [DV]) experienced by mothers on PTB (Margerison-Zilko et al., 2017; Selk et al., 2016). Further, these studies relied on self-reported data, which can be biased as participants tend to overreport socially desirable behaviors and underreport undesirable ones, or only recall significant events. The current study examines the individual and combined effects of several types of violence in childhood and adulthood and their impact on PTB. It addresses gaps in existing research by using longitudinal, linked administrative data for a birth cohort, specifically focusing on mothers who had experienced PTB. Exploring the potential links between violent victimization across the life course and PTB would contribute to informing clinical and preventative interventions to improve women's reproductive health.

1.1. Experiences of violence and preterm births

Being a victim of violence[1] is a stressful life event with serious repercussions on mothers' physical (particularly reproductive) health and mental health (Shneyderman & Kiely, 2013). The underlying mechanisms linking experiences of violence to PTB are not yet fully understood, but evidence suggests chronic dysregulation of maternal stress-response systems may prematurely activate the physiologic pathways that initiate labor (Latendresse, 2009). Additionally, stress-induced increases in cytokine production can independently increase the risk of PTB or increase susceptibility of infection, further contributing to early labor (Gennaro & Hennessy, 2003).

Maternal stress resulting from violence victimization has been consistently linked to PTB. However, available research is mostly limited to experiences of violence during childhood or pregnancy alone, which does not capture individuals' repeated exposure to violence across developmental periods. Only one longitudinal study, to the best of our knowledge, has investigated the impact of childhood and adulthood violence on PTB. Margerison-Zilko et al. (2017) reported significant positive association between childhood abuse, particularly sexual abuse, and PTB.

Various forms of DV, such as physical, psychological, sexual, and emotional abuse, have been shown to be associated with high levels of psychosocial stress among pregnant women (Sapkota et al., 2021). Such stress prior to or during pregnancy has been linked to adverse fetal health outcomes, such as low birth weight and PTBs (Bazargan-Hejazi et al., 2014; Guo, 2023; Harville et al., 2010; Lockington et al., 2023). Also, violence, particularly physical and sexual violence, can lead to abruptio placenta, premature rupture of membranes, preterm contraction, and reproductive tract infections, which are in turn linked to PTB (Heaman, 2005; Hill et al., 2016). Some studies have found that women exposed to physical abuse during pregnancy were almost three times more likely to experience PTB than women who were not victims of abuse (Sanchez et al., 2013; Sigalla et al., 2017). However, there are studies that have found no significant relationship between DV and preterm birth (Finnbogadóttir et al., 2020; Janssen et al., 2003). Studies suggested strong linkage between adverse birth outcomes and unhealthy behaviors, such as smoking, alcohol abuse, illicit drug abuse or poor healthcare utilization, which are usually common among victims of violence (Donovan et al., 2016; Hill et al., 2016). Gibberd et al. (2019) conducted a retrospective study among Aboriginal and/or Torres Strait Islander singleton infants born in Western Australia and found that mothers who had experienced any form of assault within two years before birth had an increased risk of PTB. However, they did not explore the frequency of victimization nor did they explore abuse experienced by these mothers during their childhood (Gibberd et al., 2019).

Childhood violence victimization may contribute to the biological and psychological stressors that negatively impact maternal health during pregnancy and PTB (Keenan-Devlin et al., 2023). While the existing body of literature provides valuable insights into the correlation between childhood maltreatment (mostly sexual abuse) and PTBs, very few studies have considered the impact of other types of child maltreatment, including physical abuse, emotional abuse, or neglect, on PTB. One U.S study that utilized self-reported maternal exposure to childhood maltreatment reported that only sexual abuse accompanied by physical force perpetrated by a non-parent/adult caregiver resulted in an increased risk of PTB, particularly for those whose abuse began after nine years of age (Cammack et al., 2019). However, other forms of parental abuse (physical, emotional and sexual) were not associated with PTB (Cammack et al., 2019). Similarly, research by Selk et al. (2016) found no association between physical abuse during childhood or adolescence and PTB. However, they did find that forced sexual activity in childhood or adolescence was associated with a 22% increased risk of PTB. Research suggests that elevated rates of alcohol use and smoking among women with a history of sexual abuse may explain the association between sexual abuse and PTB (Harville et al., 2010; Noll et al., 2007). However, further research is required to establish the relationship between different forms of childhood maltreatment and the risk of PTB.

To the best of our knowledge, very few international studies, and little to no Australian studies have explored the relationship between the frequency of victimization and PTB. Of the limited studies available there exists mixed findings regarding a dose-response relationship between victimization experiences and PTB (Brito et al., 2023; Christiaens et al., 2015; Harville et al., 2010). For example, Christiaens et al. (2015) reported that for every increase in childhood adverse event, the risk of PTB increased by 18%, even after controlling for maternal age, smoking status, educational status, and history of miscarriage. Similarly, a case-control study from Peru reported that compared to women who have never been exposed to intimate partner violence, women who reported being abused more than two times a month had nearly a two-fold risk of PTB (Sanchez et al., 2013). Contrary to this, there was no significant association between the number of stressful life events and PTB in a recent study conducted among a Brazilian cohort (Brito et al., 2023). As such, there is limited understanding of the relationship between frequency of victimization experiences across developmental periods and PTB.

1.2. Current study

While comprehensive research on PTB is limited, several empirical studies recognize the importance of examining females' victimization during childhood and/or adulthood, and how this impacts upon PTB (e.g., Bazargan-Hejazi et al., 2014; Cammack et al., 2019; Lockington et al., 2023; Neggers et al., 2004; Noll et al., 2007; Yaya et al., 2021; Yost et al., 2005). However, the existing literature on PTB and violence victimization has several limitations, including reliance on self-reported measures or cross-sectional designs, the absence of comparison groups, and limited adjustments for confounding factors (e.g., Cammack et al., 2019; Selk et al., 2016). Additionally, the focus of most studies has been limited to the impact of childhood maltreatment, particularly child sexual abuse, or domestic violence during pregnancy on PTB (Cammack et al., 2019; Guo, 2023), with little attention to violence exposure beyond these periods.

[1] There is variation across studies in the terminology used to refer to individuals who have experienced violence, such as 'victims', 'survivors' or 'victim-survivors'. In this paper, we use the term 'victim' to encompass these other terms.

Importantly, very little research has examined the type, timing, and frequency of violence victimization across developmental periods and their impact on PTB. Recent work has emphasized the value of examining the recency, frequency, and accumulation of violence exposure, rather than treating victimization as a binary experience (Semenza et al., 2025). Drawing on this perspective, the current study addresses these gaps by using longitudinal linked administrative data for a birth cohort of Australian women. These data enable the examination of a large sample of mothers exposed to different forms of violence across the life course and allow for an assessment of how the timing, types, and frequency of violence victimization are associated with PTB. Such knowledge would be critical in identifying early intervention points as well as informing targeted intervention strategies for reducing the risk of PTB. This study examines three research questions:

1. What is the prevalence of childhood maltreatment, domestic violence, and PTB among mothers in the 1990 cohort?
2. What is the overlap between childhood maltreatment, domestic violence, and PTB?
3. How are different types, timing, and frequency of violence associated with PTB?

2. Method

2.1. Data sources and sample

This study used linked administrative data for all individuals registered as born in Queensland in 1990 (n = 45,422), the Queensland Cross-Sector Research Collaboration (QCRC) cohort (Stewart et al., 2015; Stewart et al., 2021). We utilized longitudinal administrative records across the following government departments: Births, deaths and marriages (Queensland Registry of Births, Deaths and Marriages; RBDM); Child Protection System notifications (Department of Families, Seniors, Disability Services and Child Safety), finalized court records (Department of Justice; DOJ); Domestic Violence Orders (DVOs; using civil court records obtained from the Queensland Police Service); and hospital admissions (from Queensland Health's Hospital Admitted Patient Data Collection; QHAPDC). Data are available until cohort members are 23/24 years of age. The data are de-identified and stored in the Social Analytics Lab, which is a secure research facility at Griffith University. In the cohort, there were 22,039 individuals classified as *female* (48.5%). Of females, 18.8% (n = 4150) were registered as having at least one child in the RBDM records by age 23/24 years.

