Roles of psychological distress and social support in the relationship between childhood maltreatment and perceived needs for mental health care

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Abstract

Childhood maltreatment is a major public health issue worldwide. It increases a range of health-risk behaviors, psychological and physical problems, and are associated with an increased need for mental health services in adulthood. Identification of mediating factors in the relationship between maltreatment and seeking mental health care may help attenuate the negative consequences of childhood maltreatment and promote more appropriate treatment. The present study aims to examine whether the relationship between childhood maltreatment and perceived need for mental health care is mediated by psychological distress and/or moderated by social support. Data from the Canadian Community Health Survey – Mental Health 2012 is analyzed. A total of 8,993 participants, who had complete information on childhood maltreatment and diagnoses of mental disorders or psychological distress, are included in this study. Structural equation modeling and the PROCESS macro were used to identify relationships among childhood maltreatment, perceived needs for mental health care, and psychological distress. Hierarchical linear regression was then used to verify the moderated mediation model. We found that psychological distress partially mediated the effect of childhood maltreatment on perceived needs for mental health care in adulthood. Social support played an important role in terms of moderating the relationship between maltreatment and perceived needs for care. For those with a history of childhood maltreatment, those who perceived a low level of social support were more likely to have higher levels of psychological distress and perceived need for mental health care. This study is a first to identify the separate and combined roles of psychological distress and social support in the relationship between childhood maltreatment and perceived need for mental health care. Selective prevention strategies should focus on

social support to improve mental health services among people with a history of childhood maltreatment.

Keywords: childhood maltreatment, psychological distress, perceived need for mental health care, social support, Canadian community population

Introduction

Childhood maltreatment is an important public health issue worldwide due to its long-lasting negative impacts (Gong & Chan, 2018). Childhood maltreatment refers to experiences of various kinds of abuse or neglect (e.g. physical abuse, emotional ill-treatment, sexual abuse, exposure to intimate partner violence) under the age of 18 years leading to actual or potential harm to the child (World Health Organization, 2016). The prevalence of childhood maltreatment is high across the globe (Prino et al., 2018; Stoltenborgh et al., 2012), up to 60% in some countries (Bigras et al., 2017; Fu et al., 2018). Childhood maltreatment increases a range of health-risk behaviors, psychological and physical problems in adulthood (Badr et al., 2018; McMahon et al., 2018; Widom et al., 2018; Worsley et al., 2018). Studies have found that physical abuse, sexual abuse, and domestic violence, are associated with increased risk of mental illnesses, including depression, bipolar disorder, generalized anxiety disorder, alcohol and drug abuse, suicidal ideation and attempts (Afifi et al., 2014; Rehan et al., 2017). The history of childhood maltreatment substantially increased the risk of depressive disorders by 2- to 3-fold (Chapman et al., 2004; Li et al., 2016).

Unmet needs are increasing as a result of the gap between the increased demand for service due to increased diagnosis of mental health problems and the limited resources allocated to such services (Xiao et al., 2017). Further, the percentage of people with mental health problems who actually received treatments and their perceived need for mental health services varies considerably (Han et al., 2017). It is highly likely that individuals who are in urgent need of services reside on waitlists to receive such services (Marshall et al., 2020). It is critical to arrange services based on the urgency of the need and to maximize the coverage of services to

populations with such needs. Perceived needs for mental health care is an important indicator for the optimal allocation of mental health services (Andersen, 1995). An in-depth understanding of mental health services needs among those with the history of maltreatment is critical, as they are a susceptible population for mental and behavioral problems (Badr et al., 2018; McMahon et al., 2018; Worsley et al., 2018). The literature has consistently shown that childhood adversities are associated with high perceived needs for mental health services in adulthood (Schneeberger et al., 2017; Turner et al., 2017). However, the underlying mechanism(s) of this relationship remains unclear.

1.1. The mediating effect of psychological distress

Psychological distress is broadly defined as an unpleasant emotional state experienced by one's reaction to stress that leads to adverse effects on the individual (Ridner, 2004). Individuals with exposure to childhood maltreatments reported a high prevalence of psychological distress in their adulthood (Clements-Nolle & Waddington, 2019; Corrales et al., 2016). A dose-response relationship between the severity of childhood maltreatment and psychological distress has been identified (Spinhoven et al., 2016). Severe maltreatment has been associated with more severe symptoms of depression (Harkness & Wildes, 2002).

Over 60% of patients reporting psychological distress also reported a need for mental health services (Bernhardsdóttir & Vilhjálmsson, 2013). Sareen et al. (2005) found that individuals with a higher level of psychological distress had an increased likelihood of perceiving a need for mental health care regardless of whether they were suffering from a mental disorder. Previous research has highlighted the mediating role of psychological distress in the

relationships between adverse childhood experiences and physical health, problematic behavior (Beck et al., 2014; Shin et al., 2015). It is reasonable to postulate that individuals with a history of childhood maltreatment are more likely to have an increased level of psychological distress, which in turn contributed to higher perceived needs for mental health care.

1.2. The moderating effect of social support

Although childhood maltreatment may increase the perceived need for mental health care via psychological distress, not all individuals with a history of childhood maltreatment necessarily have a high level of psychological distress (Noor et al., 2020) or perceive a need for mental health care (Marshall et al., 2020). This may result from protective factors that can alleviate the detrimental effects associated with maltreatment risk exposures (Meng et al., 2018). Social support is one of the protective factors reducing the negative consequences of stressful events (Fergus & Zimmerman, 2005). Social support is generally defined as an individual's perception of being loved, cared for, respected, and valued by other members of the community (Cobb, 1976). According to the stress-buffering hypothesis (Cohen & Wills, 1985), social support can provide psychological and material resources in response to life stressors, which may benefit one's health.

