

1 Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

2
3 **The Association Between Child Abuse and Suicidal Ideation, Plans, and Attempts in a Sample**
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5
6 **of Canadian Public Safety Personnel**
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8 Sarah Turner, MSc¹, Tamara Taillieu PhD Cand.², R. Nicholas Carleton, PhD³, Jitender Sareen,
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10 MD⁴, Tracie O. Afifi, PhD¹
11

12
13 ¹ Departments of Community Health Sciences and Psychiatry, University of Manitoba,
14
15 Winnipeg, Manitoba, Canada
16

17
18 ² Applied Health Sciences Program, University of Manitoba, Winnipeg, Manitoba, Canada
19

20
21 ³ Department of Psychology, University of Regina, Regina, Saskatchewan, Canada
22

23
24 ⁴ Department of Psychiatry, Psychology and Community Health Sciences, University of
25
26 Manitoba, Winnipeg, Manitoba, Canada
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32 Corresponding Author: Tracie O. Afifi, PhD, Department of Community Health Sciences,
33
34 University of Manitoba, S113-750 Bannatyne Ave, Winnipeg, MB R3E 0W5, Canada
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37 (tracie.afifi@umanitoba.ca).
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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Abstract

Background. Experiences of child abuse have been identified as risk factors for adult suicidal behaviour in general population samples; however, this association has not been studied among Public Safety Personnel (PSP) in Canada. Information on how exposure to child abuse and career-related trauma (CRT) together are related to suicidal behaviour also remains unknown. The current study was designed to: 1) estimate the prevalence of child abuse histories among Canadian PSP; 2) examine the associations between child abuse histories and suicidal behaviour; 3) examine the associations between CRT and suicidal behaviour; and 4) examine the additive and interactive effects of child abuse and CRT on suicidal behaviour.

Methods. Data were drawn from a web-based, self-report survey collected by the Canadian Institute for Public Safety Research and included 4,199 PSP (police, firefighters, paramedics, correctional workers and dispatchers). Child abuse histories included physical abuse, sexual abuse, and exposure to intimate partner violence. Suicidal behavior included lifetime ideation, plans, and attempts. Logistic regression models were computed to examine the associations between child abuse histories and suicidal behaviours. Additive and interaction models were run to test the relationships between child abuse histories and CRT on suicidal behaviours.

Results. Among PSP, 55.9% experienced one or more types of child abuse. All types of child abuse were significantly associated with suicidal behaviour. CRT was significantly related to suicidal behaviour; however, larger associations existed for child abuse histories.

Interpretation. Identifying and understanding child abuse histories may be an important factor when providing treatment for PSP with suicidal behaviour.

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Introduction

Public safety personnel (PSP) are front-line personnel who serve to protect Canadians by ensuring their safety and security.¹ PSP include those working as municipal, provincial or federal police (including RCMP), firefighters, paramedics, correctional workers, and call centre operators/dispatchers. PSP experience a substantial burden of mental health problems², which are strongly associated with suicidal behaviour.^{3,4} Recent estimates of suicidal behaviours from an online survey of Canadian PSP estimate that 27.8% report lifetime ideation, 13.3% report lifetime planning, and 4.6% report lifetime attempts.⁵ These estimates are higher than representative reports from the Canadian general population, which indicate that 13.3%, 4.6%, and 3.5% experience suicidal ideation, planning, and attempts, respectively.⁶ Suicide has been identified by the Canadian National Standing Committee of Public Safety and Security as an important issue among PSP that must be addressed, in part, with additional research on the risk factors for suicidal behaviours to inform effective prevention strategies.¹

As a function of their profession, PSP are frequently exposed to traumatic and severe events, such as being shot at, responding to a serious accident or injury, or being exposed to death and dying, which may contribute to poor mental health and suicidal behaviours.⁷⁻⁹ Violanti et al. 2004 reported that exposure to the homicide of a fellow officer, persons dying, or other disturbing incidents, were significantly associated with high trauma scores in a sample of police officers from the United States (US). High trauma scores were also significantly related to increased odds of suicidal ideation in this population.¹⁰ In the military population, a population that is similar to PSP with respect to career-related trauma (CRT) exposure, combat related experiences, such as exposure to death and/or killing, are significantly associated with suicide-

