Pathway from Childhood Maltreatment to Perceived Parental Competence and Intimate Partner Violence among Expecting Fathers: The Role of PTSD Symptoms

Karl Larouche
Université du Québec à Trois-Rivières
Centre d'études interdisciplinaires sur le développement de l'enfant et la famille
CERVO Brain Research Center
Interdisciplinary Research Center on Intimate Partner Relationship Problems and Sexual Abuse
Groupe de recherche et d'intervention auprès de l'enfant vulnérable et négligé

Julia Garon-Bissonnette
Vanderbilt University

Roxane Lemieux
Université du Québec à Trois-Rivières
Centre d'études interdisciplinaires sur le développement de l'enfant et la famille
Groupe de recherche et d'intervention auprès de l'enfant vulnérable et négligé

Carl Lacharité
Université du Québec à Trois-Rivières
Centre d'études interdisciplinaires sur le développement de l'enfant et la famille

Groupe de recherche et d'intervention auprès de l'enfant vulnérable et négligé

Nicolas Berthelot
Université du Québec à Trois-Rivières
Centre d'études interdisciplinaires sur le développement de l'enfant et la famille
CERVO Brain Research Center
Interdisciplinary Research Center on Intimate Partner Relationship Problems and Sexual Abuse
Groupe de recherche et d'intervention auprès de l'enfant vulnérable et négligé

Karl Larouche, Department of Nursing Sciences, Université du Québec à Trois-Rivières, Centre d'études interdisciplinaires sur le développement de l'enfant et la famille, CERVO Brain

Research Center, Interdisciplinary Research Center on Intimate Partner Relationship Problems and Sexual Abuse, Groupe de recherche et d'intervention auprès de l'enfant vulnérable et négligé, https://orcid.org/0000-0002-0239-3608; Julia Garon-Bissonnette, Peabody College of Education and Human Development, Vanderbilt University, https://orcid.org/0000-0003-0674-2462; Roxane Lemieux, Department of Nursing Sciences, Université du Québec à Trois-Rivières, Centre d'études interdisciplinaires sur le développement de l'enfant et la famille Groupe de recherche et d'intervention auprès de l'enfant vulnérable et négligé, https://orcid.org/0000-0001-5014-6903; Carl Lacharité, Department of Psychology, Université du Québec à Trois-Rivières, Centre d'études interdisciplinaires sur le développement de l'enfant et la famille, Groupe de recherche et d'intervention auprès de l'enfant vulnérable et négligé, https://orcid.org/0000-0002-1449-449X; Nicolas Berthelot, Department of Nursing Sciences, Université du Québec à Trois-Rivières, Centre d'études interdisciplinaires sur le développement de l'enfant et la famille, CERVO Brain Research Center, Interdisciplinary Research Center on Intimate Partner Relationship Problems and Sexual Abuse, Groupe de recherche et d'intervention auprès de l'enfant vulnérable et négligé, https://orcid.org/0000-0001-6781-0460

Correspondence concerning this article should be addressed to Nicolas Berthelot, Department of Nursing Sciences, Université du Québec à Trois-Rivières, Trois-Rivières, Québec, Canada. PO Box 500
Email: nicolas.berthelot@uqtr.ca

Funding details: The work was supported by the Fonds de recherche du Quebec - Société et Culture [2018-NP-204630], the Canada Research Chairs under grant [950-232739] and the Public Health Agency of Canada [1617-HQ-000015]. First author is a recipient of a Postdoctoral Fellowships from the Social Sciences and Humanities Research Council [756-2022-0549].

Acknowledgments: The authors wish to thank expecting fathers who participated in our study as well as research coordinators and assistants from the STEP Project (Supporting the Transition to and Engagement in Parenthood) for their contribution to data collection.

Disclosure statement: The authors report there are no competing interests to declare.

Data availability statement: The data that support the findings of this study are available from the corresponding author, NB, upon reasonable request.