Studies have suggested that social support can attenuate the negative consequences of childhood maltreatment (Folger & Wright, 2013, Bellis et al., 2017). Segrin et al. (2016) report that the level of psychological distress declined with the increasing levels of social support. A recent systematic review indicates social support significantly reduces the risk of adulthood psychopathology among those with the history of childhood maltreatment (Meng et al., 2018).

A main effect hypothesis suggests, that among individuals who are stressed, social support can directly protect individuals against experiencing psychological distress (Cruza-Guet et al., 2008).

Social support can help meet people's mental health needs and thus reduce their requests to mental health services. Individuals with higher levels of social support have been found less likely to report a need for mental health care (Garrido et al., 2009). A study on military veterans indicated that higher levels of social support might be a substitute for mental health utilization. Support made individuals feel better and not need further treatment (Graziano & Elbogen, 2017). Similarly, social support may provide supportive resources, which could meet people's perceived needs for mental health care. Thus, social support may be an intervention target to reduce the gap between the high prevalence of mental health problems and the relatively limited resources available for mental health services (van Os et al., 2019).

1.3. The current study and its theoretical framework

This present study aims to investigate the roles of social support and psychological distress in the relationship between childhood maltreatment and perceived needs for mental health care. The theoretical moderated mediation model (see Figure 1) and hypotheses of the present study are:

Hypothesis 1: Psychological distress will mediate the association between childhood maltreatment and perceived need for mental health care, and this will be true across different socio-demographic groups.

Hypothesis 2: Social support will moderate the direct and/or the indirect associations between

childhood maltreatment and perceived need for mental health care via moderating the level of psychological distress.

Methods

Data source

We used data drawn from the Public Use Microdata File (PUMF) of Canadian Community Health Survey 2012: Mental Health (CCHS 2012-MH) (Statistics Canada, 2013) to examine these hypotheses. The CCHS 2012-MH is a large national survey, which randomly selected from the general population of the ten Canadian provinces using a multistage stratified clustered sampling design. People living on reserves and other Aboriginal settlements, full-time members of the Canadian forces, and institutionalized population were excluded, as were those living in the more remote northern territories of the country. Pertinent to our analysis, this survey collected information on mental health status, functioning, disability and access to and perceived need for formal and informal services and supports. The response rate of this survey was 68.9%, which consisted of a total number of 25,113 participants in the survey. Data collection using computer-assisted interview techniques was conducted from January 2012 to December 2012.

Study population

For this present study, we only included participants in the national survey met the following two criteria: 1) answered questions about childhood maltreatment that occurred before the age of 16 years; and, 2) met the CCHS - Mental Health/WHO-CIDI criteria for any of the selected

mental disorders during their lifetime including major depressive episode, bipolar I, bipolar II, hypomania, mania, generalized anxiety disorder, alcohol abuse, alcohol dependence, cannabis abuse, cannabis dependence, drug abuse and drug dependence or the criteria of psychological distress. A total of 8,993 participants, who had complete records on childhood maltreatment experiences and had been diagnosed with one of the studied lifetime mental disorders, were included in our study. Of the selected participants, 4,646 (51.7%) were males. Just over thirty-three percent (33.6%, n=3,024) of respondents were aged 30-49 years old, followed next by 50-64 years old (31.1%, n=2795), those ≤29 years old (17.7%, n=1,590) and those 65+ (17.6%, n=1,584). The majority of participants were White (86.4%, 7,774), with 1,181 (13.1%) being non-Whites or visible minorities. In terms of marital status nearly half of the study subjects, 49.7% (4, 473), were married or living common-law, 28.4% (2,551) were single (never married), and the remaining 21.6% (1,945) were widowed, divorced, or separated. In terms of education more than half respondents, 59.5% (5,353) had acquired a post-secondary certificate/diploma or university degree, 7.2% (644) had some post-secondary education, 16.5% (1,482) had secondary school graduation but no post-secondary education, with another 16.5% (1,482) reporting less than a secondary school graduation.

Measures

Childhood maltreatment. The six items used to assess childhood maltreatment were from the Childhood Experiences of Violence Questionnaire (CEVQ), a valid tool for assessing exposure to victimization and maltreatment among youth (Walsh et al., 2008). These items contained three dimensions physical abuse, sexual abuse, and witnessing family violence before the age

of 16. Respondents rated items on a five-point Likert scale representing the frequency of the childhood maltreatment incident occurring ranging from 1 (never), 2 (1-2 times), 3 (3-5 times), 4 (6-10 times), or 5 (more than 10 times). The total score was calculated for each participant with a higher score indicated more frequent childhood abuse experience. This module was only administered to respondents aged 18 and older in the survey. In this study, Cronbach's α value for this scale was 0.79.

Psychological distress. Psychological distress was measured by the Kessler Psychological Distress Scale (K-10) (Kessler et al., 2002), which has ten items measuring anxiety and depressive symptoms experienced over the most recent 30 days. Item response was measured on a five-point Likert scale (0= none of the time, 4= all of the time). A total score was calculated for each participant with a higher score indicated more distress. As suggested by the literature, the cut-off score of equal to or greater than 12 was used to indicate a possible mood and anxiety disorder (Carrà et al., 2011). In the present study, Cronbach's α of this scale was 0.87.

Social support. Social support was measured by the Social Provisions Scale-10 item (SPS-10) (Caron, 1996), which is an abbreviated version of the Social Provisions Scale (SPS) (Cutrona & Russell, 1987). The scale includes five subscales: attachment, guidance, social integration, reliable alliance, and reassurance of worth. Participants rated each item on a four-point Likert scale from 1 (strongly disagree) to 4 (strongly agree). The total score was calculated for each participant with higher scores reflecting a higher level of perceived social support. In the present study, Cronbach's α of this scale was 0.93. Social support was treated as a continuous

variable in the modeling process and then was categorized into two groups (1 SD below the mean and 1 SD above the mean) in the simple slope tests.