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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3 related outcomes.¹¹⁻¹⁴ However, evidence from military samples as well as a sample of women
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5 firefighters, show that CRT exposure does not entirely account for the increased prevalence of
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7 suicidal behaviours in these occupations: elevated suicidal outcomes were seen among US
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9 soldiers who did not deploy¹⁵ and pre-career suicidality was elevated among women
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11 firefighters in the US.¹⁶ Furthermore, in a Canadian military sample, the relationship between
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13 deployment-related trauma and suicidality was significantly attenuated after adjusting for child
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15 abuse history, showing the importance of pre-career traumas on adult suicidal behaviour.¹⁴ It is
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17 unclear how factors other than CRT are associated with suicidal behaviour among Canadian
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19 PSP, which compromises our understanding of the potential implications these associations
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21 may have for suicide prevention.
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28 Pre-career traumas such as childhood abuse have been linked to an increased risk of
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30 adult mental disorders as well as suicidality.¹⁷⁻²³ The prevalence of childhood abuse in the
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32 Canadian general population is approximately 32%¹⁷, indicating that almost one third of
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34 Canadian adults have experienced physical abuse, sexual abuse, and/or exposure to intimate
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36 partner violence (IPV) prior to the age of 16. In Canadian military populations, this prevalence
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38 is higher, with 48% of the Regular Force personnel experiencing any child abuse including
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40 physical abuse, sexual abuse, or exposure to IPV.¹⁸ In a sample of US police and firefighters who
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42 responded to the Hurricane Katrina disaster, 18.8% experienced childhood physical
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44 victimization (i.e. being attacked, injured, pushed, beaten or spanked before at 18 years old)²⁴,
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46 a prevalence that is similar to the US general population average for physical abuse (17.6%).²⁵
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50 However, direct comparisons among these US populations cannot be made due to differences
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52 in item measurement. The prevalence of childhood abuse among Canadian PSP is unknown.
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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Individuals commonly experience more than one traumatic event in their lifetime²⁶ and cumulative trauma exposure can increase an individual's risk for mental disorders and suicidality.^{27,28} Among police and firefighters responding to the Hurricane Katrina disaster, those who had experienced childhood physical victimization were more likely to have higher prevalence of multiple negative mental health outcomes, including higher symptoms of posttraumatic stress disorder and prevalence of insomnia compared to those who did not experience childhood physical victimization.²⁴ Only one study to our knowledge has examined the additive effects of childhood abuse and CRT on suicidality.¹⁸ In the Canadian military, those who experienced child abuse had greater odds of suicidal ideation, plans, and attempts compared to those who had not experienced child abuse; and additive models indicated that experiencing both child abuse and CRT was more strongly related to suicidal outcomes than the experience of either type of trauma alone.¹⁸ PSP experience different training (i.e. law enforcement vs. combat) and work environments (i.e. trauma exposure occurs in their home communities vs. while on deployment) compared to military personnel and therefore this is an important population to study independently. This study will use a large sample of Canadian PSP to better understand risk factors for developing suicidal behaviours during PSP careers, therein informing suicide prevention strategies. The objectives of the current study are to: 1) estimate the prevalence of child abuse exposure among Canadian PSP; 2) examine the associations between child abuse exposure and suicidal ideation, plans, and attempts; 3) examine the associations between CRT and suicidal ideation, plans, and attempts; and 4) compute the additive and interactive effects of child abuse and CRT on suicidal behaviour.

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Methods

Data and Sample

Data were drawn from a web-based survey of PSP in Canada available online from September 1, 2016 to January 31, 2017.^{2,5} The survey modules were developed by the Canadian Institute for Public Safety Research and Treatment (CIPSRT), which included representatives from the Canadian Association of Chiefs of Police (CACP), the Canadian Association of Fire Chiefs (CAFC), the Canadian Association for Police Governance (CAPG), the Canadian Police Association (CPA), Correctional Service of Canada (CSC), the International Association of Firefighters (IAFF), the Paramedic Association of Canada (PAC), the Paramedic Chiefs of Canada (PCC), the Royal Canadian Mounted Police (RCMP), and the Union of Solicitor General Employees (USGE). The study was approved by the University of Regina Research Ethics Board (File #2016-107). Participation in the survey was solicited through emails that were sent to currently serving Canadian PSP lists, as well as through public service announcements from provincial and municipal PSP agencies. The survey link was also made available through social media and websites; accordingly, the total number of PSP that were invited to the survey is unknown. A total of 8,520 respondents began the survey, however, only 4,340 progressed far enough to complete the child abuse, career trauma, and suicide modules in this survey. Analyses were restricted to those who worked as municipal or provincial police, Royal Canadian Mounted Police (RCMP), paramedics, firefighters, correctional workers and call centre operators/dispatchers; therefore, resulting in a final sample of N= 4,199 (49.3% of the initial sample).