2.2. Measures

Experiences of Any Victimization were identified based on contact with the Queensland Child Protection System (CPS) and/or the Queensland Magistrates Court. These included individuals born in Queensland in 1990 who had finalized substantiated and unsubstantiated harm reports (birth to 24/25 years) and/or contact as an aggrieved person on a DVO. Since electronic DVO records were only available from June 2007 (when the cohort was aged 17/18), DVOs analyzed in this study occurred after that date. Mothers with at least one finalized substantiated or unsubstantiated CPS notification or DVO record were coded as victims of violence.

Timing of Victimization was assessed in two ways. First, we created a variable, ***victimization across the life course,*** by calculating the age at victimization using dates of all CPS notifications and DVO records, relative to the date of birth. A categorical variable was then created to capture the entire victimization experience from birth to age 23/24: (1) *childhood-only* (0–14 years of age); (2) *youth-only* [15–25 years of age; based on the United Nations' definition of "youth" (United Nations, 1981)], (3) *persistent* (both childhood and youth); and (4) *no victimization*. Second, we created another variable, ***first victimization in relation to the index childbirth,*** using mother's age at index childbirth and her age at first victimization. Index childbirth was defined as the first childbirth for mothers who had only term births and the first PTB for mothers with at least one PTB. The categories were: (1) *during pregnancy* (within one year before the index childbirth); (2) *1 to 5 years before*; (3) *more than 5 years before*; (4) *after the index childbirth*; and (5) *no victimization*. For multivariable analyses, these were regrouped as: (1) within one year before the index childbirth; (2) more than one year before the index childbirth; and (0) no victimization. Since the focus was on how victimization before childbirth predicts PTB, for regression analyses, women who experienced their first victimization after the index childbirth were grouped with those who had never experienced victimization.

Types of Violence Experienced. We created a series of binary variables (yes/no) to indicate whether the mother experienced various forms of violence during childhood (0–14 years) based on any finalized substantiated and unsubstantiated maltreatment notifications recorded by the CPS. These types of maltreatment were classified into the following non-mutually exclusive binary variables: (1) *any childhood physical abuse*; (2) *any childhood sexual abuse;* (3) *any childhood neglect;* (4) *any childhood emotional abuse*; and (5) *any childhood maltreatment*. Mothers who experienced more than one type of childhood violence were coded as having *experienced multi-type childhood maltreatment.*

We also created another series of binary variables (yes/no) to capture whether the mother experienced any type of violence during youth (15 to 24 years) and before the index childbirth. For those who had CPS notifications at age 15 or older, we applied the same categorization. However, since we lacked data on specific types of DV, a binary variable, *domestic violence victimization* was created (coded as yes, if the individual had a DVO record as an aggrieved person). For regression analyses, we created a binary variable, *any violence victimization during youth* (15–24 years and before the index childbirth; coded as yes or no), using CPS as well as DVO records.

Number of Victimization Events. The number of victimization events was calculated as the total of all finalized substantiated and unsubstantiated CPS notifications for childhood maltreatment and DVO records (as an aggrieved person). If a single CPS notification included multiple types of maltreatment (e.g., physical and emotional), each type was counted as a separate event. Each DVO record was counted as one event. The total number of victimization events was reported as a continuous variable as well as categorized as a binary variable: fewer than three events (coded 1) and three or more events (coded 2). We also categorized them as frequency of CPS notifications during childhood and frequency of CPS notifications or DVO records during youth. We only counted victimization events occurring before the index childbirth.

2.3. Outcome variable

Preterm Birth. The Queensland Hospital Admitted Patient Data Collection (QHAPDC), which includes PTB diagnoses based on the International Statistical Classification of Diseases and Related Health Problems – tenth edition Australian modification (ICD-10 AM; World Health Organization 2004), was used to identify PTB prevalence (ICD-9 codes = 64,420, 64421; ICD-10 codes: P0372, O601, O603). Data were available up to June 2014, capturing PTB diagnoses up to ages 23/24.

2.4. Covariates

Aboriginal and/or Torres Strait Islander Identity was computed as a binary variable. Consistent with the best-practice guidelines for linked data (Australian Institute of Health and Welfare (AIHW), 2012), any individual identified as Aboriginal and/or Torres Strait Islander in any of the QCRC databases was categorized as Aboriginal and/or Torres Strait Islander and all others were considered non-Indigenous.

Socio-economic status was measured using the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) derived from the Socio-Economic Indexes for Areas (ABS, 2011) and computed using the

mother's postcode at first childbirth. Low socioeconomic status was coded as present if the place of residence at first childbirth was ranked in the bottom three deciles of IRSAD, consistent with previous research by Ogilvie and Kisely (2022).

Teenage Birth was determined using the mother's birth date and the date of her first childbirth from the RBDM. Mothers who gave birth before the age of 20 were classified as teenage mothers.

Mental Illness and SUDs Prior to First Index Birth. Mental disorder diagnoses were extracted from the QHAPDC, which classifies mental disorders associated with hospital admissions according to ICD – 10 AM (WHO, 2004). QHAPDC records were available from 1 July 1995 to June 2014, providing data on mental health diagnoses from ages 4/5 to 23/24. Individuals with a hospital-based diagnosis of mental and behavioral disorders, including suicidal ideation, and self-harm but excluding substance use disorders (SUDs), as either a primary or additional diagnosis were coded as having a *mental illness*. Similarly, any individual with a hospital-based diagnosis for SUDs (primary or additional) was coded as having *SUDs* (1 for present, 0 for absent; see Online Supplementary Information for details on ICD-10 codes used to classify mental disorders). Diagnoses made prior to the index childbirth were coded as 1 (present), while the rest were coded as 0 (absent).

2.5. Statistical analysis

The prevalence of violence victimization during childhood and adulthood was analyzed across the total sample of mothers ($n = 4150$). We further categorized the sample into two groups based on whether they had experienced PTB. We compared these two groups across various factors using chi-square tests for categorical variables and Mann-Whitney *U* test for continuous variables, due to the non-parametric distribution of the data.

Four separate binary logistic regression models were performed to examine the associations between the timing, types, and frequency of violence experienced by mothers and PTB, adjusting for key covariates. The first model calculated the odds ratios (ORs) and 95% confidence intervals (CIs) for experiences of *timing of victimization in relation to mother's age at index childbirth* and PTB. For multivariable analyses, we regrouped this as: (1) within one year before the index childbirth; (2) more than one year before the index childbirth; and (0) no victimization. Since we wanted to explore how victimization before index childbirth predicts PTB, we coded women who had their first victimization experience after the index childbirth as "*no victimization*". The second model calculated the ORs and CIs for the *timing of victimization across the life course* and PTB. The third model calculated the odds of PTB in relation to each of the four *types of childhood violence experienced* (i.e., physical abuse, sexual abuse, emotional abuse, and neglect) and any victimization during youth fitted simultaneously as independent binary (yes/no) variables. This allowed adjustment of associations between PTB and each type of violence for the presence of other types of violence. The fourth model analyzed the likelihood of PTB based on the *frequency of victimization events* during childhood and before the index childbirth. Each model was adjusted for key covariates, including *Aboriginal and/or Torres Strait Islander identity*, *teenage birth, mental illness, and SUD prior to the index childbirth*.

3. Results

Characteristics of the total sample of mothers stratified by those who also experienced PTB are shown in Table 1. These 4150 mothers are the sample we focus on in this study, of which 11.1% ($n = 460$) had at least one PTB from hospital inpatient admission records and 40.8% ($n = 1693$) had experienced either child maltreatment or DV by age 23/24 years. There were significant differences between mothers with PTB and those with full-term births across the prevalence of teenage childbirth ($\chi^2(1, n = 4150) = 36.21, p \leq 0.001, \varphi_c = 0.09$) and Aboriginal and/or Torres Strait Islander identity ($\chi^2(1, n = 4150) = 35.49, p \leq 0.001, \varphi_c = 0.09$). Additionally, a higher prevalence of existing mental illness was observed among mothers who had PTB (12.2%) compared to those with full-term births (9.0%; $\chi^2(1, n = 4150) = 4.97, p \leq 0.05, \varphi_c = 0.05$). However, effect sizes were small across all of these characteristics. There was no significant difference between mothers with PTB and full-term births on socioeconomic status.