Perceived need for mental health care. Perceived Need for Care Questionnaire (PNCQ) (Meadows et al., 2000) was used to measure perceived need for care (PNC). The PNCQ is a needs assessment questionnaire originally designed for the National Survey of Mental Health and Well Being (NSMHWB) in Australia. Respondents were asked whether they received or felt that they needed help with problems regarding emotions, mental health, or use of alcohol or drugs in the past 12 months. Four types of help, information, medication, counselling, and/or others, were assessed. Perceived need for help was classified into four levels: a) No need - people who were not receiving help and felt that they had no need for it; b) Need fully met - people who were receiving help and felt that it was adequate; c) Need partially met - people who were receiving help, but not as much as they felt they needed; d) Need not met - people who were not receiving help but felt that they needed it. The PNC score is a summarized classification of the respondent's level of perceived need for each item in the past 12 months.

Statistical analyses

The study sample had less than 5% missing data. All the missing data were missing at random. We excluded the participants with missing data on categorical variables from the analysis. However, since all the studied continuous variables followed the normal distribution by examining their skewness and kurtosis (Jia et al., 2018; Kline, 1998), mean imputation was used to handle the missing data in continuous variables.

Descriptive statistics. Comparisons of the studied variables by socio-demographic characteristics (sex, age, race, marital status, and educational attainment) in the study population were performed. Pearson's correlation coefficient tests were then conducted on these variables.

Mediation model. The structural equation model (SEM) and PROCESS macro for SPSS (Model 4) (Hayes, 2013; Preacher & Hayes, 2008) were used to determine the mediating effect of psychological distress on the relationship between childhood maltreatment and perceived need for care. In addition, PROCESS with bootstrapping was used to generate stable and reliable 95% bootstrap confidence intervals (CI) based on 5,000 resamples from the studied dataset. Subgroup analyses by the socio-demographic characteristics were also performed.

Moderated mediation model. Moderated mediation analysis using the guidelines suggested by Muller et al. (2005) was then performed to estimate whether the indirect effect of childhood maltreatment on the perceived needs for care via the level of psychological distress was moderated by social support. Simple slope tests were used to demonstrate the interaction with social support in the mediation model. A low level of social support was defined as 1 SD below the mean and a high level of social support was defined as 1 SD above the mean.

Statistical analyses were conducted using SPSS 24.0 version program and Amos 24.0 software (IBM SPSS, IBM Corp, Armonk, NY, USA).

Results

Relationships between the studied variables and socio-demographic characteristics

Table 1 presents the relationships between the selected variables and socio-demographic

characteristics. There were significant differences by sex, age, race, marital status, and educational attainment on childhood maltreatment, psychological distress, social support, and perceived need for mental health care (P<0.01), however, there were no race/ethnic differences. Those who were females, aged 30-64 years old, non-White, widowed, divorced or separated, or having some post-secondary education, were likely to have experienced more frequent *childhood abuse*. Females, less than 49 years of age, non-White, single, or having less than secondary school were more likely to have higher levels of *psychological distress*. Females, less than 49 years of age, White, married or common-law, or having more than secondary school were more likely to report higher levels of *social support*. Females, less than 49 years of age, single, or having some post-secondary education were more likely to *perceive more needs for mental health care*.

Correlation tests among the studied variables

Table 2 presents correlations tests between the studied variables. Childhood maltreatment was positively associated with psychological distress and perceived need for care, but was negatively associated with social support (P<0.01). Psychological distress was negatively correlated with social support but positively associated with perceived need for care (P<0.01). Social support was negatively correlated with perceived need for care (P<0.01).

Testing for the mediation effect of psychological distress

Structural equation modeling was used to test for the mediation model. As shown in Fig. 2, the coefficients of all the paths were significant (P<0.001). A good fit of the model was obtained:

χ^2/df=4.166, *P*<0.001, NFI=0.994, TLI=0.992, CFI=0.995, RMSEA=0.019.

In addition, we verified the significance of the indirect effect of psychological distress on the association between childhood maltreatment and perceived need for mental health care. Psychological distress mediated the association between childhood maltreatment and perceived needs for care (SE=0.001, 95% CI= [0.011, 0.014]). The results revealed that the direct effect of childhood maltreatment on perceived need for care was 0.015 and the indirect effect of psychological distress was 0.012. The mediation effect accounted for 44.44% of the total effect of the association between childhood maltreatment and perceived need for care.

Multiple group path analysis

Multiple group analyses were used to identify the most suitable path model for specific groups. Table 3 presents path coefficients in the mediation model across different socio-demographic groups. The comparison between the unconstrained and constrained models was made. Critical ratios for differences between parameters were used to test the path differences across the structural model.

The path coefficient from childhood maltreatment to psychological distress in males was larger than that in females (*P*<0.01). The indirect effect of maltreatment on distress was 0.14 in males and 0.12 in females. The path coefficients were significantly decreased with the increasing age. The path coefficient among Whites was larger than among non-Whites (*P*<0.01). The indirect effect of maltreatment on distress was 0.14 in Whites and 0.10 in non-Whites. In marital status groups, the path coefficient was significantly smaller in the widowed, divorced or separated group than that in the singles (*P*<0.05).

The path coefficient from psychological distress to perceived need for mental health care was significantly bigger in ≤ 29 years group than in older age groups. The path coefficient was also significantly stronger in the married/common-law group than the widowed, divorced, or separated group (P<0.05), but was significantly smaller among those with less than secondary school graduation compared to those with secondary school graduation (P<0.05), some post-secondary education (P<0.01), and post-secondary certificate/diploma or university (P<0.01).