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Child Abuse

Child abuse was measured using six questions that have previously been validated and used in nationally representative Canadian surveys.^{29,30} All questions were measured on an ordinal scale with response options *never*, *1-2 times*, *3-5 times*, *6-10 times*, or *>10 times*. There were three questions used to measure child physical abuse: 1) “How many times did an adult slap you on the face, hand or ears or hit or spank you with something hard to hurt you?”, 2) “How many times did an adult push, grab, shove, or throw something at you to hurt you?”, and 3) “How many times did an adult kick, bite, punch, shove, burn you or physically attack you in some way?”. A response option of 3 or more times for questions 1 and 2, and any response other than *never* for question 3, were coded as physical abuse. Any physical abuse was coded as exposure to at least one of these three experiences based on the above coding. Sexual abuse was measured using the following items: “How many times did an adult force you or attempt to force you into any unwanted sexual activity by threatening you, holding you down or hurting you in some way?” and “How many times did an adult touch you against your will in any sexual way? By this, we mean anything from unwanted touching, or grabbing, to kissing or fondling”. Exposure to sexual abuse was coded as any response other than *never* on either question. Exposure to IPV was measured using one item: “How many times did you see or hear any one of your parents, step-parents or guardians hit each other or another adult in the home? By adult, we mean anyone 18 years and over”. A response option of 3 times or more question was coded as EIPV. Additionally, a dichotomous measure of any child abuse was computed that coded respondents who experienced one or more types of abuse into the *yes* category. Number of child abuse exposures was coded as *none*, *1 type* or *2 or more types*.

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Career-Related Trauma

PSP were asked to indicate all severe and potentially traumatic events that they witnessed or experienced from the following list: 1) line of duty deaths, 2) serious line of duty injuries, 3) disaster or multiple causality incidents, 4) incidents involving the unusual or sudden death of children or harm of children, 5) events that threatened their life or the life of a colleague, 6) incidents where victims were relatives or friends, 7) suicide of a close colleague or superior. A dichotomous variable was created that classified PSP who experienced one or more of these events into the *yes* category.³¹

Suicidal Behaviours

Questions assessing suicidal ideation, plans, and attempts were asked to all PSP. Each respondent was asked if they ever: 1) seriously contemplated suicide; 2) made a plan to attempt suicide; or 3) attempted suicide in their lifetime.^{30,32,33}

Sociodemographic Variables

Sociodemographic covariates included: sex, age (continuous), marital status (married/common-law/remarried; single; separated/divorced/widowed), provincial region of residence (Western Canada and the Territories; Eastern Canada; Atlantic Canada), ethnicity (white; other), education (some post-secondary; university degree/4 years of college or higher), years of service as a PSP (continuous), and PSP professional category (municipal/provincial police; RCMP; correctional workers; firefighter; paramedic; and call centre operators/dispatchers).

Statistical Analysis

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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Cross tabulations and logistic regression were used to determine the sociodemographic characteristics of the sample stratified by any child abuse exposure. The frequency of each child abuse type by PSP category was calculated with cross tabs. Significant differences between PSP categories were tested by changing the reference group in logistic regression models. Logistic regression models were computed to examine the relationships between child abuse types and lifetime suicidal ideation, plans, and attempts, adjusting for SES covariates. Additive effects were tested by creating a multilevel variable of mutually exclusive categories that included those who did not experience child abuse or CRT, experienced child abuse only, experienced CRT only, or experienced both child abuse and CRT. Differences between the additive model categories were tested using logistic regression and changing the reference group. An interaction term between any child abuse and any CRT was computed and entered into the logistic regression models to test for interaction effects. All additive and interactive logistic regression models were adjusted for SES covariates.