Details for experiences of violence for the total sample of mothers stratified by PTB, are provided in Table 2. We observed a significant association between the timing of first victimization in relation to index childbirth and PTB ($\chi^2(1, n = 4150) = 54.87, p \leq 0.001, \varphi_c = 0.12$). Among the total sample of mothers, a stronger association was observed between victimization within 1 year prior to index childbirth and PTB (OR = 2.62: 95% CI: 1.81, 3.80), followed by victimization within 1 to 5 years before the index childbirth and PTB (OR = 1.95: 95% CI: 1.35, 2.82). Additionally, the frequency of victimization events during lifetime was significantly associated with PTB ($\chi^2(1, n = 4150) = 44.57, p \leq 0.001, \varphi_c = 0.10$). On assessing the frequency of victimization events across childhood, mothers who had up to three CPS notifications were more likely to have PTB ($\chi^2(1, n = 846) = 12.13, p \leq 0.01, \varphi_c = 0.05$). Similarly, mothers who have 3 or more victimization events during youth and before index childbirth had a strong positive association with PTB ($\chi^2(1, n = 247) = 24.67, p \leq 0.001, \varphi_c = 0.07$). Experience of victimization across the life course was also significantly associated with PTB ($\chi^2(1, n = 4150) = 54.41, p \leq 0.001, \varphi_c = 0.11$). Specifically, a higher proportion of victimization in youth-only and persistent victimization was observed among mothers who experienced PTB (28.3% and

Table 1
Social-demographic characteristics of total sample of mothers, stratified by preterm birth.

		Total	Preterm birth		Group differences		OR (95% CI)
Variables		$n = 4150$; 100%	Yes ($n = 460$; 11.1%)	No ($n = 3690$; 88.9%)	χ^2	φ_c	
Aboriginal and/or Torres Strait Islander Identity	Yes	806 (19.4)	137 (17.0)	669 (83.0)	35.49	0.09***	1.92 (1.54, 2.38)
	No	3344 (80.6)	323 (9.7)	3021 (90.3)			
Low socioeconomic status ($n = 4115$)	Yes	1453 (35.3)	173 (11.9)	1280 (88.1)	3.61	0.03	0.82 (0.67, 1.01)
	No	2662 (64.7)	266 (10.0)	2396 (90.0)			
Teenage birth	Yes	1758 (42.4)	255 (14.5)	1503 (85.5)	36.21	0.09***	1.81 (1.49, 2.20)
	No	2392 (57.6)	205 (8.6)	2187 (91.4)			
Diagnosed MI before index childbirth	Yes	274 (6.6)	28 (10.2)	246 (89.8)	0.22	0.01	0.91 (0.61, 1.36)
	No	3876 (93.4)	432 (11.1)	3444 (88.9)			
Diagnosed SUD before index childbirth	Yes	125 (3.0)	22 (17.6)	103 (82.4)	5.55	0.04*	1.75 (1.09, 2.80)
	No	4025 (97.0)	438 (10.9)	3587 (89.1)			

Figures in brackets indicate percentages.
IRSAD: Index of Relative Socio-economic Advantage and Disadvantage.
χ^2: values derived from Chi-square tests; φ_c: Cramer's V; *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.
For 20 women, we did not have Child Date of Birth recorded in Births, Deaths and Marriage Registry. But they have a record of age at PTB in their hospital records. So, we used these dates while creating other variables for analysis.

Table 2
Experiences of violence during childhood and youth, stratified by preterm birth.

Variables		Total (n = 4150; 100%)	Preterm birth		Group differences[a]		UOR (95% CI)
			Yes (n = 460; 11.1%)	No (n = 3690; 88.9%)	χ^2/ U-statistic	φ_c	
Lifetime experiences of victimization							
No. of CPS notifications and/or DVO orders (n = 1693) [*M (SD)*]		*3.65 (3.82)*	*3.89 (3.66)*	*3.61 (3.85)*	[b] 2.05*	–	1.02 (0.99, 1.05)
No. of lifetime victimization events	< 3	897 (21.6)	123 (26.7)	774 (21.0)	44.57	0.10***	1.72 (1.36, 2.18)
	3 or more	796 (19.2)	129 (28.0)	667 (18.1)			2.09 (1.65, 2.65)
	None	2457 (59.2)	208 (45.2)	2249 (60.9)			Ref
Victimization across the life course	Childhood-only	373 (9.0)	38 (8.3)	335 (9.1)	54.41	0.11***	1.23 (0.85, 1.77)
	Youth-only	847 (20.4)	130 (28.3)	717 (19.4)			1.96 (1.55, 2.48)
	Both/persistent	473 (11.4)	84 (18.3)	389 (10.5)			2.34 (1.77, 3.08)
	No victimization	2457 (59.2)	208 (60.7)	2249 (60.9)			Ref
Victimization during childhood							
No. of CPS notifications (n = 846) [*M (SD)*]		*2.23 (1.02)*	*2.19 (1.09)*	*2.24 (1.01)*	[b] − 0.68	–	0.95 (0.79, 1.15)
No. of CPS notifications	< 3	502 (12.1)	74 (16.1)	428 (11.6)	12.13	0.05**	1.52 (1.16, 1.99)
	3 or more	344 (8.3)	48 (10.4)	296 (8.0)			1.42 (1.03, 1.97)
	None	3304 (79.6)	338 (73.5)	2966 (80.4)			Ref
Any childhood maltreatment		846 (20.4)	122 (26.5)	724 (19.6)	12.00	0.05***	1.48 (1.18, 1.85)
Any childhood physical abuse		510 (12.3)	65 (14.1)	445 (12.1)	1.63	0.02	1.20 (0.91, 1.59)
Any childhood sexual abuse		291 (7.0)	44 (9.6)	247 (6.7)	5.17	0.04*	1.47 (1.05, 2.06)
Any childhood emotional abuse		511 (12.3)	66 (14.3)	445 (12.1)	1.98	0.02	1.22 (0.92, 1.61)
Any childhood neglect		578 (13.9)	92 (20.0)	486 (13.2)	15.91	0.06***	1.65 (1.29, 2.11)
Multi-type childhood maltreatment		591 (14.2)	78 (17.0)	513 (13.9)	3.12	0.03	1.27 (0.97, 1.64)
Victimization during youth (> 14 years and before index childbirth)							
No. of victimization events before index childbirth (n = 247) [*M (SD)*]		*2.54 (1.82)*	*3.02 (2.13)*	*2.42 (1.73)*	[b] 1.87	–	1.02 (0.94, 1.11)
No. of victimization events before the index childbirth	< 3	96 (2.3)	24 (5.2)	72 (2.0)	24.67	0.07***	1.69 (1.08, 2.62)
	3 or more	151 (3.6)	25 (5.4)	126 (3.4)			2.83 (1.77, 4.55)
	None	3903 (94.0)	411 (89.3)	3492 (94.6)			Ref
Timing of first victimization before the index childbirth	Within 1 year	195 (4.7)	40 (8.7)	155 (4.2)	50.95	0.11***	2.62 (1.81, 3.80)
	1–5 years before	236 (5.8)	38 (8.3)	198 (5.4)			1.95 (1.35, 2.82)
	> 5 years before	772 (18.6)	118 (25.7)	654 (17.7)			1.83 (1.45, 2.32)
	None	2947 (71.0)	264 (57.4)	2683 (72.7)			Ref
Any violence		247 (6.0)	49 (10.7)	198 (5.4)	20.42	0.07***	2.10 (1.51, 2.92)
Any physical abuse		38 (0.9)	7 (1.5)	31 (0.8)	[c]	0.02	1.82 (0.80, 4.17)
Any sexual abuse		25 (0.6)	5 (1.1)	20 (0.5)	[c]	0.02	2.02 (0.75, 5.40)
Any emotional abuse		35 (0.8)	6 (1.3)	29 (0.8)	[c]	0.02	1.67 (0.69, 4.04)
Any neglect		29 (0.7)	[d]	[d]	[c]	0.01	1.29 (0.45, 3.71)

Note. φ_c: Cramer's V, UOR = Unadjusted Odds Ratio, CI: Confidence Interval.
Figures in brackets indicate percentages.
[a] Those who have a history of victimization after index childbirth were excluded from the Chi-square analysis, though the percentages are still displayed.
[b] Standardized test statistic from the Mann-Whitney U test as data were not normally distributed.
[c] Fisher exact tests were conducted as expected cell count in at least one cell was less than 5.
[d] Confidentiality of individually identifiable information was maintained by suppressing *n*s and percent for cells with fewer than 5 participants, as well as adjacent or complementary cells that could lead to recalculation of suppressed cells.
*** $p < 0.001$.
** $p < 0.01$.
* $p < 0.05$.