The path coefficient from childhood maltreatment to perceived need for mental health care was significantly smaller for those aged 30-49 and 50-64 in comparison to those 65+s (P<0.01). The indirect effects in the age groups ≤ 29, 30-49, 50-64, and ≥65 years were 0.19, 0.16, 0.14, and 0.04, respectively. The path coefficient was significantly smaller among married/common-law respondents, while it was significantly larger in the widowed/divorced/separated group compared to the single group (P<0.01). The indirect effects were 0.14, 0.10, and 0.16 in the married/common-law, widowed/divorced/separated, and single groups respectively. The relationship between child maltreatment and perceived need for mental health care was significantly stronger in people with lower education (less than secondary school) than those with higher education (post-secondary certificate/diploma or university degree) (P<0.01). The indirect effects were 0.15, 0.12, 0.21, and 0.13 in less than secondary school graduation, secondary school graduation, no post-secondary education, some post-secondary education, and post-secondary certificate/diploma or university degree education groups respectively.

Testing for the moderating effect of social support

To test the moderating effect of social support in the mediation model, we estimated parameters

for three regression equations: (1) child maltreatment to the perceived need for mental health care, (2) child maltreatment to psychological distress, and (3) psychological distress to the perceived need for mental health care. All the variables included in the model were mean-centered prior to analyses. Table 4 provides the detailed statistics of the moderated mediation analyses.

In Model 1, childhood maltreatment was positively associated with perceived need for mental health care (β=0.13, P<0.001), and this association was significantly moderated by social support (β=-0.05, P<0.001). Appendix 1a provides the results from the simple slope test, which illustrates the relationship between childhood maltreatment and perceived need for care at low and high levels of social support. Individuals with high scores in child maltreatment but low levels of social support were more likely to have higher levels of perceived need for mental health care.

In Model 2, childhood maltreatment was positively associated with the higher level of psychological distress (β=0.13, P<0.001). The interaction term of childhood maltreatment and social support was also significantly correlated with psychological distress (β=-0.04, P<0.001), indicating that individuals with high levels of childhood maltreatment and low levels of social support were more likely to have a higher level of psychological distress (Appendix 1b).

In Model 3, psychological distress was positively associated with perceived need for care (β=0.37, t=35.06, P<0.001), and the interaction term of psychological distress and social support was significant (β=-0.04, t=-3.37, P=0.001). As shown in Appendix 1c, individuals with higher levels of psychological distress but low levels of social support were more likely to perceive higher levels of need for mental health care.

A moderated mediation model was built based on the previous analyses. Psychological distress partially mediated the link between childhood maltreatment and perceived needs for mental health care, while social support moderated not only the direct path (child maltreatment to perceived need for care) but also the first (child maltreatment to psychological distress) and second stage (psychological distress to perceived need for care) of the model.

Discussion

This study is the first to identify the roles of psychological distress and social support in perceived needs for mental health care among individuals with exposure to childhood maltreatment. We found that psychological distress had an indirect effect on the association between childhood maltreatment and perceived need for mental health care. Social support not only moderated the direct path of childhood maltreatment on perceived need for mental health care but also influenced the indirect path of psychological distress on perceived need for mental health care.

This study found that childhood maltreatment was positively associated with psychological distress, which in turn increased the level of perceived needs for care. This finding extends the attachment theory (Bowlby, 1969), which posited that childhood maltreatment might heighten one's psychological distress as a result of a weakened sense of security. This could also be explained by self-labeling theory (Thoits, 1985) which suggested individuals with emotional distress were likely to recognize their needs of formal mental health care for their psychological distress. Exposure to childhood maltreatment resulting in greater psychological distress in adulthood, may make individuals so exposed to be more likely to recognize the need for mental

health care. Our findings are also similar to extensive research on the mediating effect of psychological distress in the association between childhood maltreatment and problematic behaviors (Cascardi, 2016; Clements-Nolle et al., 2017). We found that individuals who experienced childhood maltreatment had an increased risk of psychological distress and a greater perceived need for mental health care than those without a history of maltreatment. The behavioral model indicates that the use of health services is a function of one's need for care (Andersen, 1995). People's perceived need for care is a predisposing factor for health services use.

Our results showed that there were statistically significant differences in path coefficients across different socio-demographic groups. Males who experienced childhood maltreatment had a higher possibility to suffer from severe psychological distress than females, which was similar to the results from an Australian population study (Najman et al., 2007). However, this phenomenon is inconsistent with the findings that females reported higher rates of mental health problems than males, following adverse childhood experiences (Grigsby et al., 2020). A recent systematic review and meta-analysis found there were no sex differences in the effects of childhood maltreatment on adult depression and anxiety (Gallo et al., 2018). Further studies are warranted to verify whether there is sex difference in the association between child maltreatment and later psychological distress. We also found age differences in the association between childhood maltreatment, psychological distress, and perceived need for mental health care. A previous study found that younger individuals with history of childhood maltreatment had a higher risk of cardiovascular diseases and ischemic heart disease (Soares et al, 2020). These findings indicated that age played an important role in the adverse effects of stressful

life events (e.g., childhood maltreatment and psychological distress) on individuals' health. Similar to the finding from Schilling et al. (2007) on poor mental health, the impact of adverse childhood experiences for Whites was greater than non-Whites. Cultural influences and coping styles of adverse life events may be the main reason for the differences in terms of developing negative outcomes. Non-Whites might be more likely to use positive coping strategies to solve childhood maltreatment, which protect against negative consequences of traumatic stress (Pole et al., 2005). Previous studies reported that marital status was an important social determinant of psychological distress (Gavin et al., 2010; Jang et al., 2009). Differences in marital status were also found in our mediation model. These results may be related to the attitude of cultural context and traditional norms for marital status (Lee & Choi, 2018). Differences in educational attainment were also noted. Benuto et al. (2020) reported that a higher level of education was associated with more negative attitudes toward receiving professional mental health treatment. Future studies are warranted to explore underlying reasons.