Abstract

Men who have a history of childhood maltreatment may be at risk of experiencing significant challenges during the transition to parenthood, which might be explained by the presence of post-traumatic stress disorder (PTSD) symptoms. Using a nonclinical community sample of 230 expecting fathers, the aims of the current study were (1) to investigate, during the prenatal period, associations between childhood maltreatment and perceived parental competence as well as between childhood maltreatment and intimate partner violence, and (2) to evaluate whether PTSD symptoms contributed to explaining these associations. A structural equation model showed that the severity of childhood maltreatment predicted more severe PTSD symptoms, which in turn predicted higher levels of intimate partner violence as well as a lower perceived parental competence. No direct associations between childhood maltreatment and both perceived parental competence and intimate partner violence were observed. Implications for interventions and future research are discussed.

Keywords: child abuse and neglect, childhood trauma, fatherhood, pregnancy, mental health, post-traumatic stress disorder, couple dysfunctions, intimate partner violence

Pathway from Childhood Maltreatment to Perceived Parental Competence and Intimate Partner Violence among Expecting Fathers: The Role of PTSD Symptoms

Becoming a father can be challenging (Baldwin et al., 2018; Dabb et al., 2022), especially for men who have experienced maltreatment as a child (Price-Robertson, 2012). In addition, a history of childhood maltreatment in fathers may have intergenerational repercussions. Indeed, children of fathers who have experienced abuse (physical, sexual, or psychological), neglect (physical or psychological) or household dysfunction (parents divorced or separated, mother treated violently, household member substance abuse, mental illness, or incarceration) are at higher risk of showing early developmental delays across various domains (e.g., communication, problem solving; Folger et al., 2018) and of presenting behavioral problems later in their development (e.g., getting into fights, hurting self; Wang et al., 2023). Of note, childhood maltreatment has been found to be frequent in fathers, with about 30% of expecting fathers from the community reporting having been exposed to at least one type of abuse or neglect (Garon-Bissonnette et al., 2022). However, very few studies looked at factors that might explain men's experience of a highly challenging transition to parenthood among those with a history of childhood maltreatment. Investigating such factors, even before childbirth, could identify intervention targets to prevent later difficulties in the father-child relationship and to mitigate the intergenerational impact of childhood maltreatment.

Childhood Maltreatment and Perception of Parental Competence During the Prenatal Period in Expecting Fathers

Previous studies report that fathers with a history of childhood sexual abuse express many doubts about the quality of their actual parenting (O'Brien et al., 2019; Price-Robertson, 2012). However, very little is known about the perception of future parental competence in expecting

fathers who experienced childhood maltreatment. Perceived parental competence is defined as the subjective impression of having the skills required to parent a child (Badr, 2005) and is known to be particularly important for paternal involvement (Tremblay & Pierce, 2011). In turn, paternal involvement has been associated with multiple benefits in terms of offspring cognitive, emotional, and social development (Diniz et al., 2021). Preliminary data from our team using a small subsample of expecting fathers (16 exposed to childhood maltreatment and 55 non-exposed) suggested that exposure to childhood abuse or neglect would not be associated will a lower sense of parental competence (Berthelot et al., 2020). However, given the risk of type-II errors with such small samples there is a need for further studies exploring the association between exposure to childhood maltreatment and perception of paternal competence in expecting fathers. The current study aims to address this issue by providing new analyses using an extended sample of expecting fathers from the community.

Childhood Maltreatment and Intimate Partner Violence During the Prenatal Period in Expecting Fathers

Expecting fathers can face challenges in their couple relationship during the prenatal period. The level of adjustment required by the arrival of a child may exert pressure on the parental couple and contribute to couple dysfunctions (Baldwin et al., 2018). It has been reported that stressors during the prenatal period can increase the likelihood of intimate partner violence (Davis & Narayan, 2020), a risk that might be even greater if men have experienced childhood maltreatment. A meta-analysis including 66 studies (n = 70,359; community and clinical samples) showed that men who had been exposed to various forms of childhood maltreatment (i.e., sexual, physical, and psychological abuses, neglect, or witnessing intimate partner violence) were at an increased risk of perpetrating and being a victim of violence in their couple

relationship (Godbout et al., 2019). To our knowledge, no study has evaluated perpetration and victimization of violence in the couple relationship of expecting fathers who experienced childhood maltreatment. Yet, violence in the couple relationship can be detrimental to the developing fetus (Cardenas et al., 2021; Chisholm et al., 2017) and may undermine involvement in parenthood (Diniz et al., 2021; Xue et al., 2018).