Results

Table 1 describes the sociodemographic characteristics of the sample stratified by experiences of child abuse. Several variables were related to increased odds of having experienced child abuse including: increased age, being separated/widowed/divorced, ethnicity other than White, and greater years of service (Odds Ratios [OR] ranged from 1.02 to 1.60). Participants living in Atlantic Canada compared to Western Canada/Territories, or having a university degree or four years of college compared to less education, had lower odds of having a child abuse history (OR= 0.72 and 0.78, respectively). Regarding PSP category, correctional

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

workers and paramedics compared to municipal/provincial police had greater odds of having a child abuse history (OR = 1.23 and 1.27, respectively).

Table 2 provides the prevalence of child abuse history by PSP category. Most PSP (55.9%) in the current sample reported having a child abuse history; specifically, 49.4% reported physical abuse, 14.1% reported sexual abuse, and 8.9% reported exposure to IPV. Significant differences between PSP categories were noted for all types of child abuse history; however, consistent trends only appeared for correctional workers and call centre operators/dispatchers. Compared to all other PSP categories, correctional workers and call centre operators/dispatchers were more likely to experience being pushed, grabbed, shoved, or having something thrown at them, sexual abuse, and two or more types of child abuse.

Table 3 describes the relationship between child abuse types and lifetime suicidal ideation, plans, and attempts. All types of child abuse history were related to lifetime suicidal ideation (adjusted OR [AOR] range from 2.09 to 2.63), plans (AOR range from 2.06 to 2.48), and attempts (AOR range from 2.38 to 3.25).

Additive models in Table 4 report significant associations between experiencing child abuse only, CRT only or both child abuse and CRT and suicidal behaviours (AOR range from 1.84 to 7.12). As indicated by superscripts, exposure child abuse only and exposure to both CRT and child abuse did not have statistically different associations with suicidal behaviour. However, the associations between CRT only and suicidal behaviour were significantly smaller than exposure to child abuse only, or both child abuse and CRT. Table 5 describes the individual and interaction effects of CRT and child abuse history on suicidal behaviours. CRT was significantly related to lifetime suicidal ideation, plans, and attempts (AOR 1.57, 1.78, and 1.22,

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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3 respectively). Interaction terms between CRT and child abuse history on lifetime suicidal
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5 ideation, plans, and attempts were not significant. After controlling for CRT, child abuse history
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7 remained significantly related to lifetime suicidal behaviours (AOR range from 2.21 to 2.60).
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10 After controlling for child abuse history, CRT was no longer significantly related to suicidal
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12 behaviours.
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18 Discussion

