Childhood Abuse, Intimate Partner Violence in Young Adulthood, and Welfare Receipt by Midlife

Pascale Domond, PhD,[a,b] Massimiliano Orri, PhD,[e] Francis Vergunst, D.Phil,[a,b,f] Samantha Bouchard, BSc,[e] Leanne Findlay, PhD,[g] Dafna Kohen, PhD,[g] Martine Hébert, PhD,[h] Frank Vitaro, PhD,[c] Richard E. Tremblay, PhD,[a,d,i] Marie-Claude Geoffroy, PhD,[e] Sylvana Côté, PhD[a,b]

abstract

OBJECTIVE: To investigate prospective associations between type of child abuse (physical, sexual, both), timing (childhood, young adulthood, both), and welfare receipt into middle-age.

METHODS: Database linkage study using the Quebec Longitudinal Study of Kindergarten Children cohort born in 1980 and government administrative databases ($N = 3020$). We assessed parental tax returns, family and personal background characteristics (1982–1987). At age 22 years, participants answered retrospective questionnaires on experienced childhood abuse (physical, sexual abuse < age 18 years) and intimate partner violence (IPV) (ages 18–22). Main outcome was years on social assistance, on the basis of participant tax returns (ages 23–37 years). Analysis included weights for population representativeness.

RESULTS: Of 1690 participants (54.4% females) with available data, 22.4% reported childhood abuse only, 14.5% IPV only, and 18.5% both. Prevalence of childhood physical, sexual, and both was 20.4%, 12.2%, and 8.3%, respectively. Adjusting for socioeconomic background and individual characteristics, we found that childhood physical abuse alone and physical or sexual abuse combined were associated with a two-fold risk of welfare receipt, as compared to never-abused (adjusted incidence risk ratio 2.43, 95% confidence interval [CI], 1.65–3.58; and adjusted incidence risk ratio 2.04, 95% CI, 1.29–3.23, respectively). Repeated abuse (childhood abuse combined with adult IPV) had a three-fold risk (adjusted incidence ratio 3.59, 95% CI, 2.39–5.37).

CONCLUSIONS: Abuse across several developmental periods (childhood and young adulthood) is associated with increased risks of long-term welfare receipt, independently of socioeconomic background. Results indicate a dose-response association. Early prevention and targeted identification are crucial to preventing economic adversity that may potentially lead to intergenerational poverty.

[a]*Ste-Justine University Hospital Research Centre,* [b]*Department of Social and Preventive Medicine, School of Public Health,* [c]*School of Psychoeducation, and* [d]*Departments of Pediatrics and Psychology, University of Montreal, Montreal, Canada;* [e]*McGill Group for Suicide Studies, Douglas Mental Health University Institute, Department of Psychiatry, McGill University, Montreal, Canada;* [f]*Department of Special Needs Education, University of Oslo, Oslo, Norway;* [g]*Health Analysis Division, Statistics Canada, Ottawa, Canada;* [h]*Department of Sexology, University of Quebec at Montreal, Montreal, Canada; and* [i]*School of Public Health, Physiotherapy, and Sport Science, University College Dublin, Dublin, Ireland*

Dr Domond contributed to the conception and design of the study, obtained funding for the study, carried out all analyses, interpreted the results, and drafted and revised the manuscript critically for important intellectual content; Drs Orri, Vergunst, and Geoffroy contributed to the conception and design of the study, interpretation of the results, and revised the manuscript critically for important intellectual content; Ms Bouchard contributed to the analysis, interpretation of the results, and revised the manuscript critically for important intellectual

WHAT'S KNOWN ON THIS SUBJECT Studies suggest that children abused in childhood are more likely to reexperience subsequent abuse, including intimate partner violence which increases morbidity. The differential association between revictimization in young adulthood and economic outcomes, such as welfare receipt, has not been examined.

WHAT THIS STUDY ADDS With this study, we provide the first prospective evidence, using government administrative databases, indicating that individuals reporting both childhood abuse and adult intimate partner violence victimization are at higher risk for long-term welfare support needs in adulthood compared to never-abused.