18.3%) compared to those who had a full-term birth (19.4% and 10.5%).

Chi-square analysis revealed a significant association between PTB and any type of childhood maltreatment, particularly childhood neglect (see Table 2). For example, childhood neglect was more prevalent among mothers who had PTB (20.0%) compared to mothers who had a full-term birth (13.2%, $\chi^2(1, n = 4150) = 15.91$, $p \leq 0.001$, $\varphi_c = 0.06$). Finally, our findings indicate that exposure to any violence during youth before index childbirth was more prevalent among mothers who had PTB (10.7%) compared to mothers who had a full-term birth (5.4%; ($\chi^2(1, n = 247) = 20.42$, $p \leq 0.001$, $\varphi_c = 0.07$).

We conducted four separate binary logistic regression models to examine the relationship between violence victimization and PTB (see Table 3). Across all models, Aboriginal and/or Torres Strait Islander mothers and those who experienced teenage birth had higher odds of PTB compared to non-Indigenous mothers and those giving birth after age 20. Additionally, mothers with a SUD diagnosis before the index childbirth were more likely to experience PTB than those with no SUDs.

In Model One, first victimization within one year before index birth was associated with a 2.4-fold increase in the odds of PTB compared to those who did not experience victimization. Similarly, first victimization within one to five years before index birth also elevated the risk of PTB (AOR = 1.61; 95% CI: 1.26, 2.05; $p < 0.01$). Model Two examined the association between victimization across the life course and PTB. It revealed that victimization only during youth (AOR = 1.67; 95% CI: 1.30, 2.15; $p < 0.01$) or persistently across childhood and youth (AOR = 1.77; 95% CI: 1.31, 2.40; $p < 0.01$) significantly increased the odds of PTB compared to those who had never experienced victimization.

Model Three examined the relationship between different types of violence and PTB. Childhood neglect (AOR = 1.78; 95% CI: 1.22, 2.57; $p < 0.01$) and any violence (AOR = 2.22; 95% CI: 1.57, 3.14; $p < 0.001$) were significant predictors of PTB after controlling for sociodemographic variables and different types of violence experienced. Finally, Model Four investigated the relationship between frequency of CPS notifications before 15 years of age as well as frequency of CPS notifications and DVO records from age 15 to until age at index birth and PTB. Results indicated that compared to those with no CPS notification during childhood, those with fewer than three CPS notifications had higher odds of PTB (AOR = 1.45; 95% CI: 1.09, 1.92; $p < 0.05$), with the odds increasing substantially for mothers with three or more CPS notifications or DVO records during youth (AOR = 2.98; 95% CI: 1.83, 4.86; $p < 0.01$).

4. Discussion

In this study, we used longitudinal linked birth cohort administrative data to examine the prevalence of PTB and multiple forms of victimization across the life course. Findings indicated that violence exposure within one year before childbirth, having a history of childhood neglect, exposure to violence during youth, and increased victimization episodes were associated with an increased risk of PTB. In addition, Aboriginal and/or Torres Strait Islander mothers and those who gave birth during adolescence had a significantly higher risk of PTB compared to non-Indigenous mothers and adult mothers, respectively.

The prevalence of PTB among Queensland mothers was found to be 11.1%, which is higher than that found in a recent retrospective observational study conducted in a hospital in Australia (Lockington et al., 2023), as well as the current annual rate of 8.3% (AIHW, 2024a). In contrast to our study, which included data up to 2014, the study by Lockington et al. (2023) included data between 2017 and 2021, which could have contributed to differences in prevalence estimates. Additionally, in recent years several initiatives have been undertaken globally and nationally to reduce the prevalence of PTB (Australian Preterm Birth Prevention Alliance, 2023; Newnham et al., 2017). It is worth noting that our sample included only those women who gave birth prior to age 23/24 years and evidence supports higher likelihood of PTB among women who deliver at an early age (Esposito et al., 2022).

Table 3
Logistic regression analyses of experiences of violence victimization predicting preterm birth.

Variables	B	S.E.	Wald	AOR	95% CI
Model 1: Timing of first victimization before the index childbirth [a]					
Within 1 year	0.88***	0.19	20.67	2.40	1.65, 3.51
More than 1 year	0.49***	0.11	18.73	1.64	1.31, 2.05
Aboriginal and/or Torres Strait Islander identity	0.42***	0.12	12.90	1.53	1.21, 1.92
Low socioeconomic status	0.09	0.11	0.64	1.09	0.88, 1.34
Teenage birth	0.52***	0.11	24.74	1.69	1.37, 2.07
Mental illness before the index childbirth	−0.20	0.22	0.80	0.82	0.53, 1.27
SUDs before the index childbirth	0.73**	0.26	7.73	2.07	1.24, 3.46
Model 1 $\chi^2 = (7, N = 4115) = 101.86$, $p < 0.001$; Nagelkerke $R^2 = 0.05$					
Model 2: Victimization across the life course [a]					
Childhood only victimization	0.14	0.19	0.52	1.15	0.79, 1.67
Youth only victimization	0.54***	0.13	17.97	1.72	1.34, 2.20
Both times/persistent victimization	0.62***	0.15	16.74	1.86	1.38, 2.50
Aboriginal and/or Torres Strait Islander identity	0.39**	0.12	10.50	1.48	1.17, 1.86
Low socioeconomic status	0.07	0.11	0.43	1.07	0.87, 1.32
Teenage birth	0.47***	0.11	19.77	1.61	1.30, 1.98
Mental illness before the index childbirth	−0.20	0.22	0.77	0.82	0.53, 1.28
SUDs before the index childbirth	0.72**	0.26	7.64	2.06	1.24, 3.45
Model 2 $\chi^2 = (8, N = 4115) = 96.88$, $p < 0.001$; Nagelkerke $R^2 = 0.05$					
Model 3: Types of violence experienced during childhood and youth [a]					
Physical childhood abuse	−0.26	0.20	1.61	0.77	0.52, 1.15
Sexual childhood abuse	0.23	0.20	1.32	1.26	0.85, 1.87
Emotional childhood abuse	−0.19	0.21	0.79	0.83	0.55, 1.26
Childhood neglect	0.57**	0.19	9.21	1.78	1.22, 2.57
Any violence during youth	0.80***	0.18	20.28	2.22	1.57, 3.14
Aboriginal and/or Torres Strait Islander identity	0.44**	0.12	13.53	1.55	1.23, 1.95
Low socioeconomic status	0.08	0.11	0.53	1.08	0.88, 1.33
Teenage birth	0.58***	0.11	30.03	1.78	1.45, 2.19
Mental illness before the index childbirth	−0.24	0.23	1.16	0.79	0.51, 1.22
SUDs before the index childbirth	0.74**	0.26	7.91	2.09	1.25, 3.49
Model $\chi^2 = (10, N = 4115) = 99.22$, $p < 0.001$; Nagelkerke $R^2 = 0.05$					
Model 4: Frequency of victimization events during childhood and youth [a]					
< 3 CPS notifications during childhood	0.37*	0.15	6.37	1.45	1.09, 1.92
≥ 3 CPS notifications during childhood	0.25	0.17	2.12	1.29	0.92, 1.82
< 3 CPS notifications or DVO during youth	0.60*	0.24	6.26	1.82	1.14, 2.90
≥ 3 CPS notifications or DVO during youth	1.09	0.25	19.22	2.98	1.83, 4.86
Aboriginal and/or Torres Strait Islander identity	0.44**	0.12	14.11	1.56	1.24, 1.96
Low socioeconomic status	−0.08	0.11	0.59	1.09	0.88, 1.34
Teenage birth	0.56***	0.11	28.45	1.75	1.43, 2.16
Mental illness before the index childbirth	−0.21	0.22	0.90	0.81	0.52, 1.26

(continued on next page)

Table 3 (*continued*)

Variables	B	S.E.	Wald	AOR	95% CI
SUDs before the index childbirth	0.74**	0.26	8.00	2.09	1.25, 3.49
Model $\chi^2 = (9, N = 4115) = 95.99$, $p < 0.001$; Nagelkerke $R^2 = 0.05$					

Note. In all four models, no victimization was the reference group. Youth period was defined as age 15 years and more and before the date of index childbirth. Variation Inflation Factor (VIF) ranged from 1.02 to 2.17 for variables included in these models, indicating negligible multicollinearity; All victimization variables include CPS notifications and/or DVO records, as specified in the Methods. DVOs are embedded within timing-, life-course–, and type-based victimization measures rather than modelled separately; CPS: Child Protection System; SUDs: Substance Use Disorders; DVO: Domestic Violence Orders.