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20 The current study has four novel findings. First, 55.9% of PSP in the sample have
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22 experienced child abuse. Second, correctional workers and call centre operators/ dispatchers
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24 often had a higher prevalence of child abuse exposure compared to all other PSP categories.
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26 Third, all types of child abuse histories among PSP were significantly related to lifetime suicidal
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28 behaviour. Fourth, CRT was significantly related to suicidal behaviour; however, there were
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30 stronger associations between those with child abuse history only or exposure to both child
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32 abuse and CRT and suicidal outcomes compared to those who only experienced CRT.
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37 Over half of the current PSP sample reported having experienced some form of child
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39 abuse before the age of 16 years. The current results are higher than estimates from the
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41 Canadian general population (32%)¹⁷ and higher, but more similar to the Canadian military
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43 population (48%).¹⁸ Notably, the same child abuse measures were used to compute the
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45 prevalence in all three Canadian samples. Similar estimates are not available for PSP samples
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47 from Canada or other countries. The current study provides the first national estimates of
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49 exposure to childhood physical and sexual abuse and exposure to IPV among PSP. Correctional
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51 workers and call centre operators/dispatchers reported a higher prevalence of exposure to
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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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3 some types of child abuse compared to other PSP. We are unable to explain the differences in
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5 exposure prevalence; however, these PSP careers may be associated with increased self-
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7 selection among persons who experienced child abuse. Future research should seek to replicate
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9 and understand the underlying mechanisms associated with such differences. In the interim,
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11 the high prevalence of child abuse history among all PSP should be recognized and
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13 comprehensive initiatives promoting trauma-informed care should be supported.
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18 Consistent with other studies, the current results present strong evidence for the
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20 association between child abuse histories and suicidal ideation, plans, and attempts in
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22 adulthood. Other studies have found comparable results in military populations^{18,34}, which is a
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24 similar population to PSP with respect to high CRT, and in general population samples.^{17,19,23}
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26 The high prevalence of child abuse exposure in the PSP population, coupled with the strong
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28 association with suicidal behaviour, provides further evidence for the importance of child abuse
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30 prevention and recognition of child abuse histories as important indicators of suicidal
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32 behaviour.
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37 CRT was also significantly associated with suicidal ideation, plans, and attempts. The
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39 results are consistent with data from PSP samples from the US indicating that exposure to
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41 traumatic events, such as responding a suicide attempt or death,³⁵ traumatic work-related
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43 events,³⁶ or death of a fellow officer¹⁰, were related to increased suicidal behaviour. Significant
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45 associations between child abuse history and suicidal behaviours remained after adjusting for
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47 CRT; however, significant associations between CRT and suicidal behaviour did not remain after
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49 adjusting for child abuse history. This indicates that a significant portion of the association
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51 between CRT and suicidal behaviours can be accounted for by child abuse histories. Additive
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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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3 models described that exposure to both child abuse and CRT result in the largest odds of
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5 suicidal behaviour; however, these relationships were not significantly different from the
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7 relationships between child abuse only and suicidal behaviour. These results indicate that the
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9 addition of exposure to CRT does not significantly increase the strength of the association
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11 between child abuse history and suicidal behaviour. This provides evidence for the importance
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13 of recognizing child abuse history as an indicator of suicidal behaviour, over and above
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15 exposure to CRT. Other studies using military data have found similar associations, whereby
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17 child abuse histories were more strongly related to suicidal behaviour than CRT.^{18,37}
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23 The current study has several limitations that must be taken into consideration. First,
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25 the current data are cross sectional, prohibiting causal inferences. Second, participation in the
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27 current survey was voluntary, self-selected, and completed online; therefore, self-selection
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29 response bias may be present and the current data may not be representative of the entire PSP
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31 population in Canada. Third, comparability of the current data to other nationally
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33 representative Canadian general population or military datasets may not be possible due to
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35 differences in data collection methods. The current data are strengthened by including a large
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37 sample of diverse PSP in the same sampling frame to present a comprehensive picture of the
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39 relationships between child abuse history, CRT and suicide in Canada and to facilitate
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41 comparisons among multiple PSP roles.
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50 Conclusion

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52 The high prevalence of child abuse histories among a large Canadian PSP sample signals
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54 the need for stronger child abuse prevention strategies and positive parenting interventions.
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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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3 Child abuse is associated with adult suicidal behaviours; accordingly, reducing child abuse may
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5 also reduce suicidal ideation, plans, and attempts among Canadian PSP. Both CRT and child
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7 abuse histories are significant factors associated with suicidality. After adjusting for the CRT,
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9 child abuse histories were significantly related to suicidal behaviour; however, CRT was not
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11 significantly related to suicidal behaviours after adjusting for child abuse histories. The
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13 knowledge of child abuse histories is important for developing effective treatment and
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15 intervention strategies aimed at reducing suicide among PSP.
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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Table 1: Sociodemographic Variables by Child Abuse in a Sample of Canadian Public Safety Personnel (n= 4199)

Variable	No Child Abuse % (n)	Child Abuse % (n)	OR (95% CI)
Sex			
Male	45.1 (1222)	54.9 (1490)	1.00
Female	42.3 (570)	57.7 (778)	1.12 (0.98, 1.3)
Age (Mean (SD))	41.7 (9.3)	44.5 (8.9)	1.04 (1.03, 1.04) ***
Marital Status			
Married/ Common-law/ Re-married	45.5 (1453)	54.4 (1741)	1.00
Single	44.1 (181)	55.9 (229)	1.06 (0.9, 1.3)
Separated/ Divorced/ Widowed	34.2 (151)	65.8 (290)	1.60 (1.3, 2.0)***
Provincial Region			
Western Canada (BC, AB, SK, MB) and Territories (YK, NWT, NVT)	43.5 (962)	56.5 (1249)	1.00
Eastern Canada (ON, QC)	42.4 (580)	57.6 (787)	1.05 (0.9, 1.2)
Atlantic Canada (PEI, NS, NB, NFL)	51.6 (239)	48.4 (224)	0.72 (0.6, 0.9)***
Ethnicity			
White	45.0 (1671)	55.0 (2039)	1.00
Other	34.6 (112)	65.4 (212)	1.55 (1.2, 2.0)***
Education			
Some post-secondary or less	41.8 (1038)	58.2 (1444)	1.00
University degree/ 4 years of college or higher	48.0 (714)	52.0 (774)	0.78 (0.7, 0.9)***
Years of Service (Mean (SD))	16.6 (9.4)	18.6 (9.3)	1.02 (1.02, 1.03) ***
Public Safety Personnel Category			
Municipal/provincial police	45.6 (497)	54.4 (594)	1.00
RCMP	46.7 (480)	53.3 (547)	0.95 (0.8, 1.1)