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Child abuse, whether physical, sexual, or neglect, is a significant social challenge and public health issue, with prevalence estimates of child abuse ranging from 6% to 40% depending on the jurisdiction.[1,2] Despite increasing universal and targeted detection strategies,[3] only a minority of cases come to the attention of authorities; most, therefore, do not receive adequate services.[1,4] Victims of child abuse are at higher risk of physical and mental health problems, including stress-related inflammation and depression,[5–11] smoking and substance use,[12,13] and shorter life expectancy.[14,15] However, the relationship of abuse in childhood with financial hardship in adulthood remains underinvestigated. Further, studies suggest that children abused in childhood are more likely to reexperience subsequent abuse, including intimate partner violence in young adulthood,[16–18] which perpetuates the cycle of victimization and increases morbidity. The differential association between revictimization in adulthood, albeit in a different relational context, and economic outcomes, such as reliance on social welfare, has not been examined.

Welfare receipt is a marker of financial hardship.[19,20] Previous studies have shown correlations of extended welfare receipt with social isolation, psychological distress, poor health outcomes,[19] and intergenerational risk.[21,22] Welfare receipt, therefore, becomes an important outcome when examining economic adversity after experiences of abuse.

Of the few published studies examining economic outcomes in victims of child abuse,[23–27] 2 reported an association with not being in education, employment, or training at age 18 or 23 years,[24,25] and several reported an increased risk of income support[24,28] and health care–based social assistance[26] in midadulthood. These studies, however, were limited, mostly relying on self-reported economic circumstances measured at a single time point or short timeframe.[23–27] Administrative data such as government tax returns, if available, could provide more conclusive evidence.[29] Some studies also reported confounders such as family background,[23–25,28] others not.[26] Addressing independent and cumulative contributions of family background, child abuse and intimate partner violence is relevant to inform policy and practice, and would allow for more effective screening, preventive, and supportive measures promoting health, employment integration, and social participation.

We, thereby, conducted a prospective study linking: (1) self-reported childhood abuse and intimate partner violence by age 22 years; (2) early personal characteristics and family socioeconomic status, including parental tax records; and (3) welfare receipt, using tax records of participants ages 23 to 37 years. We examined 3 categories of childhood abuse (physical, sexual, and combined) as well as intimate partner violence in young adulthood. We tested for differential associations with welfare receipt, exploring type and timing of abuse: (1) childhood, 2) young adulthood (ages 18–22 years), and (3) both periods.

METHODS

Participants

We conducted a database linkage study, with participants in the Quebec Longitudinal Study of Kindergarten Children (QLSKC) cohort and government revenue databases.[29] QLSKC is an ongoing, prospective, population-based study of 3020 children born in 1980 or 1981, including 1420 girls (47.2%) and 1600 boys (52.8%) from low-, middle-, and higher-income neighborhoods, who attended kindergarten in French-language public schools in Quebec, Canada in 1986 to 1987 and 1987 to 88.[30] The cohort consists of: (1) a representative population-based sample of 2000 children (1000 girls, 1000 boys) selected by random sampling stratified by administrative region, school board size, and sex; and (2) a similarly selected sample of 1020 "disruptive" children (420 girls, 590 boys) who scored ≥ 80th percentile on the Social Behavior Questionnaire by parent or kindergarten teacher assessment.[31] Children were followed yearly from age 6 to 13 years and again at age 22 years.

We linked individual QLSKC records to Canadian government administrative databases to obtain annual federal tax returns from ages 23 to 37 years (2003–2017) and parental tax returns (1982–1987). The study was approved by the University of Montreal Research Ethics Board. Informed written consent was obtained from participants' parents during childhood and from participants at age 22 years.

The present prospective study included 1690 participants (54.4% females) for whom data on abuse were available and linked to official tax records. In total, 1140 (68%) were from the representative sample, 540 (32%) from the disruptive sample. The study sample was broadly representative of the original sample but had lower proportions of boys and children from high adversity environments. No differences were found in birth weight, birth order, paternal age at childbirth, and parenting attitudes at ages 5 to 6 (Supplemental Table 3).

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Measures of Childhood Abuse

At age 22, participants answered retrospective questionnaires, including whether they had suffered abuse during childhood and young adulthood.