Although social support has been widely studied for its protective effect in mental disorders and psychological distress, the present study first tested the moderator role of social support in the relationship between childhood maltreatment and perceived need for care among people with mental disorders or psychological distress. Social support not only moderated the direct association between childhood maltreatment and perceived need for care, but also modified its indirect effect through psychological distress. For those with a history of childhood maltreatment, individuals with lower levels of social support were more likely to perceive more needs for care. These findings are in line with the stress-buffering hypothesis (Cohen & Wills, 1985) which postulated that the influence of childhood maltreatment on perceived needs for

care varied across different levels of social support due to the stress appraisal response. One possible explanation could be that a high level of social support provides useful resources to cope with the negative consequences of childhood maltreatment and then reduce the susceptibility of psychological distress, which often goes together with perceived needs for care (Luthar et al., 2014). Social support may also directly buffer the negative effects of childhood maltreatment by improving an individual's regulatory ability (Logan-Greene et al., 2017), which can decrease the risk of psychological distress. Among maltreated individuals strengthening one's resilience and related protective factors could enhance their adaptive coping strategies when confronted with stressors. People with a high level of social support, are more likely to adopt positive coping strategies to deal with negative experiences and emotions, including childhood maltreatment and psychological distress which in turn may link to the reduced needs of mental health care.

Practical implications

The current study has four important clinical and public implications. Individuals who experienced childhood maltreatment have an increased risk of psychological distress and perceived need for mental health care. First, targeted intervention and prevention programs for maltreated individuals should be made available to mitigate the negative consequences of maltreatment. Coping resources and strategies serve as a major internal resource helping individuals build resilience. Mental health promotion should also take socio-demographic characteristics into account, as they are closely associated with the relationship between childhood maltreatment and perceived need for mental health care. Second, early identification

of psychological distress may help to prevent the negative consequences of childhood maltreatment, which are often link to perceived need for mental health care. Early identification and prevention of psychological distress and negative emotions could also be an alternative approach to provide the optimal allocation for mental health utilization. Third, social support can be a protective factor promoting positive mental health, reducing distress, and the need for mental health services. The better quality social support, and more of it, could attenuate the negative impact of adverse life experiences. Finally, the goal should be to promote appropriate help-seeking and appropriate use for mental health services for those suffering from mental disorders.

Strengths and limitations

The data used in this study was from a large national survey, which offers more reliable and generalizable results. This study was designed to explore the underlying mechanisms of psychological distress and social support in the relationship between childhood maltreatment and perceived needs for mental health care among the general community dwelling population who have mental health problems. This study clearly demonstrates the protective role of social support in the relationship between child maltreatment and perceived needs for mental health care. The findings of this study provide targets for prevention and intervention efforts and thus allowing for a better allocation of mental health services.

There are several limitations to be noted. First, findings were based on a cross-sectional data, which limits causal inference. Future research on maltreatment and perceived needs for care should involve longitudinal studies to explore the direction of each path between the studied

variables. Second, self-reported measures were used in the study. These self-reported measures are prone to recall bias, especially for the assessment of childhood maltreatment, victims might over-report or under-report such history (Folger & Wright, 2013). Future studies should use more validated and accurate measurements to assess these variables. Only the frequency of childhood maltreatment was explored in this present study. The severity, duration, and timing of maltreatment should be considered in future research. In addition, only survey participants who scored above a cut-point on a mental health screening scale were included in the study. This population is more prone to utilize mental health services than the general population. The present study highlights the issue of unmet mental health needs among these vulnerable individuals. Future studies should include a wider spectrum of the population. Finally, there may be other unmeasured factors involved in the path between childhood maltreatment and perceived need for mental health care, such as physical health and problematic behaviors.

Conclusions

Overall, this study explored the roles of psychological distress and social support in the relationship between childhood maltreatment and perceived needs for mental health care through a moderated mediation model. The findings of the present study support and reinforce the importance of interactions between individual and social contexts and their influences on one's health and behaviors. This study also suggests that early intervention on childhood maltreatment could promote better psychological health in adulthood. Social support should be targeted to mitigate the negative health consequences of early-life adversities, and thus subsequently reduce the burden on the healthcare system.

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Data Access

The data that support the findings of this study are from the Public Use Microdata File (PUMF) of the Canadian Community Health Survey – Mental Health, Statistics Canada survey #5015. Access to the data is available to bona fide researchers through institutions participating in Statistics Canada Data Liberation Initiative (DLI) including university libraries throughout Canada – see https://www.statcan.gc.ca/eng/dli/dli. Access can be arrange directly through DLI enquiries: statcan.maddli-damidd.statcan@canada.ca.

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Tables

Table 1. Relationship between studied variables and socio-demographic characteristics (mean ± SD)

Variables	CM†	*t/F*	PD†	*t/F*	SS†	*t/F*	PNMHC†	*t/F*
Sex		-4.82***		-17.02***		-5.27***		-17.84***
Male	9.23±4.34		7.40±6.48		34.89±4.78		1.37±0.73	
Female	9.72±5.30		9.86±7.25		35.43±4.78		1.68±0.86	
Age		46.95***		31.10***		45.27***		42.48***
≤ 29 years	8.70±4.13		9.47±6.61		35.96±4.45		1.61±0.92	
30-49 years	9.90±5.10		9.11±7.01		35.45±4.79		1.59±0.84	
50-64 years	9.92±5.12		8.15±7.20		34.95±4.86		1.49±0.78	
≥ 65 years	8.61±4.19		7.49±6.65		34.13±4.76		1.34±0.65	
Race		-10.14***		-9.59***		7.71***		-1.10
White	9.27±4.61		8.31±6.85		35.31±4.69		1.52±0.81	
Non-White	10.78±5.87		10.39±7.51		34.16±5.24		1.54±0.85	
Marital status		11.05***		61.84***		68.82***		36.22***
Married or common-law	9.20±4.45		7.47±6.51		35.66±4.38		1.42±0.74	
Widowed, divorced or separated	9.96±5.39		9.27±7.39		34.17±5.06		1.59±0.81	
Single	9.38±4.80		9.75±7.10		34.74±5.12		1.62±0.88	
Educational attainment		7.43***		40.24***		68.61***		5.30**
Less than secondary school	9.83±5.56		10.20±7.82		33.61±5.17		1.48±0.80	
Secondary school, no post-secondary	9.25±4.72		8.61±7.13		35.05±4.66		1.47±0.80	
Some post-secondary	10.01±4.96		9.35±7.06		35.37±4.83		1.60±0.85	
Post-secondary certificate/ diploma or university degree	9.36±4.61		8.05±6.58		35.59±4.61		1.53±0.81	

†Note: CM= childhood maltreatment; PD= psychological distress; SS= social support; PNMHC= perceived need for mental health care.