[a] 35 mothers with no IRSAD recorded were excluded from the analysis.

*** $p < 0.001$.

** $p < 0.01$.

* $p < 0.05$.

Consistent with previous research (Australian Preterm Birth Prevention Alliance, 2023; Black et al., 2009; Margerison-Zilko et al., 2017), our study highlights significant racial/ethnic disparities in PTB, with rates among Aboriginal and/or Torres Strait Islander mothers being nearly double than those of non-Indigenous mothers. Substance misuse and assault have been documented as significant predictors of PTB in a study conducted among Aboriginal and/or Torres Strait Islander mothers in Australia (Gibberd et al., 2019). Similarly, our findings align with those of Lockington et al. (2023), indicating that mothers identifying as Aboriginal and/or Torres Strait Islander, as well as those who experienced teenage childbirth, had higher prevalence of PTB compared to non-Indigenous mothers, even after accounting for sociodemographic and violence victimization-related variables. A growing body of evidence highlights the ongoing impacts of intergenerational trauma and systemic discrimination experienced by Aboriginal and/or Torres Strait Islander people. These factors contribute to racial disparities in health outcomes, including PTB, through multiple pathways such as chronic exposure to stress, substance use, early childbearing, and reduced engagement with healthcare services (AIHW, 2024b; Brown et al., 2021). Despite these challenges, it is essential to recognize the remarkable resilience, cultural strengths, and strong kinship systems within Aboriginal and/or Torres Strait Islander communities, which provide critical support for mothers and families (Prehn, 2024). Addressing disparities in PTB requires risk-reduction strategies that extend beyond individual-level interventions to tackle structural barriers, adopt a holistic and culturally appropriate approach, and prioritize the voices and agency of Aboriginal and/or Torres Strait Islander women.

While much of the existing research primarily examines mental health following preterm birth (Barber et al., 2021; Treyvaud, 2014), our study explored the relationship between pre-existing mental illness and PTB. We observed a higher prevalence of pre-existing mental illness among mothers with PTBs compared to those with full-term births in the bivariate analysis. However, after controlling for sociodemographic variables the association was not significant. This could be due to the inclusion of hospital-derived inpatient diagnoses in our study. Further studies are recommended to draw firm conclusions on the impact of pre-existing mental illness of PTB after controlling for important variables as evidence suggests that women with mental health disorders are particularly vulnerable to engaging in risky behaviors during pregnancy, such as smoking and poor antenatal care, which can further elevate the risk of PTB (Sūdžiūtė et al., 2020). Our study also supports that mothers who have used substances before the birth of their child had a higher likelihood of having PTB than those who have not used, which is consistent with previous studies (Baer et al., 2019; Ragsdale et al., 2024).

Our finding regarding an increased risk of PTB among women exposed to DV within one year before birth aligns with most studies (Lockington et al., 2023; Yaya et al., 2021). However, it contrasts with earlier epidemiological studies. For instance, Janssen and colleagues found no link between physical abuse during pregnancy and PTB, while Sigalla and colleagues reported a significant association between PTB and physical abuse during pregnancy, but not with sexual or emotional abuse (Janssen et al., 2003; Sigalla et al., 2017). Possible reasons for these discrepancies may include differences in study population characteristics, methodological approaches, and variations in how violence is operationalized across studies. Nevertheless, our study confirms that experiencing violence for the first time closer to childbirth significantly increases the risk of PTB. This suggests that the year preceding birth is a particularly critical period for women exposed to DV and it is essential to conduct routine antenatal screenings for DV for early identification of risk of PTB and implementation of appropriate DV management strategies to improve birth outcomes.

Only a few studies have explored the relationship between the frequency of violence victimization episodes and PTB (Christiaens et al., 2015; Sanchez et al., 2013). Similar to the findings from these studies, our study identified an increased risk of PTB with an increased number of victimization events experienced by mothers. Repeated exposure to different forms of violence may contribute to chronic stress and anxiety, which are well-known to have negative implications for reproductive health (Akyüz et al., 2012). We also found a higher prevalence of childhood neglect and exposure to domestic violence among mothers with PTBs compared to mothers with full-term births. Consistent with previous research (e.g., Cammack et al., 2019; Margerison-Zilko et al., 2017), our research indicates that PTB was particularly prevalent among mothers who experienced violence in both childhood and adulthood. This is also consistent with some studies that have shown elevated risks of poor health outcomes among individuals who were violently victimized during adolescence as well as during their transition to adulthood (Semenza et al., 2021; Shneyderman & Kiely, 2013). Exploration of causal mechanisms explaining the link between violence and PTB is beyond the scope of this study; however, our findings suggest that experiencing violence constitutes a stressful life event with significant implications for PTB. One potential explanation for this link is that exposure to cumulative stress over time (e.g., childhood stress or physiological stress) leads to a rapid rise in cortisol by altering the hypothalamic-pituitary-adrenal reactivity which can alter the body's normal regulation mechanisms including timing of birth (Ribeiro de Andrade Ramos & da Silva, 2018).

4.1. *Strengths and limitations*

Our study has several unique strengths that are important to acknowledge. First, our findings not only support the existing evidence on the impact of violence on PTBs (Batra et al., 2020; Hill et al., 2016), but also goes beyond previous research by investigating the impact of the type, timing, and frequency of victimization on PTBs. Second, the large sample size of our study, which utilizes birth cohort data, ensured representativeness and excellent statistical power to detect even the smallest statistical associations between violent victimization and PTBs. This provides a more accurate estimate of the impact of violence on preterm births. Another strength of our study is the inclusion of various types of victimization experiences, ranging from birth to 24/25 years, along with the timing of victimization. This provides deeper insight into the impact of different aspects of violence experiences on PTBs. Finally, this study stands out from most research, which often relies on self-report data or cross-sectional designs (e.g., Cammack et al., 2019; Selk et al., 2016). Instead, this study utilized administrative records, which reduces the risk of recall bias and adopted a longitudinal approach, thus ensuring more valid and reliable findings, particularly in relation to timing.

While our study has several strengths, it is also important to acknowledge its limitations. Although the prevalence of PTB in our cohort aligns with national estimates, the data are limited to ages 23/24 years, whereas the average age of first-time mothers in Australia is closer

to 30 years (AIHW, 2024a). As a result, the cohort disproportionately represents younger mothers and may introduce selection bias, as pregnancies at later reproductive ages are not captured. Consequently, the findings should be interpreted cautiously and may not be generalizable beyond younger women.

Our study is limited to the number of variables available in the existing dataset, which made it challenging to adjust for potential confounders, such as smoking during pregnancy, substance use or alcohol use during pregnancy, antenatal health care and support available to women during pregnancy. These factors are known to mediate the relationship between violence victimization and PTBs. For example, recent work suggests that substance use during pregnancy may mediate the link between childhood maltreatment and PTB (Keenan-Devlin et al., 2023). Unfortunately, the data used in this study did not have information on women's smoking and substance use, including alcohol use. Instead, we used diagnoses related to alcohol and substance use disorders derived from the hospital admissions data and they were encapsulated within mental illness, which might have underestimated the prevalence rates as only severe cases tend to be admitted to the hospital (National Drug & Alcohol Research Centre, 2022). Therefore, future studies should examine the mechanisms through which violence victimization influences pregnancy outcomes.