Childhood abuse was defined as physical and/or sexual abuse before age 18 years. Abuse by neglect was not considered. Sexual abuse was measured using 5 items adapted from the Adverse Childhood Experiences Questionnaire[32] and the Sexually Victimized Children Questionnaire.[33] Both are reliable and commonly used instruments for retrospective assessment of child sexual abuse,[34,35] with good predictive validity for outcomes such as adult health.[36–38] Participants were asked whether they had experienced unwanted sexual acts, including exhibitionism; sexual fondling or touching; and attempted or completed sexual intercourse using bribes, threats, force, or drugs and/or alcohol. Aggressors could be immediate family members, extended family, acquaintances, or unknown. Responses were dichotomized as 1 (any) or 0 (none).

Physical abuse was measured using 20 items from the Conflict Tactics Scales: Parent-Child Version.[39] The instrument is adapted for adult reports of childhood trauma, with demonstrated psychometric properties across different samples.[40,41] Participants indicated how often they experienced severe physical abuse (eg, being hit with an object) by a mother, father figure, or adult caregiver. Responses were dichotomized as 1 (severe or very severe) or 0 (none or minor).

Measures of Intimate Partner Violence

Intimate partner violence was defined as physical and/or sexual abuse from ages 18 to 22 years by a current or former intimate partner, spouse, or cohabiting intimate partner, regardless of sex. It was measured using the physical assault and unwanted sexual coercion subscales of the Revised Conflict Tactics Scale[42] and items adapted from the Sexual Experiences Survey.[43,44] Both are widely used in the context of intimate relationships, with published psychometric properties.[42–44] Items included: "How often did your partner or ex-partner kick, burn, or scald you on purpose?" Responses were dichotomized as 1 (at least once) or 0 (none).

Subgroups

We defined 4 types of child abuse: physical, sexual, both, and none. Timing was defined as: childhood only (< age 18 years), young adulthood only (intimate partner violence, ages 18–22), both childhood and young adulthood, and never abused.

Outcome Measure: Social Welfare

Social welfare benefits from age 23 to 37 years were obtained from federal tax returns via data linkage with the QLSKC by Statistics Canada. For each year of follow-up, welfare was dichotomized as 1 (received) or 0 (none). The outcome was a count variable representing total number of years the participant received social welfare, ranging from 0 to 15 years. In the province of Quebec, social welfare is a "last resort" financial support for people without income who are no longer eligible for unemployment insurance (excluding those with severely limited work capacity).[45]

Confounders

Socioeconomic background, and disruptive behavior and cognitive abilities in early childhood are known to be linked to abuse and to future economic circumstances.[22,25,46] Accordingly, we included the following covariates in multivariate analyses: (a) child sex, child intellectual quotient (IQ), disruptive behavior in kindergarten (part of "disruptive sample"), parental education, family structure, parental age at childbirth, and maternal employment status, as measured on family questionnaires at age 6 years; and (b) parental income as obtained from tax returns at participant ages 2 to 7 years (Supplemental Document 1). The correlation between the various covariates and welfare receipt from ages 23 to 37 is shown in Supplemental Table 4

To account for potential memory bias or reporting errors (false positive or negative) because of concurrent mental disorders during retrospective assessments of abuse,[47,48] we conducted sensitivity analyses for the presence of mental disorders at time of recall. Mental disorder was assessed using the National Institute of Mental Health Diagnostic Interview Schedule, Revised (DIS III-R)[49,50] and was dichotomized as 1 (any at age 22 years) or 0 (none).

Statistical Analysis

We used descriptive statistics (mean and SD, counts, percentages) for socioeconomic childhood characteristics, χ^2 tests for bivariate comparisons, and 1-way analysis of variance (ANOVA), as appropriate. For associations between child abuse and years of social welfare, we used negative binomial regression, with robust standard errors estimates to account for overdispersion of the count outcome. Analyses were performed separately for type (sexual, physical, and both) and timing (childhood, young adulthood, or both) of abuse. We also adjusted for sex and additionally adjusted for child characteristics and family

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background. Results are presented as incidence risk ratios (IRR) with 95% confidence intervals. We used inverse-probability weighting to minimize attrition bias from the initial cohort[51] and tested the sensitivity of our analysis to attrition.