PTSD Symptoms, Perceived Parental Competence, and Intimate Partner Violence During the Prenatal Period in Expecting Fathers

Some research with samples of men suggests that post-traumatic stress disorder (PTSD) symptoms would increase the risk of perceiving oneself as not competent as a father and of presenting couple dysfunctions, over and beyond the effect of other psychological problems such as substance abuse, depression, dissociation, and personality dysfunction (Berthelot et al., 2020; Semiatin et al., 2017). According to the DSM-5 (American Psychiatric Association, 2013), individuals with PTSD can manifest with a variety of symptoms including recurrent and unwanted memories after exposure to reminders of their traumatic experiences, show irritability, aggression, and hypervigilance, strong negative emotions relating to the traumatic experience, and a general avoidance of trauma related thoughts, feelings, and memories. PTSD symptoms might thus contribute to some expecting fathers experiencing a challenging transition to fatherhood.

Becoming a father comes with the development of new attachment relationships as well as intensification and complexification of existing attachment relationships (Baldwin et al., 2018). Knowing that attachment-related mental states may represent particular triggers for survivors of interpersonal traumas such as childhood maltreatment (Amos et al., 2011; O'Brien et al., 2019; Fenerci & DePrince, 2018), some adults who developed PTSD symptoms in the

aftermath of such traumas may see their symptoms being exacerbated by the arrival of a child (Muzik et al., 2016). This may be especially true for men given their proneness to numbing, escaping, and avoiding emotional experiences in the face of mental distress (Ridge et al., 2011) and that norms and stereotypes (e.g., men do not talk about issues that may be seen as a weakness) can discourage them from talking about their traumatic experiences (Gagnier & Collin-Vézina, 2016). Among a small community sample of 71 expecting fathers, we previously observed that those with a history of childhood maltreatment reported more symptoms of PTSD than those without a history of maltreatment, whereas no difference was observed between groups regarding depression (Berthelot et al., 2020). This is, to our knowledge, the only study that has explored PTSD symptoms among expecting fathers with a history of childhood maltreatment.

PTSD symptoms may play an important role in the association between expecting fathers' history of childhood maltreatment and their perception of parental competence during the prenatal period. Expecting fathers who have a history of childhood maltreatment may avoid thinking about the child-to-come in an attempt to avoid being in touch with painful memories and emotions related to their own traumatic past (O'Brien et al., 2019). This protective stance might result in a missed opportunity to think about the way they would like to take care of their child once he or she is born. This may have a detrimental effect on their perception of parental competence. To this day, most studies regarding PTSD symptoms and parenting outcomes have focused on actual parents (i.e., who already had a child), mostly mothers, and have rarely measured their perceptions of parental competence (Christie et al., 2019). Nevertheless, previous studies showed negative associations between PTSD symptoms and satisfaction levels of fathers regarding fatherhood, quality of bonding with their children, and positive parenting practices,

although results are not consistent across studies and their generalizability is limited (Christie et al., 2019). That said, it has been previously reported that a negative self-view, which is symptom of PTSD, can contribute to a lower perceived parental competence (Fang et al., 2021).

PTSD symptoms may similarly play an important role in the association between expecting fathers' history of childhood maltreatment and couple dysfunctions during the prenatal period. Indeed, expecting fathers may use maladaptive conflict resolution strategies such as physical or verbal violence to avoid unpleasant memories and emotions related to their history of childhood maltreatment when such mental states are evoked in the couple's relationship. Based on a clinical sample of American men (n = 293), Semiatin et al. (2017) showed that PTSD symptoms, such as intrusion, avoidance and arousal/reactivity were positively associated with perpetration of violence in the couple relationship (e.g., emotional abuse, aggression, dominance /intimidation), over and beyond alcohol problems, drug use and depression.