Another limitation of our study is that we relied on hospital-based diagnoses to determine the prevalence of mental health disorders. This approach does not capture all instances of mental health concerns, as not all mothers who experience mental health problems seek hospital-based care or receive a diagnosis. As a result, the true prevalence of mental health issues might have been underestimated. Similarly, reliance on DVOs might have underestimated the true experience of DV, as this measure only captures incidents that came to the attention of police, which tend to prioritize physical harm or immediate safety concerns. As such, non-physical forms of abuse may be under-recorded in this dataset. Similarly, CPS notifications included both substantiated and unsubstantiated reports, which may introduce measurement heterogeneity; however, any resulting misclassification is likely non-differential and may lead to conservative estimates of association. Importantly, while CPS notifications reflect surveillance and institutional contact, they were the best available proxy measure for childhood maltreatment in the dataset and unsubstantiated cases may result from insufficient evidence and do not necessarily indicate that maltreatment did not occur (Jackson, 2023). Finally, it is important to exercise caution in generalizing our findings, as they pertain specifically to the 1990 birth cohort within the context of Queensland. Therefore, these findings should not be extrapolated to other cohorts who have longer follow-up periods or jurisdictions outside of Queensland.

4.2. Implications and suggestions for future research

Given that our findings indicate a significant association between first experiences of violence within one year prior to index childbirth and PTB, it is recommended that mothers are screened for the presence of violence during their antenatal check-ups and provided with targeted responses for violent victimization as needed (Do et al., 2022). Additionally, our research found a significant association between teenage motherhood and PTB, as well as between identifying as Aboriginal and/or Torres Strait Islander and PTB. Therefore, it is essential to implement measures aimed at providing specialized care for teenage mothers and providing culturally appropriate, evidence-based care for Aboriginal and/or Torres Strait Islander women. Poor health outcomes among Aboriginal and/or Torres Strait Islander communities have been linked to the history of colonization, trauma and discrimination, and intergenerational socio-economic disadvantage (AIHW, 2024b; Paradies, 2016). Aboriginal and/or Torres Strait Islander mothers also face persistent barriers to accessing healthcare, including systemic bias, geographic and financial constraints, cultural differences, and a lack of culturally safe services (Marrone, 2007). Addressing these inequities requires investment in Aboriginal-led, culturally safe, inclusive, and trauma-informed models of perinatal care that integrate responses to violence, mental illness, and social disadvantage. Such approaches align with Australia's *Closing the Gap* priorities which emphasize that better life outcomes are achieved when Aboriginal and/or Torres Strait Islander peoples are actively involved in the design and delivery of policies, programs, and services that affect them (Commonwealth of Australia, 2025). Further research focusing on the experiences of Aboriginal and/or Torres Strait Islander mothers is needed to better understand systemic barriers to healthcare access and engagement and to inform culturally responsive supports.

According to our research, mothers who have experienced violence both during their childhood and adulthood have an increased risk of PTB. This highlights the importance of early interventions aimed at identifying risk factors and reducing the likelihood of subsequent childhood maltreatment, as well as offering targeted support to young adults with prior experiences of violence. Such interventions can inform maternity services and other agencies in delivering trauma-sensitive support and care for pregnant women, including tailored antenatal and labor planning, with the potential to reduce the risk of PTB (Hardcastle et al., 2022; Sperlich et al., 2017). Beyond intervention and response, preventing violence across the life course represents a critical upstream strategy with the potential to reduce cumulative trauma and associated risks for PTB, underscoring the need for prevention-oriented approaches alongside screening and support. Based on our findings, we recommend future research examines additional risk factors that can contribute to PTB, such as substance abuse, smoking during or before pregnancy, and poor obstetric histories. This research should also examine potential protective factors for reducing the risk of preterm birth, such as access to antenatal care and allied health services, safe and stable housing, nutrition, and quality of relationships. Exploring the role of interventions and protective factors alongside risk factors is critical for designing effective responses to improve perinatal outcomes. Future research with longer follow-up into later reproductive ages is needed to better assess the associations between violence exposure and PTB across the full reproductive lifespan.

4.3. Conclusions

Our study examined the timing, types, and frequency of violence experienced by mothers who had PTB. We found that experiencing violence multiple times throughout life can significantly increase the risk of PTB. Experiencing violence within one year before childbirth, having a history of childhood neglect, being exposed to DV, and increased victimization episodes have been linked to PTB. Specifically, Aboriginal and/or Torres Strait Islander mothers and those who have experienced teenage childbirth had significantly higher risk of having PTBs compared to non-Indigenous mothers and adult mothers, respectively. The findings of our research highlight the need for improved policies and early interventions aimed at supporting women who have experienced violence during both their childhood and adulthood. Antenatal care represents an important opportunity to screen and deliver interventions for mothers experiencing DV, which can potentially help to reduce pregnancy complications, including preterm birth.

CRediT authorship contribution statement

Diksha Sapkota: Writing – original draft, Visualization, Methodology, Funding acquisition, Formal analysis, Conceptualization. **James Ogilvie:** Writing – review & editing, Validation, Data curation. **Carleen Thompson:** Writing – review & editing, Supervision, Project administration, Funding acquisition. **Aydan Kuluk:** Writing – review & editing, Visualization, Formal analysis. **Susan Dennison:** Writing – review & editing, Validation, Supervision, Project administration, Funding acquisition. **Kathleen Baird:** Writing – review & editing, Supervision, Conceptualization.

Ethical approval

Ethical approval was obtained from the Griffith University Human Research Ethics Committee (HREC 2010/479), and approval was granted by relevant data custodians. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation, and with the Helsinki Declaration of 1964, as revised in 2008.

Funding

This research was supported by the Australian Research Council grant number LP100200469. The funder had no role in study design, the collection, analysis and interpretation of data, the writing of the report or the decision to submit the article for publication. D.S. was supported by a Griffith University Postdoctoral Research Fellowship. D.S. is also a recipient of the Griffith University New Researcher Grant.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Diksha Sapkota reports financial support was provided by Griffith University Griffith Criminology Institute. N If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

The industry partners on the grant supporting this research were Queensland Health; Department of Premier and Cabinet, Office of Economic and Statistical Research (Queensland Treasury, now called the Queensland Government Statistician's office [QGSO]); Department of Youth Justice; Department of Families, Seniors, Disability Services, and Child Safety; Queensland Police Service; Queensland Corrective Services; Queensland Department of Justice; and Queensland Registry of Births, Deaths and Marriages. We thank our government partners for helpful comments on a previous version of this paper. The authors gratefully acknowledge the use of the services and facilities of the Griffith Criminology Institute's Social Analytics Lab at Griffith University. The views expressed are not necessarily those of the departments or agencies, and any errors of omission or commission are the responsibility of the authors.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.avb.2026.102156.

Data availability

The data for the study are held in the Social Analytics Lab (SAL) at Griffith University. Due to privacy, ethical and legal considerations, the QCRC data cannot be shared without direct approval from relevant data custodians and QGSO. Any researcher interested in accessing the data can submit an application to the SAL management committee (socialanalysticslab@griffith.edu.au) with the relevant support and approvals.

References

Akyüz, A., Yavan, T., Şahiner, G., & Kılıç, A. (2012). Domestic violence and woman's reproductive health: A review of the literature. *Aggression and Violent Behavior, 17*(6), 514–518. https://doi.org/10.1016/j.avb.2012.07.005

Alijahan, R., Hazrati, S., Mirzarahimi, M., Pourfarzi, F., & Ahmadi Hadi, P. (2014). Prevalence and risk factors associated with preterm birth in Ardabil, Iran. *Iranian Journal of Reproductive Medicine, 12*(1), 47–56. doi:https://pubmed.ncbi.nlm.nih.gov/24799861.

Australian Bureau of Statistics (ABS). (2011). *Census of population and housing: Socio-economic indexes for areas (SEIFA), Australia.* Canberra: Australian Bureau of Statistics.

Australian Institute of Health and Welfare (AIHW). (2012). *National best practice guidelines for data linkage activities relating to Aboriginal and Torres Strait Islander people.*

Australian Institute of Health and Welfare (AIHW). (2024a). Australia's mothers and babies. https://www.aihw.gov.au/reports/mothers-babies/australias-mothers-babies/contents/summary.

Australian Institute of Health and Welfare (AIHW). (2024b). Determinants of health for First Nations people. https://www.aihw.gov.au/reports/australias-health/social-determinants-and-indigenous-health.

Australian Preterm Birth Prevention Alliance. (2023). Every week counts. https://www.pretermalliance.com.au/getmedia/b31d222f-3470-4756-8920-0008f11fb94f/Every-Week-Counts-2023-Magazine.pdf.