Missing data on covariates was managed by using multiple imputations by chained equations. The final models were estimated across 50 imputed data sets and the results pooled.

All analyses were conducted by using Stata16 Statistical Software (StataCorp LLC, StataCorp College Station,TX). Significance was set at $P < .05$. All tests were 2-tailed.

RESULTS

In total, 380 (22.4%) participants reported abuse in childhood only, 250 (14.5%) in young adulthood only, and 310 (18.5%) in both. Types of childhood abuse were physical only for 350 (20.4%) participants, sexual only for 210 (12.2%), and both for 140 (8.3%). Females experienced significantly higher rates of sexual abuse than males (18.8% vs 4.3%) and were more likely than males to experience both childhood abuse and intimate partner violence (21.2% vs 15.3%); $P < .001$ (Table 1, Supplemental Table 5). Although birth order was not associated with timing, it was associated with type of abuse. Firstborns were more likely to report child physical abuse only or sexual and physical abuse combined, compared to participants who occupy other birth positions (Supplemental Table 5). High scores in disruptive behaviors in kindergarten and low IQ scores were associated with both type and timing of abuse. In addition, participants who experienced abuse were more likely to come from a socioeconomically disadvantaged family, in terms of family structure, maternal age at childbirth and level of education, and parental income during childhood ($P < .001$).

Welfare receipt from age 23 to 37 years was higher for those reporting childhood abuse than no childhood

TABLE 1 Child and Family Background Characteristics at Baseline According to the Timing of Abuse

	Timing of Abuse[a]				
	Never	Childhood Only	Young Adulthood (IPV)	Childhood and Young Adulthood (IPV)	*P*
Participants	760 (44.6)	380 (22.4)	250 (14.5)	310 (18.5)	
Child characteristics					
Sex, no. (%)					
Female	370 (40.0)	230 (24.7)	130 (14.1)	200 (21.2)	.001
Male	390 (50.1)	150 (19.7)	120 (14.9)	120 (15.3)	
Birth order, no. (%)					
First-born	370 (49.5)	160 (42.3)	120 (47.1)	150 (47.7)	
Second-born	270 (36.4)	150 (40.9)	100 (39.3)	110 (34.0)	.18
Third-born or later	110 (14.1)	60 (16.8)	30 (13.5)	60 (18.2)	
Birth wt, mean (SD) in grams	3307.95 (566.0)	3224.69 (561.9)	3272.55 (516.9)	3280.95 (513.2)	.22
Early disruptive behavior,[b] no. (%)	210 (27.7)	130 (34.8)	80 (31.0)	130 (40.0)	.001
Child IQ, mean (SD)	10.05 (1.3)	9.82 (1.5)	9.73 (1.7)	9.61 (1.7)	.001
Maternal age at childbirth, years, mean (SD)	27.07(4.5)	26.84(4.3)	26.71 (4.5)	26.17 (4.4)	.02
Paternal age at childbirth years, mean (SD)	29.14 (4.6)	29.25 (4.8)	29.20 (4.9)	29.18 (4.8)	.98
Family structure, no. (%)					
Intact family unit	550 (89.3)	250 (84.1)	170 (87.8)	180 (77.8)	.001
Non-intact family unit (single or blended)	70 (10.7)	50 (15.9)	20 (12.2)	50 (22.2)	
Maternal education,[c] mean (SD)	12.30 (2.6)	11.96 (2.5)	12.01 (2.7)	11.75 (2.5)	.01
Paternal education,[c] mean (SD)	12.48 (3.3)	12.24 (3.5)	12.11 (3.2)	11.95 (3.2)	.13
Parental income in US dollars,[d] mean (SD)	28 200 (14 300)	24 600 (13 300)	27 000 (14400)	23 000 (13 800)	.001
Mother employed during child's preschool years, no. (%)	420 (55.9)	190 (49.5)	130 (52.1)	140 (46.8)	.03

In accordance with Statistics Canada data protection regulations, percentages are rounded to 1 decimal point, and displayed counts are rounded to base 10. No., number; OR, odds ratio.