Table 2. Pearson correlation coefficients (r) among the studied variables

Variables	1	2	3	4
1. Childhood maltreatment	1			
2. Psychological distress	0.18**	1		
3. Social support	-0.12**	-0.35**	1	
4. Perceived need for mental health care	0.16**	0.41**	-0.19**	1

Note: $^{**}P<0.01$

Table 3. Path coefficients (β) in different socio-demographic groups

Variables	CM to PS†	PD to PNMHC†	CM to PNMH†
Sex			
Male	0.23***	0.62***	0.09***
Female	0.20***	0.57***	0.13***
Age			
≤ 29 years	0.29***	0.65***	0.03
30-49 years	0.27***	0.61***	0.10***
50-64 years	0.23***	0.62***	0.11***
≥ 65 years	0.07*	0.52***	0.14***
Race			
White	0.23***	0.61***	0.11***
Non-white	0.17***	0.58***	0.17***
Marital status			
Married or common-law	0.23***	0.61***	0.09***
Widowed, divorced or separated	0.19***	0.55***	0.17***
Single	0.27***	0.60***	0.10***
Educational attainment			
Less than secondary school graduation	0.28***	0.55***	0.22***
Secondary school graduation, no post-secondary education	0.19***	0.60***	0.15***
Some post-secondary education	0.31***	0.67***	0.06
Post-secondary certificate/ diploma or university degree	0.20***	0.62***	0.08***

†Note: CM= childhood maltreatment; PD= psychological distress; PNMHC= perceived need for mental health care.

* $P<0.05$; ** $P<0.01$; *** $P<0.001$.

Table 4. The moderated mediation model of childhood maltreatment on perceived need for mental health care

Predictors	Model 1 (child maltreatment to perceived need for mental health care)			Model 2 (child maltreatment to psychological distress)			Model 3 (psychological distress to perceived need for mental health care)		
	β	*t*	*P*	*β*	*t*	*P*	*β*	*t*	*P*
Childhood maltreatment	0.13	12.32	<0.001	0.13	13.25	<0.001	0.08	8.53	<0.001
Social support	-0.17	-16.35	<0.001	-0.33	-33.16	<0.001	-0.04	-4.03	0.012
Childhood maltreatment × Social support	-0.05	-4.44	<0.001	-0.04	-4.28	<0.001			
Psychological distress							0.37	35.06	<0.001
Psychological distress × Social support							-0.04	-3.37	0.001
R^2	0.06			0.15			0.18		
F	186.25***			510.28***			494.09***		