The present study

The present study expands upon the limited literature regarding fatherhood in men having experienced childhood maltreatment. Using a large community sample of expecting fathers, the aims of the present study are to evaluate (1) whether the severity of exposure to maltreatment during childhood is associated with the current perceptions of parental competence and with the severity of physical and psychological intimate partner violence during the prenatal period and (2) whether PTSD symptoms explained these associations. Of note, men who already had children as well as new fathers were included in the current study considering evidence that parenting does not get easier, nor more challenging, the second time around (Hickey et al., 2019; Krieg, 2007) and that the number of children in the household is not a strong and consistent determinant of the perception of parental competence (Fang et al., 2021; Hickey et al., 2019;

Zuravin & Fontanella, 1999). It is expected that (a) the severity of childhood maltreatment experienced will be positively associated with the severity of PTSD symptoms and intimate partner violence and negatively associated with perceived parental competence; and (b) that an indirect effect of PTSD symptoms will be observed in the association between childhood maltreatment and intimate partner violence as well as between childhood maltreatment and perceived parental competence.

Method

Participants and procedure

A sample of 233 expecting fathers was recruited in the Province of Quebec, Canada, using two complementary strategies. First, a sample of 80 expecting fathers was recruited during prenatal classes between July 2015 and September 2018 (for more information, see Berthelot et al., 2020). Given that prenatal classes were generally offered around the end of the pregnancy, most of these participants had a partner who was in her last trimester. Second, an additional 153 expecting fathers were recruited at the first pregnancy monitoring appointment (around 12 weeks of pregnancy) between April 2018 and March 2021 through a brief presentation of the research by nurses and professionals offering prenatal care. Participants who agreed to participate and met the inclusion criteria (i.e., being 18 years old or older, having sufficient French reading skills to complete self-reported instruments, not suffering from a severe psychiatric diagnosis such as psychosis, and expecting a child) were contacted by phone and completed the questionnaires online on a secure portal. The sample drawn from the two complementary strategies includes 233 expecting fathers. Three of those were excluded given that they had missing data on all variables of interest. The final sample thus includes 230 expecting fathers. Sociodemographic characteristics of participants are presented in Table 1. Overall, most participants were highly

educated, employed, and financially well resourced. The sample should thus be considered as a low-risk community sample. Around a quarter (26.1%) reported at least one type of childhood maltreatment according to the validated cut-offs of the Childhood Trauma Questionnaire. Ethics approval was obtained from our university's (# CER-16-226-10; CER-15-210-07.02) and our Regional Health Care Center's (# CER-2016-016; CER-2014-027-00) ethics committees.

[Table 1 near here]

Measures

Sociodemographic characteristics

Expecting fathers reported their age, ethnicity, marital status, level of education, employment status, annual family income, if they had ever been in trouble with the law and if they already had other children.

Childhood Trauma Questionnaire

Childhood maltreatment was assessed using the French version (Paquette et al., 2004) of the 28-item version of the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003). This self-reported measure evaluates five types of childhood maltreatment: physical (five items), psychological (five items), and sexual abuse (five items), and physical (eight items) and psychological neglect (five items). Expecting fathers rated each item on a 5-point Likert scale (*1 = never true to 5 = always true*). Items were added up and the total score was used in the analysis. Higher scores reflect more severe exposure to childhood maltreatment. The CTQ shows a good validity across diverse clinical and general populations (Bernstein et al., 2003). In this study, the Cronbach's alphas were .80, .86, .92 for the physical, psychological, and sexual abuse subscales and were .75 and .91 for the physical and psychological neglect subscales. The Cronbach's alpha for the full scale was .83.

PTSD Symptoms

PTSD symptoms were assessed using the French version (Ashbaugh et al., 2016) of the PTSD Checklist for DSM-5 (PCL-5; Wilkins et al., 2011). The PCL-5 includes 20 self-reported items that are based on the PTSD diagnostic criteria of the fifth edition of the DSM and contains four subscales corresponding to four symptom clusters: (1) re-experiencing/intrusion symptoms (five items; e.g., repeated, disturbing, and unwanted memories of the stressful experience), (2) avoidance (two items; e.g., avoiding memories, thoughts, or feelings related to the stressful experience), (3) negative alterations in cognition and mood (seven items; e.g., loss of interest in activities that you used to enjoy), (4) increased arousal and reactivity (six items; e.g., being "superalert" or watchful or on guard). Participants indicate how much each symptom bothered them over the last month on a 5-point Likert scale (*0 = not at all to 4 = extremely*). Higher scores reflect more PTSD symptoms. Both the French and the English versions have good reliability (internal consistency, temporal stability, test-retest) and convergent validity (Ashbaugh et al., 2016; Wilkins et al., 2011). The Cronbach's alphas were .90, .81, .86, .82 for the intrusion, avoidance, negative alterations in cognition and mood and arousal subscales.