Baer, R. J., Chambers, C. D., Ryckman, K. K., Oltman, S. P., Rand, L., & Jelliffe-Pawlowski, L. L. (2019). Risk of preterm and early term birth by maternal drug use. *Journal of Perinatology, 39*(2), 286–294. https://doi.org/10.1038/s41372-018-0299-0

Barber, K. S., Brunner Huber, L. R., Portwood, S. G., Boyd, A. S., Smith, J., & Walker, L. S. (2021). The association between having a preterm birth and later maternal mental health: An analysis of U.S. pregnancy risk assessment monitoring system data. *Women's Health Issues, 31*(1), 49–56. https://doi.org/10.1016/j.whi.2020.08.007

Batra, K., Pharr, J., Olawepo, J. O., & Cruz, P. (2020). Understanding the multidimensional trajectory of psychosocial maternal risk factors causing preterm birth: A systematic review. *Asian Journal of Psychiatry, 54*. https://doi.org/10.1016/j.ajp.2020.102436

Bazargan-Hejazi, S. P., Kim, E. B. A., Lin, J. P., Ahmadi, A. M. D. P., Khamesi, M. T. M. D., & Teruya, S. E. M. S. (2014). Risk factors associated with different types of intimate partner violence (IPV): An emergency department study. *The Journal of Emergency Medicine, 47*(6), 710–720. https://doi.org/10.1016/j.jemermed.2014.07.036

Black, B. P., Holditch-Davis, D., & Miles, M. S. (2009). Life course theory as a framework to examine becoming a mother of a medically fragile preterm infant. *Research in Nursing & Health, 32*(1), 38–49. doi:https://doi-org.libraryproxy.griffith.edu.au/10.1002%2Fnur.20298.

Brito, L. M. D., Damaso, Ê. L., Bettiol, H., Cardoso, V. C., Barbieri, M. A., Veiga, E. C.d. A., … Cavalli, R. C. (2023). Stress, violence, depression, and low social support and their association with preterm birth in a Brazilian cohort. *Journal of Pregnancy, 2023*(1), Article 8174247. https://doi.org/10.1155/2023/8174247

Brown, K., Langston-Cox, A., & Unger, H. W. (2021). A better start to life: Risk factors for, and prevention of, preterm birth in Australian First Nations women - A narrative review. *International Journal of Gynaecology and Obstetrics, 155*(2), 260–267. https://doi.org/10.1002/ijgo.13907

Cammack, A. L., Hogue, C. J., Drews-Botsch, C. D., Kramer, M. R., & Pearce, B. D. (2019). Associations between maternal exposure to child abuse, preterm birth, and very preterm birth in young, nulliparous women. *Maternal and Child Health Journal, 23*(6), 847–857. https://doi.org/10.1007/s10995-018-02709-w

Christiaens, I., Hegadoren, K., & Olson, D. M. (2015). Adverse childhood experiences are associated with spontaneous preterm birth: A case–control study. *BMC Medicine, 13*(1), 124. https://doi.org/10.1186/s12916-015-0353-0

Commonwealth of Australia. (2025). Commonwealth closing the gap implementation plan 2025. https://www.niaa.gov.au/sites/default/files/documents/2025-02/NIAA%20CTG%20Combined%20Report.pdf.

Department of Health and Aged Care. (2019). Risk of preterm birth. https://www.health.gov.au/resources/pregnancy-care-guidelines/part-d-clinical-assessments/risk-of-preterm-birth.

Do, H. P., Vo, T. V., Murray, L., Baker, P. R. A., Murray, A., Valdebenito, S., … Dunne, M. P. (2022). The influence of childhood abuse and prenatal intimate partner violence on childbirth experiences and breastfeeding outcomes. *Child Abuse & Neglect, 131*. https://doi.org/10.1016/j.chiabu.2022.105743

Donovan, B., Spracklen, C., Schweizer, M., Ryckman, K., & Saftlas, A. (2016). Intimate partner violence during pregnancy and the risk for adverse infant outcomes: A systematic review and meta-analysis. *BJOG, 123*(8), 1289–1299.

Esposito, G., Mauri, P. A., Cipriani, S., Franchi, M., Corrao, G., & Parazzini, F. (2022). The role of maternal age on the risk of preterm birth among singletons and multiples: A retrospective cohort study in Lombardy, Northern Italy. *BMC Pregnancy and Childbirth, 22*(1), Article 234. https://doi.org/10.1186/s12884-022-04552-y

Finnbogadóttir, H., Baird, K., & Thies-Lagergren, L. (2020). Birth outcomes in a Swedish population of women reporting a history of violence including domestic violence during pregnancy: A longitudinal cohort study. *BMC Pregnancy and Childbirth, 20*(1), 1–10. https://doi.org/10.1186/s12884-020-02864-5

Gennaro, S., & Hennessy, M. D. (2003). Psychological and physiological stress: Impact on preterm birth. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 32*(5), 668–675. https://doi.org/10.1177/0884217503257484

Gibberd, A. J., Simpson, J. M., Jones, J., Williams, R., Stanley, F., & Eades, S. J. (2019). A large proportion of poor birth outcomes among Aboriginal Western Australians are attributable to smoking, alcohol and substance misuse, and assault. *BMC Pregnancy and Childbirth, 19*(1), 110. https://doi.org/10.1186/s12884-019-2252-4

Guo, C. (2023). Associations between intimate partner violence and adverse birth outcomes during pregnancy: A systematic review and meta-analysis. *Frontiers in Medicine, 10*, Article 1140787. https://doi.org/10.3389/fmed.2023.1140787

Hardcastle, K., Ford, K., & Bellis, M. A. (2022). Maternal adverse childhood experiences and their association with preterm birth: Secondary analysis of data from universal