[a] Timing: Abuse in childhood (age < 18) included physical and/or sexual abuse. Abuse in young adulthood (ages 18–22 y) included physical and/or sexual victimization in the context of IPV.

[b] "Disruptive sample" membership: scored ≥ 80th percentile on the social behavior questionnaire as per kindergarten teacher or parent assessment at age 5–6 y. Disruptive behaviors included inattention, hyperactivity, aggression, and opposition.

[c] Total number of years of education (mean).

[d] Rounded to the nearest 100 according to Statistics Canada data protection regulations. Up to 1.1% missing data in child characteristics variables, except for birth wt and child IQ, which had 25.9% and 24.8% missing, respectively. Up to 1.9% missing data in family characteristics variables, except for family structure and paternal education, which had 11.1% and 21.2% missing, respectively. *P* values are based on between-group comparisons using one-way ANOVA for continuous variables and Pearson $\chi 2$ tests for categorical variables.

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abuse, (Fig 1A). Those with both physical and sexual abuse in childhood fared worse than with either type alone: 15.7% (95% confidence interval [CI]: 9.1%–22.2%) on welfare for 1 to 2 years and 13.8% (95% CI: 7.8–19.8%) for ≥ 5 years, as compared to 9.1% (95% CI: 5.8%–12.3%) and 11% (95% CI: 7.4%–14.4%) for physical; and 11% (95% CI: 6.4%–15.3%) and 10% (95% CI: 5.7%–14.7%) for sexual abuse, respectively. Similarly for timing, those experiencing both childhood abuse and young adulthood intimate partner violence fared the worst, with 14.6% (95%CI: 10.4% to 18.8%) on welfare for 1 to 2 years and 16.5% (95% CI: 12.1%–21.0%) for ≥ 5 years vs 5.8% (95% CI: 4.1%–7.6%) and 3.1% (95% CI: 1.7%–4.5%) for those never abused, respectively (Fig 1B).

Types and Timing of Abuse

Accounting for confounders, childhood physical abuse alone or in combination with childhood sexual abuse increased the risk of welfare receipt two-fold, as compared to no abuse (adjusted IRR 2.43, 95% CI: 1.65–3.58 and 2.04, 95% CI: 1.29–3.23, respectively; $P < .001$) (Table 2). Estimates involving childhood sexual abuse were particularly affected by confounders. Childhood sexual abuse alone also increased the risk, but not to statistical significance after adjustment (adjusted IRR 1.60, 95% CI: 1.01–2.52; $P < .08$).

Intimate partner violence victimization in combination with childhood abuse, increased the risk of welfare receipt three-fold, as compared to never abused (adjusted IRR 3.30, 95%CI: 2.17–5.02), $P < .001$). A smaller risk was observed for participants who experienced abuse in childhood or young adulthood only (Table 2). Inclusion of confounders in the model did not fully explain the associations, suggesting that the contribution of abuse to later welfare participation in adulthood was independent of background factors.

Results of the various covariates and the fully adjusted model are shown in Figure 2. The associations reported above were partly explained by low maternal education, parental income, and child IQ scores.

Sensitivity Analysis

Concurrent mental disorders at age 22 were significantly associated with retrospective reports of abuse (Supplemental Table 6). This additional adjustment yielded slightly lower estimates across all abuse categories but did not alter overall significance of the models (Table 2). Results were robust to attrition in sensitivity analyses (Supplemental Table 7) and broadly consistent across the "disruptive" and "representative" subsamples (Supplemental Table 8).