Note: ***P*<0.001

Figures

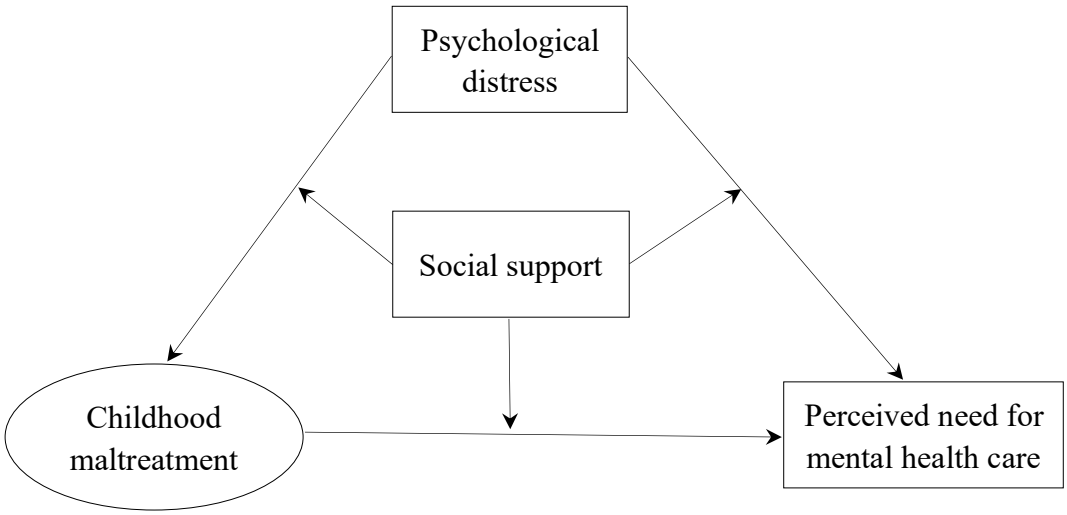


Fig. 1. The conceptual framework of this present study

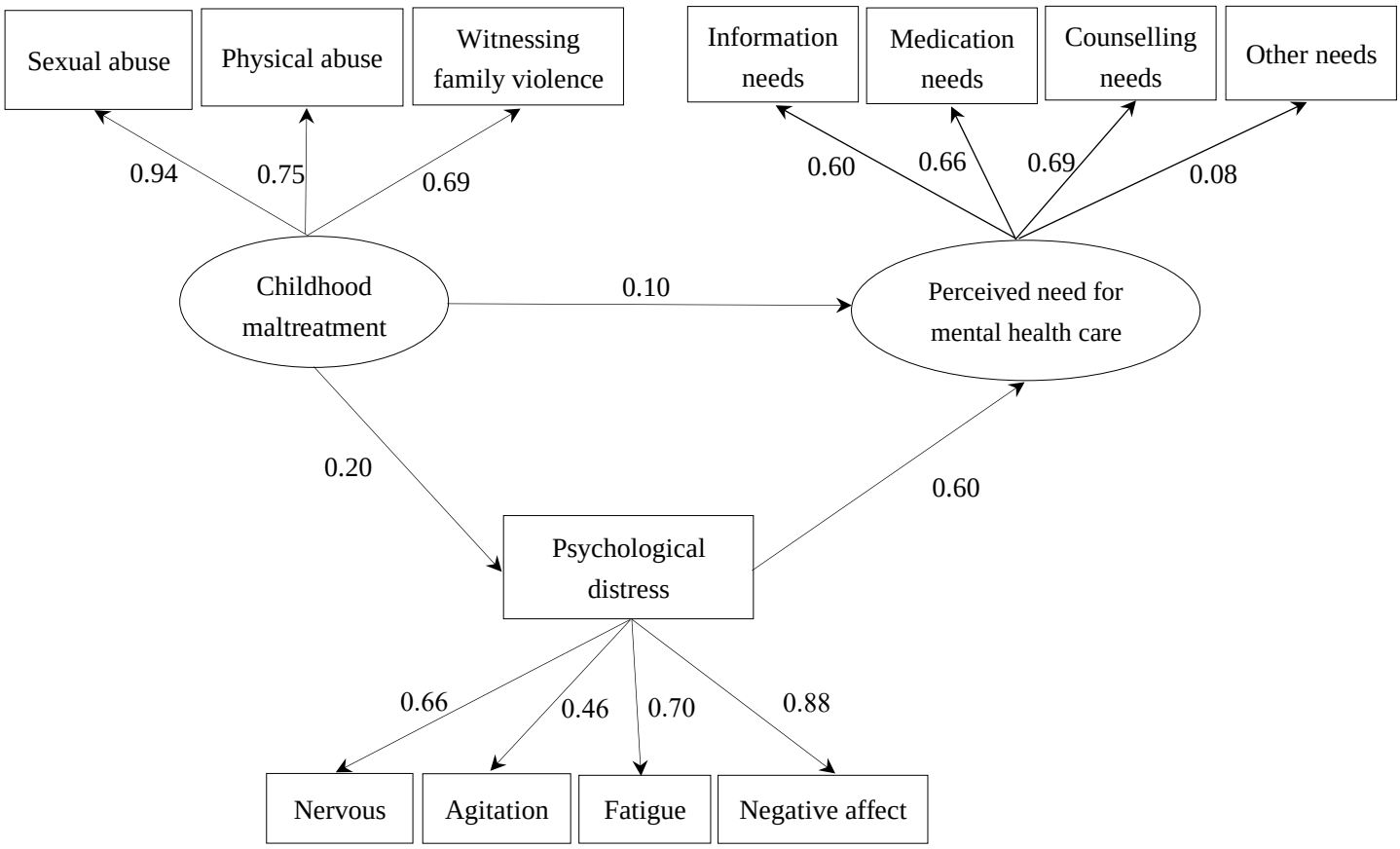
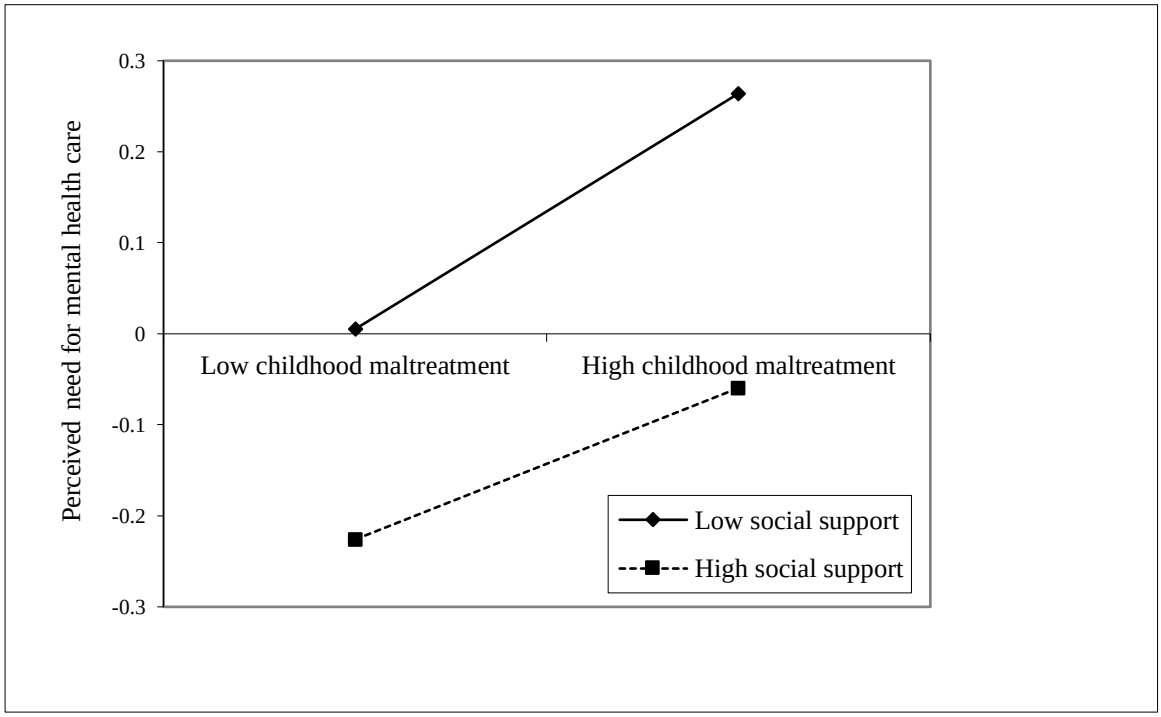
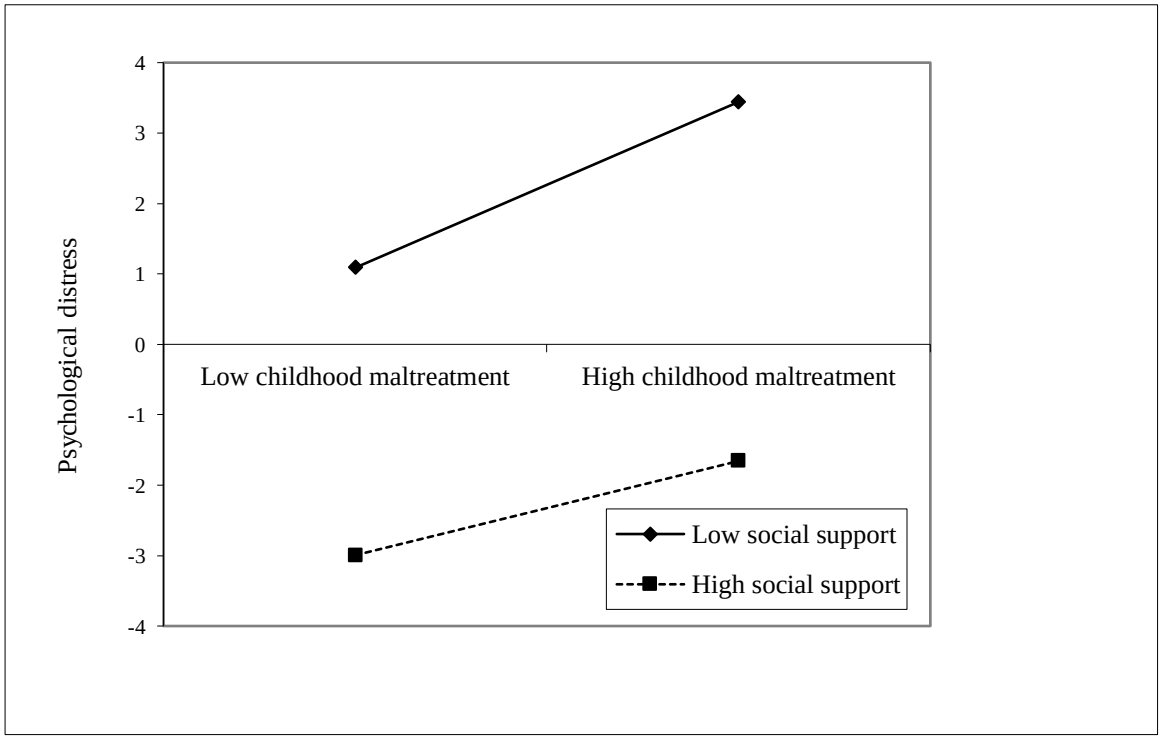