Perceived Parental Competence

Perceived parental competence during the prenatal period was assessed using the French version of the Maternal Confidence Questionnaire (MCQ; Parker & Zahr, 1985), which had been previously validated with men (e.g., Powell et al., 2018). The MCQ includes 14 items that participants rated on a 5-point Likert scale (*1 = never to 5 = always*; e.g., I will know when my baby wants me to play with him/her, when my baby will be cranky I will know the reason). A higher score reflects a higher degree of perceived parental competence during the prenatal period. A literature review revealed good construct validity and internal consistencies in over 20

studies (Badr, 2005). Cronbach's alpha for the MCQ in this study was .85.

Intimate Partner Violence

A 24-item version (Godbout et al, 2017) of the Revised Conflict Tactics Scale (CTS-2; Lussier, 1997; Straus et al., 1996) was used to assess, during the prenatal period, psychological and physical violence victimization and perpetration. Items are rated on an 8-point Likert scale, ranging from 0 (never occurred in the past year) to 6 (more than 20 times in the last year) assessing the frequency of physical (12 items; e.g., I kicked my partner, my partner kicked me) and psychological violence (12 items; e.g., I insulted or swore at my partner, my partner insulted or swore at me). A score of 7 indicated that the behavior did not happen in the past year but happened before and was recoded 0. Items were added up and the total score was used in the principal analysis. A higher score reflects a more frequent victimization and perpetration of psychological and physical violence in the past year. The CTS-2 demonstrated good reliability and validity across various nonclinical samples of adults (Chapman & Gillespie, 2019; Straus et al., 1996). The Cronbach's alpha for the CTS-2 total score in this study was .80.

Analysis

First, a preliminary analysis of bivariate correlations was conducted in SPSS 28.0 (IBM Corp., 2022) to evaluate the necessity to include sociodemographic characteristics as control variables. Second, to meet the objective of the study, a structural equation model (SEM) was fitted to the sample using MPlus 8.4 (Muthén & Muthén, 2017). The initial structural equation model (i.e., the one including only postulated associations) was revised (if needed) sequentially based on the potential improvements suggested by modification indices to ensure adequacy of the measurement model. Modifications were implemented one at a time (e.g., adding an

association between two variables) to arrive at the model that best fits the data, determined by the fit indices Comparative Fit Index (CFI ≥ 90), the Tucker-Lewis Index (TLI ≥ 90), the Root Mean Square Error of Approximation (RMSEA ≤ .08) and the Standardized Root Mean Square Residual (SRMR ≤ .08; Hu & Bentler, 1999; Little, 2013; Schermelleh-Engel et al., 2003).

Third, once the best adjusted SEM was identified, to examine the indirect effect of childhood maltreatment on perceived parental competence and marital dysfunctions via PTSD symptoms, mediation analyses were performed in MPlus 8.4 using the indirect model option (Muthén & Muthén, 2017). Each relevant indirect effect was tested with 10 000 bootstraps and reported on a 95% interval confidence. When the interval confidence does not include the value 0, the test is considered statistically significant. An indirect effect can be tested although the direct association between two variables (e.g., between severity of childhood maltreatment and perceived parental competence) is not statistically significant, especially when there is an a priori hypothesis regarding an indirect effect, as in the current study (Agler & De Boeck, 2017).

Data were missing for the following variables: age (0.4%), annual family income (30.9%), ever been in trouble with the law (1.3%), already have other children (13.5%), intrusion symptoms (2.6%), avoidance symptoms (2.2%), negative alterations in cognition and mood symptoms (2.2%), increased arousal and reactivity symptoms (2.2%), perceived parental competence (1.3%) and intimate partner violence (4.3%). Missing data however followed an MCAR pattern (χ^2 (153) = 163.57, p = .27) and were thus dealt with using the Full Information Maximum Likelihood Method (Muthen & Muthen, 2017).