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Correctional workers	40.6 (234)	59.4 (343)	1.23 (1.0, 1.5)*
Firefighters	45.1 (279)	54.9 (340)	1.02 (0.8, 1.2)
Paramedics	39.6 (218)	60.4 (332)	1.27 (1.0, 1.6)*
Call centre operators/dispatchers	43.1 (90)	56.9 (119)	1.11 (0.8, 1.5)

Notes. * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Table 2: Prevalence of Child Abuse by Public Safety Personnel Category

	Total % (n)	Municipal/ Provincial Police % (n) ^a	RCMP % (n) ^b	Correctional Workers % (n) ^c	Firefighter % (n) ^d	Paramedic % (n) ^e	Call Centre Operators/ Dispatchers % (n) ^f	Significant Differences Between PSP Types
Slapped on the face, head or ears or hit or spanked with something hard	46.0% (1880)	44.2% (482)	42.6% (440)	48.5% (280)	48.9% (305)	50.0% (278)	45.5% (95)	a<e b<c, d, e
Pushed, grabbed, shoved, or something thrown at	20.4% (831)	18.9% (205)	19.3% (198)	25.0% (144)	19.4% (121)	18.7% (104)	28.8% (59)	a<c, f b<c, f d<c, f e<c, f
Kicked, bit, punched, choked, burned or attacked	13.2% (546)	11.5% (127)	11.8% (124)	15.7% (91)	13.3% (85)	15.2% (86)	15.4% (33)	a<c, e b<c
Any Physical Abuse	49.4% (2018)	47.9% (523)	46.3% (477)	51.2% (296)	52.4% (326)	53.2% (295)	48.6% (101)	a<e b<d, e
Sexual Abuse	14.1% (583)	12.7% (139)	12.3% (129)	22.8% (132)	7.4% (47)	15.2% (86)	23.8% (50)	a<c, f b<c, f d<a, b, c, e, f e<f, c
Exposure to IPV	8.9% (368)	8.5% (94)	9.0% (94)	10.6% (62)	7.0% (45)	8.5% (48)	11.7% (25)	d<c, f
Any Child Abuse	55.9% (2275)	54.4% (594)	53.3% (547)	59.4% (343)	54.9% (340)	60.4% (332)	56.9% (119)	a<c, e b<c, e
Number of Types								
None	44.7% (1798)	46.4% (497)	47.1% (480)	41.3% (234)	45.7% (279)	40.1% (218)	43.9% (90)	c<a, b e<a, b
1 type	40.4 (1622)	40.7% (436)	40.0% (408)	36.9% (209)	42.8% (261)	43.4% (236)	35.1% (72)	c<d, e f<e
2 or more types	14.9% (598)	13.0% (139)	12.9% (132)	21.9% (124)	11.5% (70)	16.5% (90)	21.0% (43)	a<c, f

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

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Note. Different lettered superscripts indicate PSP categories differ from one another at $p < .05$.

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Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Table 3: Associations between Child Abuse and Lifetime Suicide-Related Behaviours among Canadian Public Safety Personnel