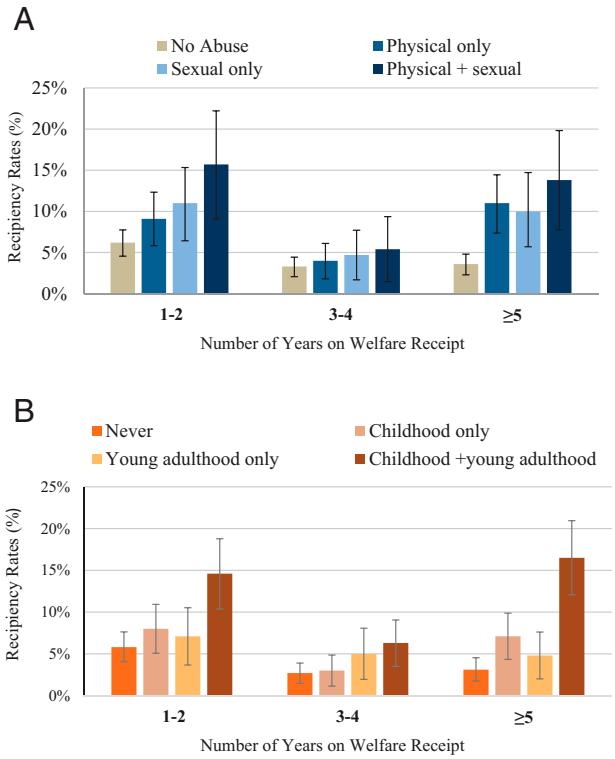

FIGURE 1
Rates of social welfare recipients from ages 23 to 37 years split by subgroups. Duration categories for years of welfare receipt are mutually exclusive. Subgroups are based on non-overlapping categories of abuse. Rates (%) presented in the figure are weighted using inverse probability weighting for population representativeness. Error bars display 95% CIs.

DISCUSSION

Using longitudinal data from a population-based birth cohort that we linked to government tax records, we investigated the relationship between abuse in childhood and/or young adulthood and the later dependence on social welfare from early-to-midadulthood (ages 23–37 years). After adjusting for potential confounders, we found a two- to three-fold increase in social welfare receipt at any time in that 15-year period, depending on type and timing of abuse, as

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TABLE 2 Association Between Childhood Abuse, IPV, and Being on Social Welfare Between Ages 23 to 37 Years

	Model 1 Unadjusted		Model 2 Adjusted for Sex		Model 3 Adjusted for All Baseline Risk Factors[b]		Model 4 Adjusted for Concurrent Mental Health[c]	
	IRR	95% CI	IRR	95% CI	IRR	95% CI	IRR	95% CI
Types of child abuse								
No abuse		[reference]		[reference]		[reference]		[reference]
Physical	2.68	1.86–3.86	2.66	1.85–3.83	2.43	1.65–3.58	2.27	1.51–3.39
Sexual	2.33	1.53–3.54	2.43	1.57–3.76	1.60	1.01–2.52	1.51	0.95–2.42
Both sexual and physical	3.60	2.33–5.55	3.73	2.39–5.82	2.04	1.29–3.23	1.97	1.23–3.15
Timing of abuse								
Never		[reference]		[reference]		[reference]		[reference]
Childhood only	1.90	1.24–2.91	1.96	1.29–2.97	1.39	0.91–2.14	1.36	0.88–2.12
Young adulthood (IPV)[a]	1.59	0.96–2.62	1.67	1.03–2.74	1.20	0.69–2.07	1.16	0.66–2.05
Childhood and young adulthood (IPV)	4.74	3.27–6.87	5.09	3.55–7.30	3.59	2.39–5.37	3.30	2.17–5.02

Estimates are incidence risk ratios (IRR) from negative binomial regressions, with 95% confidence intervals (CI), and indicate risk of welfare receipt between ages 23–37 y. All 3 models are adjusted for attrition bias, by using inverse probability weighting.

[a] Included physical and/or sexual victimization (ages 18–22 y) in the context of IPV.

[b] Baseline risk factors included: Child sex, child IQ, disruptive sample membership, maternal age at childbirth, paternal age at childbirth, family structure, maternal and paternal education, parental income, and mother's employment status during the child's preschool years.

[c] Additionally adjusted for any concurrent mental health problems (eg, depression, anxiety, panic disorder, bipolar disorder) at the time of retrospective reporting of abuse (age 22 y).

compared to never-abused. Physical abuse alone or in combination with sexual abuse conferred risk for welfare support needs in adulthood. The highest incidence risk ratio (three-fold) was observed for participants reporting both childhood abuse and intimate partner violence by age 22 years. Almost 40% of these participants collected welfare for at least 1 year, at some point between ages 23 to 37 years. Nearly one-half of these, >16%, remained on social welfare for 5 years or more, as compared to 3% for participants never abused. This is the largest study of its kind to date.