Results

Bivariate correlations showed that having a lower annual family income as well as having been in trouble with the law was positively and significantly associated with the arousal and

reactivity symptoms subscale (see Table 2). However, it was not significantly associated with the PTSD symptoms latent variable (p = .42 and .74, respectively) in the SEM. None of the other sociodemographic characteristics was associated with the predicted variables (i.e., PTSD symptoms, perceived parental competence and intimate partner violence). Thus, no control variable was included in the SEM.

[Table 2 near here]

The initial SEM showed an almost acceptable fit to the data [χ^2 (12) = 36.38, p < .001, CFI = .96, TLI = .93, RMSEA = .09, SRMR = .04]. Modification indices for improving the model suggested adding an association between the intrusion and avoidance symptom subscales [χ^2 (11) = 18.82, p = .06, CFI = .99, TLI = .98, RMSEA = .06, SRMR = .03, $\Delta\chi^2$ = 17., p < .001], which is consistent with previous research reporting a strong association between intrusion and avoidance symptoms in adults dealing with PTSD symptoms (Bryant et al., 2017). Modification indices also suggested adding an association between the avoidance and negative alterations in cognition and mood subscales [χ^2 (10) = 14.02, p = .17, CFI = .99, TLI = .99, RMSEA = .04, SRMR = .03, $\Delta\chi^2$ = 4.80, p = .03], which is in line with previous observations that avoidance is a maintaining factor for depressed and anxious moods and cognitions and eventually leads to a disinterest in most activities (Bryant et al., 2017). These two modifications allow the model to attain an excellent fit to the data. Each association that did not attain significance ($p \geq .05$; associations between childhood maltreatment and perceived parental competence and intimate partner violence) was removed one by one while ensuring at each step that it did not significantly deteriorate the model fit. The final model is presented in Figure 1. This model showed that the severity of exposure to childhood maltreatment was positively associated with the severity of PTSD symptoms, which in turn predicted higher levels of intimate

partner violence and a lower perception of parental competence. Results showed a significant indirect effect from severity of childhood maltreatment to perceived parental competence (b = -.09, p = .001, 95% IC [-.15, -.03]) and intimate partner violence (b = .10, p = .02, 95% IC [.03, .17]). Of note, the same results were obtained with violence victimization and perpetration considered separately in the SEM (see S1 in the supplemental online material).

[Figure 1 near here]

Discussion

The aims of the current study were to (1) evaluate how expecting fathers' severity of childhood maltreatment relates to their PTSD symptoms, intimate partner violence, and perception of parental competence during the prenatal period and (2) to evaluate the specific role of expecting fathers' PTSD symptoms in the associations between the severity of childhood maltreatment and the severity of intimate partner violence, as well as between the severity of childhood maltreatment and levels of perceived parental competence.

Findings showed that the more expecting fathers' history of childhood maltreatment increased in severity, the more they experienced PTSD symptoms during the prenatal period. This is consistent with the findings of numerous studies showing a positive association between the severity of childhood maltreatment and the severity of PTSD symptoms among adults (Messman-Moore & Phuptani, 2017). Moreover, in line with previous studies, no direct association was observed between childhood maltreatment and perception of parental competence among expecting parents (mostly mothers; blinded for review). Similarly, our results yielded no direct association between the severity of childhood maltreatment and the severity of intimate partner violence, a finding that is not at odds with the low-level association (r = .19) reported in Godbout et al. (2019)'s meta-analysis on the association between childhood

maltreatment and later intimate partner violence in men.

Interestingly, we rather observed an indirect association between childhood maltreatment and both perceived parental competence and intimate partner violence via the severity of PTSD symptoms. This is consistent with Skjothaug et al. (2018)'s study showing an indirect association between childhood maltreatment and fathers' couple relationship through psychological symptoms. Indeed, these authors, although they did not consider PTSD symptoms, noted that childhood maltreatment assessed during pregnancy in expecting fathers did not directly predict spousal disharmony with the other parent (little emotional and instrumental support) at six months postnatal, but rather had an indirect effect through depressive symptoms. To our knowledge, no other study has evaluated the role of mental health symptoms in the association between fathers' history of childhood maltreatment and perceived parental competence during the prenatal period. Overall, these findings highlight the importance of considering psychopathology in expecting fathers who have experienced childhood maltreatment.