Fig. 2. The coefficients in the mediation effect model of psychological distress in the relationship between childhood maltreatment and perceived need for mental health care. All the *P-value* <0.001.

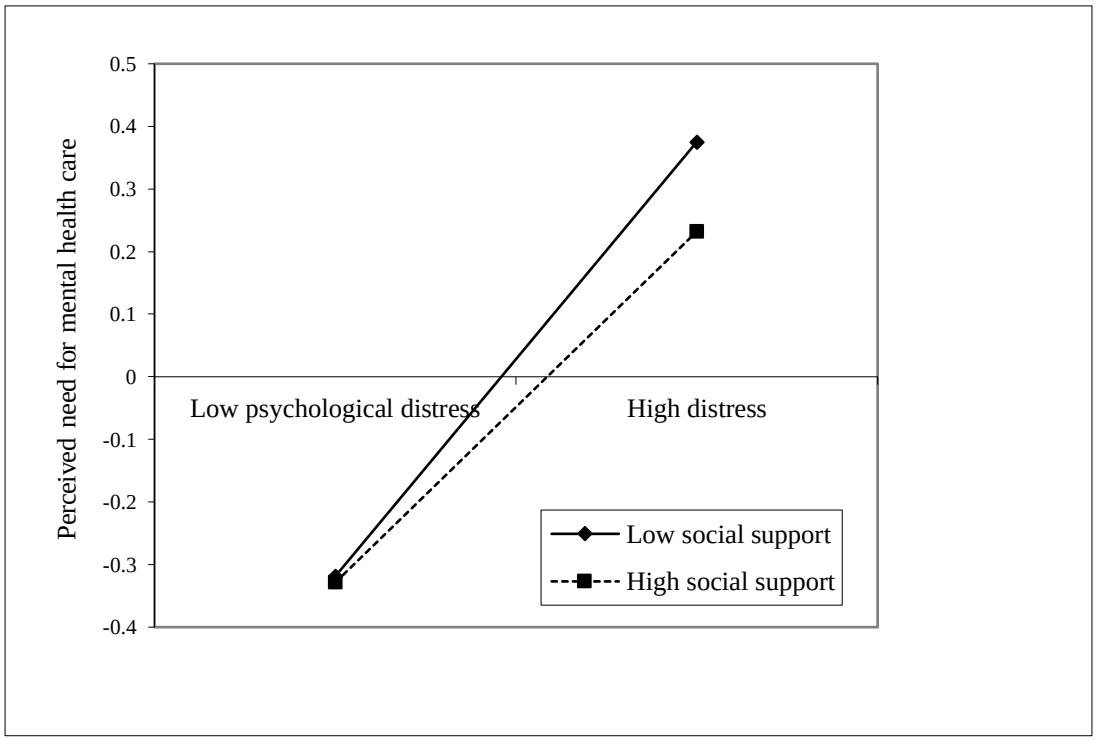
Appendix



Appendix 1a Social support moderated the association between childhood maltreatment and perceived need for mental health care. Low and high childhood maltreatment were classified as 1 SD below the mean and 1 SD above the mean.



Appendix 1b Social support moderated the association between childhood maltreatment and psychological distress. Low and high childhood maltreatment were classified as 1 SD below the mean and 1 SD above the mean.



Appendix 1c Social support moderated the association between psychological distress and perceived need for mental health care. Low and high psychological distress were classified as 1 SD below the mean and 1 SD above the mean.