The prevalence of abuse in our sample seemed high: 22% in childhood only, 14% in intimate partner violence during young adulthood only and 18% in both (only 45% of our sample never experienced abuse). Yet, it is in line with national statistics, that 1 out of 3 children before age 15 suffer abuse,[52,53] and that approximately 4 in 10 women and one-third of men experience some form of intimate partner victimization in young adulthood.[54–56] Similar trends in the prevalence of abuse were found in nationally representative samples and population-based studies.[57,58] The inclusion of participants with a history of behavioral problems, the range of abuse experiences measured (different types of child abuse and intimate partner violence [IPV]), and the period of time covered (childhood years and early adulthood) may explain the high rates observed in the current study; confirming other research findings.[59–61]

Our results confirm the handful of previous studies that provided evidence of income-related support and early status of not being in education, employment or training among victims of childhood abuse.[23–25] Our results also support the differential impact of the type of abuse on unemployment status.[26] Our estimates involving sexual abuse were particularly reduced after adjusting for confounders, suggesting that the association between child sexual abuse and later welfare assistance is substantially explained by family background characteristics. Likewise, in the US National Comorbidity Survey,[26] participants who self-reported childhood physical abuse or multiple types of abuse before age 18 were more likely than never-abused to be unemployed. Victims of sexual abuse only and neglect, however, showed no such differences.

Several mechanisms may account for associations observed in the current study. In previous work, child abuse has been associated with poor academic achievement, school dropout, as well as emotional dysregulation.[15,62,63] They represent a potentially robust mediational pathway between experiences of abuse and social welfare participation in adulthood. Besides, individuals who suffered revictimization in young adulthood, in the form of intimate partner violence, may differ in terms of the characteristics of the abuse they experienced (eg, serious forms of IPV involving physical injury).[64] Repeated abuse may set patterns of poor physical health and impaired social functioning that aggravate learning losses and behavioral problems, weaken job prospects, creating welfare assistance needs. Further research is needed to establish the causal pathways through which history of abuse

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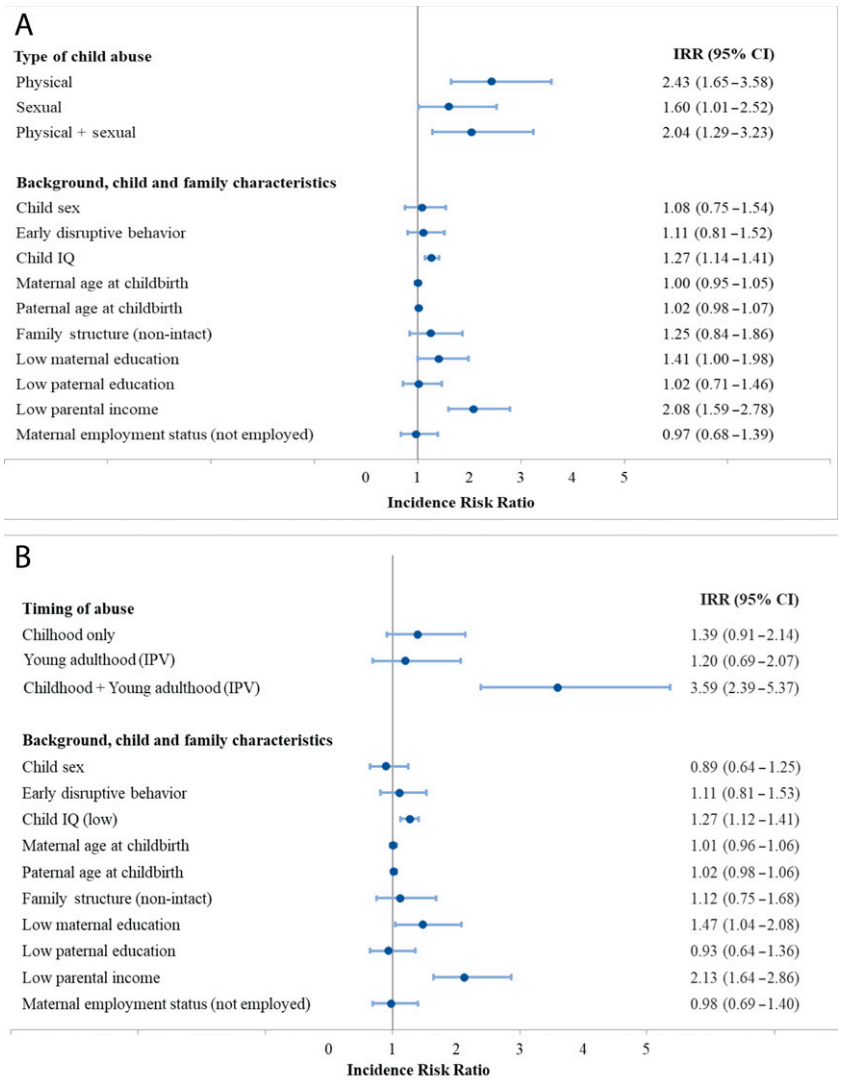