All Public Safety Personnel	Suicidal Ideation		Suicide Plans		Suicide Attempts	
	PSP % (n)	AOR (95% CI)	PSP % (n)	AOR (95% CI)	PSP % (n)	AOR (95% CI)
Slapped on the face, head or ears or hit or spanked with something hard	37.0% (642)	2.09 (1.8, 2.4)***	19.7% (335)	2.41 (2.0, 3.0)***	6.9% (118)	2.47 (1.8, 3.4)***
Pushed, grabbed, shoved, or something thrown at	44.0% (336)	2.32 (1.9, 2.8)***	24.4% (183)	2.42 (2.0, 3.0)***	9.8% (73)	2.96 (2.1, 4.1)***
Kicked, bit, punched, choked, burned or attacked	45.0% (227)	2.14 (1.7, 2.6)***	26.4% (131)	2.42 (1.9, 3.1)***	10.5% (52)	2.78 (1.9, 4.0)***
Physical Abuse	36.5% (681)	2.12 (1.8, 2.5)***	19.1% (351)	2.34 (1.9, 2.9)***	6.8% (125)	2.64 (1.9, 3.7)***
Sexual Abuse	42.5% (234)	2.12 (1.7, 2.6)***	23.2% (125)	2.06 (1.6, 2.7)***	10.6% (58)	2.38 (1.6, 3.4)***
Exposure to IPV	48.2% (161)	2.63 (2.1, 3.4)***	25.9% (85)	2.48 (1.9, 3.3)***	12.2% (40)	3.25 (2.2, 4.9)***
Any Child Abuse	35.6% (749)	2.22 (1.9, 2.6)***	18.5% (383)	2.49 (2.0, 3.1)***	6.5% (136)	2.61 (1.8, 3.8)***

Notes. Adjusted sex, age (continuous), marital status, province of residence, ethnicity, education, years of service (continuous) and PSP category; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Table 4: Additive effects of Child Abuse and Career-Related Trauma on Lifetime Suicide Related Behaviours among Canadian Public Safety Personnel

All Public Safety Personnel	Suicidal Ideation		Suicide Plans		Suicide Attempts	
	% (n)	AOR (95% CI)	% (n)	AOR (95% CI)	% (n)	AOR (95% CI)
No Child Abuse/ CRT ⁺	12.7% (16)	1.00	--	1.00	--	1.00
Child Abuse Only ⁺	31.6% (31)	3.33 ^a (1.6, 6.8) ^{***}	16.5% (16)	5.89 ^a (1.9, 18.5) ^{**}	--	3.98 ^a (1.0, 15.5) [*]
Career-Related Trauma Only ⁺	20.8% (322)	1.84 ^b (1.0, 3.3) [*]	8.9% (136)	3.00 ^b (1.1, 8.4) [*]	2.6% (40)	1.51 ^b (0.4, 5.1)
CRT and Child Abuse ⁺	35.8% (718)	3.97 ^a (2.3, 7.0) ^{***}	18.6% (367)	7.12 ^a (2.6, 19.7) ^{***}	6.4% (127)	3.80 ^a (1.2, 12.5) [*]

Notes. ⁺ mutually exclusive categories; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$; AOR = Adjusted for sex, age (continuous) marital status, province of residence, ethnicity, education, years of service (continuous) and PSP category.
 -- Not presented because of insufficient sample size (i.e. $n < 10$).
 Different lettered superscripts indicate significant differences between categories at $p < .05$.

Table 5: Interaction effects between Child Abuse and Career-Related Trauma on Lifetime Suicide Related Behaviours among Canadian Public Safety Personnel

All Public Safety Personnel		Suicidal Ideation AOR (95% CI)	Suicide Plans AOR (95% CI)	Suicide Attempts AOR (95% CI)
Model 1: Work Trauma		1.57 (1.1, 2.2) [*]	1.78 (1.1, 2.9) [*]	1.22 (0.6, 2.3)
Model 2: Child Abuse		2.22 (1.9, 2.6) ^{***}	2.49 (2.0, 3.1) ^{***}	2.61 (1.8, 3.8) ^{***}
Model 3:	Work Trauma	1.43 (0.99, 2.1)	1.59 (0.97, 2.6)	1.10 (0.6, 2.1)
	Child Abuse	2.21 (1.9, 2.6) ^{***}	2.47 (2.0, 3.1) ^{***}	2.60 (1.8, 3.8) ^{***}
Model 4: Work Trauma X Child Abuse		0.65 (0.3, 1.3)	0.40 (0.1, 1.3)	0.63 (0.2, 2.6)

Notes. * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$
 Model 1 & 2: Adjusted for sex, age (continuous) marital status, province of residence, ethnicity, education, years of service (continuous) and PSP category.

Child Abuse and Suicidal Behaviour in Canadian Public Safety Personnel

Model 3: Adjusted for the same variables as in model 1 & 2 with the addition of work trauma and child abuse in the same model
Model 4: Adjusted for the same variables as in model 3 with the main effects of work trauma and child abuse in addition to the interaction term for work trauma x child abuse.

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