health visiting. *BMC Pregnancy and Childbirth, 22*(1). https://doi.org/10.1186/s12884-022-04454-z
Harville, E. W., Boynton-Jarrett, R., Power, C., & Hyppönen, E. (2010). Childhood hardship, maternal smoking, and birth outcomes: A prospective cohort study. *Archives of Pediatrics & Adolescent Medicine, 164*(6), 533–539. https://doi.org/10.1001/archpediatrics.2010.61
Heaman, M. I. (2005). Relationships between physical abuse during pregnancy and risk factors for preterm birth among women in Manitoba. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 34*(6), 721–731. https://doi.org/10.1177/0884217505281906
Hill, A., Pallitto, C., McCleary-Sills, J., & Garcia-Moreno, C. (2016). A systematic review and meta-analysis of intimate partner violence during pregnancy and selected birth outcomes. *International Journal of Gynecology & Obstetrics, 133*(3), 269–276. https://doi.org/10.1016/j.ijgo.2015.10.023
Jackson, Y. (2023). Future directions in child maltreatment research. *Journal of Clinical Child and Adolescent Psychology : The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53, 52*(4), 578–587. https://doi.org/10.1080/15374416.2023.2224430
Janssen, P. A., Holt, V. L., Sugg, N. K., Emanuel, I., Critchlow, C. M., & Henderson, A. D. (2003). Intimate partner violence and adverse pregnancy outcomes: A population-based study. *American Journal of Obstetrics and Gynecology, 188*(5), 1341–1347. https://doi.org/10.1067/mob.2003.274
Keenan-Devlin, L. S., Borders, A. E. B., Freedman, A., Miller, G. E., Grobman, W., Entringer, S., … Buss, C. (2023). Maternal exposure to childhood maltreatment and adverse birth outcomes. *Scientific Reports, 13*(1), 10380. https://doi.org/10.1038/s41598-023-36831-9
Krug, E. G., Mercy, J. A., Dahlberg, L. L., & Zwi, A. B. (2002). The world report on violence and health. *Lancet, 360*(9339), 1083–1088. https://doi.org/10.1016/S0140-6736(02)11133-0
Latendresse, G. (2009). The interaction between chronic stress and pregnancy: Preterm birth from a biobehavioral perspective. *Journal of Midwifery & Women's Health, 54*(1), 8–17. https://doi.org/10.1016/j.jmwh.2008.08.001
Lockington, E. P., Sherrell, H. C., Crawford, K., Rae, K., & Kumar, S. (2023). Intimate partner violence is a significant risk factor for adverse pregnancy outcomes. *AJOG Global Reports, 3*(4), Article 100283. https://doi.org/10.1016/j.xagr.2023.100283
Margerison-Zilko, C. E., Strutz, K. L., Li, Y., & Holzman, C. (2017). Stressors across the life-course and preterm delivery: Evidence from a pregnancy cohort. *Maternal and Child Health Journal, 21*(3), 648–658. https://doi.org/10.1007/s10995-016-2151-5
Marrone, S. (2007). Understanding barriers to health care: A review of disparities in health care services among indigenous populations. *International Journal of Circumpolar Health, 66*(3), 188–198. https://doi.org/10.3402/ijch.v66i3.18254
National Drug & Alcohol Research Centre. (2022). Trends in drug-related-hospitalisations in Australia, 2019-20. https://ndarc.med.unsw.edu.au/resource-analytics/trends-drug-related-hospitalisations-australia-1999-2020.
Neggers, Y., Goldenberg, R., Cliver, S., & Hauth, J. (2004). Effects of domestic violence on preterm birth and low birth weight. *Acta Obstetricia et Gynecologica Scandinavica, 83*(5), 455–460. https://doi.org/10.1111/j.0001-6349.2004.00458.x
Newnham, J. P., White, S. W., Meharry, S., Lee, H. S., Pedretti, M. K., Arrese, C. A., … Doherty, D. A. (2017). Reducing preterm birth by a statewide multifaceted program: An implementation study. *American Journal of Obstetrics and Gynecology, 216*(5), 434–442. https://doi.org/10.1016/j.ajog.2016.11.1037
Noll, J. G., Schulkin, J., Trickett, P. K., Susman, E. J., Breech, L., & Putnam, F. W. (2007). Differential pathways to preterm delivery for sexually abused and comparison women. *Journal of Pediatric Psychology, 32*(10), 1238–1248. https://doi.org/10.1093/jpepsy/jsm046
Ogilvie, J. M., & Kisely, S. (2022). Examining the health and criminal justice characteristics for young people on compulsory community treatment orders: An Australian birth cohort and data linkage study. *International Journal of Law and Psychiatry, 83*, 1–8. https://doi.org/10.1016/j.ijlp.2022.101813
Ohuma, E. O., Moller, A.-B., Bradley, E., Chakwera, S., Hussain-Alkhateeb, L., Lewin, A., … Moran, A. C. (2023). National, regional, and global estimates of preterm birth in 2020, with trends from 2010: A systematic analysis. *Lancet, 402*(10409), 1261–1271. https://doi.org/10.1016/S0140-6736(23)00878-4
Paradies, Y. (2016). Colonisation, racism and indigenous health. *Journal of Population Research, 33*(1), 83–96. https://doi.org/10.1007/s12546-016-9159-y
Prehn, J. (2024). An indigenous strengths-based theoretical framework. *Australian Social Work*, 1–14. https://doi.org/10.1080/0312407X.2024.2340464
Ragsdale, A. S., Al-Hammadi, N., Loux, T. M., Bass, S., Keller, J. M., & Chavan, N. R. (2024). Perinatal substance use disorder: Examining the impact on adverse pregnancy outcomes. *Eur J Obstet Gynecol Reprod Biol: X, 22*, Article 100308. https://doi.org/10.1016/j.eurox.2024.100308
Ribeiro de Andrade Ramos, B., & da Silva, M. G. (2018). The burden of genetic and epigenetic traits in prematurity. *Reproductive Sciences, 25*(4), 471–479.
Sanchez, S. E., Alva, A. V., Diez Chang, G., Qiu, C., Yanez, D., Gelaye, B., & Williams, M. A. (2013). Risk of spontaneous preterm birth in relation to maternal exposure to intimate partner violence during pregnancy in Peru. *Maternal and Child Health Journal, 17*(3), 485–492. https://doi.org/10.1007/s10995-012-1012-0
Sapkota, D., Anderson, D., Saito, A., & Baird, K. (2021). Domestic and family violence and its association with mental health among pregnant women attending antenatal care in a tertiary hospital of eastern Nepal. *Journal of Nepal Health Research Council, 19*, 115–121. https://doi.org/10.33314/jnhrc.v19i1.2508
Selk, S. C., Rich-Edwards, J. W., Koenen, K., & Kubzansky, L. D. (2016). An observational study of type, timing, and severity of childhood maltreatment and preterm birth. *Journal of Epidemiology and Community Health, 70*(6), 589.
Semenza, D. C., Bond, A. E., Ziminski, D., & Anestis, M. D. (2025). Frequency, recency, and variety of gun violence exposure: Implications for mental health and suicide among US adults. *Social Science & Medicine, 366*, Article 117672.
Semenza, D. C., Testa, A., & Turanovic, J. J. (2021). Trajectories of violent victimization over the life course: Implications for mental and physical health. *Advances in Life Course Research, 50*, Article 100436. https://doi.org/10.1016/j.alcr.2021.100436
Shneyderman, Y., & Kiely, M. (2013). Intimate partner violence during pregnancy: Victim or perpetrator? Does it make a difference? *BJOG, 120*(11), 1375–1385. doi: 10.1111%2F1471-0528.12357.
Sigalla, G. N., Mushi, D., Meyrowitsch, D. W., Manongi, R., Rogathi, J. J., Gammeltoft, T., … Gebhardt, S. (2017). Intimate partner violence during pregnancy and its association with preterm birth and low birth weight in Tanzania: A prospective cohort study. *PLoS One, 12*(2). https://doi.org/10.1371/journal.pone.0172540
Sperlich, M., Seng, J. S., Li, Y., Taylor, J., & Bradbury-Jones, C. (2017). Integrating trauma-informed care into maternity care practice: Conceptual and practical issues. *Journal of Midwifery & Women's Health, 62*(6), 661–672. https://doi.org/10.1111/jmwh.12674
Stewart, A., Dennison, S., Allard, T., Thompson, C., Broidy, L., & Chrzanowski, A. (2015). Administrative data linkage as a tool for developmental and life-course criminology: The Queensland Linkage Project. *Australian and New Zealand Journal of Criminology, 48*(3), 409–428. https://doi.org/10.1177/0004865815589830
Stewart, A., Ogilvie, J. M., Thompson, C., Dennison, S., Allard, T., Kisely, S., & Broidy, L. (2021). Lifetime prevalence of mental illness and incarceration: An analysis by gender and Indigenous status. *Australian Journal of Social Issues, 56*(2), 244–268. https://doi.org/10.1002/ajs4.146
Sūdžiūtė, K., Murauskienė, G., Jarienė, K., Jaras, A., Minkauskienė, M., Adomaitienė, V., & Nedzelskienė, I. (2020). Pre-existing mental health disorders affect pregnancy and neonatal outcomes: A retrospective cohort study. *BMC Pregnancy and Childbirth, 20*(1). https://doi.org/10.1186/s12884-020-03094-5
Treyvaud, K. (2014). Parent and family outcomes following very preterm or very low birth weight birth: A review. *Seminars in Fetal and Neonatal Medicine, 19*(2), 131–135. https://doi.org/10.1016/j.siny.2013.10.008
United Nations. (1981). International youth year: Participation, development, peace. https://documents.un.org/doc/undoc/gen/n81/165/83/pdf/n8116583.pdf?token=UnMkfrEqL3vFXEOwv8&fe=true.
World Health Organization (Ed.). (2004). *ICD-10 : International statistical classification of diseases and related health problems : Tenth revision* (2nd ed.). World Health Organization. World Health Organization https://iris.who.int/handle/10665/42980.
World Health Organisation (WHO). (2023). Preterm birth. https://www.who.int/news-room/fact-sheets/detail/preterm-birth.
Yaya, S., Odusina, E. K., Adjei, N. K., & Uthman, O. A. (2021). Association between intimate partner violence during pregnancy and risk of preterm birth. *BMC Public Health, 21*(1), 1610. https://doi.org/10.1186/s12889-021-11625-8
Yost, N. P., Bloom, S. L., McIntire, D. D., & Leveno, K. J. (2005). A prospective observational study of domestic violence during pregnancy. *Obstetrics and Gynecology, 106*(1), 61–65. https://doi.org/10.1097/01.AOG.0000164468.06070.2a