FIGURE 2
Forest plot depicting IRRs of being on social welfare according to type and timing of abuse and socio-economic background.

influences long-term welfare receipt.

Physical abuse in childhood, combined physical or sexual abuse in childhood, and revictimization in young adulthood are red flags for early intervention. Prevention of initial and further abuse, along with support programs, have the potential to improve economic outcomes (with all the associated benefits thereof), and reduce societal costs of welfare support.

Limitations

Our study had several limitations. First, the design was observational, allowing for associations but not causation. Second, longitudinal loss to follow-up may reduce the precision of the estimations and generalizability of findings. However, results with and without inverse probability weights were relatively similar, suggesting that bias because of attrition was rather minimal. Third, retrospective self-reporting of abuse may be subject to recall bias, including underreporting of severe undisclosed events and repression of traumatic memories,[65] biases in favor of negative material,[47] or dissociation.[66] Adjusting for concurrent mental disorder at time of recall, as we did, would lessen the impact. Nonetheless, the influences of recall bias process linked to previous psychopathology (eg residual memory bias) warrant further investigation.[47,48] Despite of limitations of retrospective self-report, it provides access to representative sample of abuse survivors in the population, by capturing victims that may have not been identified by child protective services or the criminal justice system.[48,67] Associations observed in the current study were based on objective measurement of welfare receipt (15 consecutive years of government tax return records), which reduce predictions bias related to retrospective reports[68] and indicate that an individual's subjective appraisal of experience of abuse may be relevant in predicting future economic adversity.[48] Fourth, we explored the presence of abuse, but not characteristics thereof, such as severity, frequency, or perpetrator identity (intrafamilial versus extrafamilial), because the latter were not available in our study. Nor did we include forms of abuse other than physical or sexual (eg, neglect, psychological abuse). Replication with additional analyses is needed. Finally, the topic needs to be explored for sexual minorities and in racially or ethnically diverse samples to test the generalizability of results.

CONCLUSIONS

As the generation born in 1980 approaches middle age, our population-based prospective study

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found that those with a history of childhood abuse and intimate partner violence were at increased risk of welfare dependence, a marker of nonintegration into the workforce and socioeconomic disadvantage. We observed a dose-response relationship, abuse across developmental periods (childhood and young adulthood) having up to a three-fold risk. Associations were independent of mental health status at age 22 or background family socioeconomic and child characteristics. Early abuse may thus represent an independent pathway to economic adversity and potential intergenerational transmission of poverty. Early support and intervention services for victims of abuse could reduce economic burden at governmental and individual levels, with societal or economic benefits for current and future generations.

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ABBREVIATIONS

CI: confidence interval
IPV: intimate partner violence
IQ: intellectual quotient
QLSKC: Quebec Longitudinal Study of Kindergarten Children

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Address correspondence to Sylvana M. Côté, PhD, Ste-Justine University Hospital Research Centre, 3175, Côte Sainte-Catherine, Étage A, Local A-568, Montréal (Québec) Canada, H3T 1C5. E-mail: sylvana.cote.1@umontreal.ca

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