The current study calls for extending the population targeted by community-based programs to include expecting fathers exposed to childhood maltreatment and/or presenting PTSD symptoms, regardless of their sociodemographic status. Indeed, most public health approaches and preventive programs only include women or rely on sociodemographic characteristics (e.g., low income; limited education; social isolation) as entry criteria. Our findings would suggest that expecting fathers should also be considered in these programs and that psychopathology, namely PTSD symptoms, should be a core component of the public health strategies used to identify expecting fathers the most at risk of encountering difficulties during the prenatal period and therefore most likely to benefit from preventive intervention and parent-support programs.

Regarding childhood maltreatment more specifically, the current study calls for trauma-focused and trauma-informed interventions with expecting fathers during the prenatal period. To our knowledge, there is currently no prenatal intervention specifically designed for expecting fathers who experienced childhood maltreatment and struggle with PTSD symptoms, whilst such interventions exist for pregnant women (Berthelot et al., 2021; Lieberman et al., 2005; Seng et al., 2011). Following this line of thought, previous findings in samples of expecting parents showed that mentalization abilities may exert a strong protective effect by mitigating the risk of perinatal PTSD in survivors of trauma (Berthelot et al., 2019; Berthelot et al., 2022; Ensink et al., 2023), and supporting their engagement in parenthood as well as the development of a secure attachment relationship with their child (Camoirano, 2017). The development and implementation of mentalization-based prenatal intervention for expecting fathers with histories of childhood maltreatment therefore presents a promising avenue (Berthelot et al., 2018; MacBeth et al., 2023).

This study however is subject to several limitations. First, our sample is not ethnically and socioeconomically diverse, which limits generalizability. Second, descriptive statistics showed that expecting fathers generally reported high levels of perceived parental competence and low levels of intimate partner violence, which may be due to the low-risk community sample on which this study is based. It can also be hypothesized that parental competence is defensively overestimated, and intimate partner violence is defensively underestimated in expecting fathers exposed to childhood maltreatment to avoid unpleasant emotions and thoughts related to their previous traumas. The tendency of men to underestimate their psychological difficulties should also be considered in this regard (Smith et al., 2018). Third, PTSD symptoms were assessed using a self-report instrument rather than a clinical interview and the assessment of both

childhood maltreatment and intimate partner violence was retrospective and self-reported, which might have produced a response bias. Alternatively, the use of a large nonclinical community sample is one particular strength of the study. This allows the results to be generalized to a larger proportion of the population and highlights the need to investigate men who have a history of childhood maltreatment even if they do not have as many risk factors as those in clinical samples. Moreover, this study adds to the very scarce literature regarding childhood maltreatment and fatherhood.

Future research should replicate our findings with a more diverse sample in terms of ethnicity and socioeconomic status, as well as in terms of the severity of trauma, PTSD symptoms and violence in the couple's relationship. The results also call for longitudinal studies. Indeed, future research should evaluate how, among expecting fathers who have a history of childhood maltreatment, parental competence, and couple functioning evolves over time, from pregnancy to the first years following childbirth, and how this impacts the relationship with their children. Besides, a gap may eventually become evident between expecting fathers' expectations regarding their parental competence and their real parenting skills once the child is born. Such a gap may be especially difficult to deal with and lead to an increase in emotion dysregulation and psychological distress, as well as a decrease in self-efficacy (Wroe et al., 2019), especially in men who are fragilized by a history of childhood maltreatment or present vulnerabilities in terms of psychopathology, namely PTSD symptoms (Messman-Moore & Phuptani, 2017). This in turn may compromise the relationship with their child. Further studies should also include balanced and equivalent sub-samples of first-time fathers and current fathers to verify whether the observed associations differ between these subgroups.

In conclusion, this study showed that PTSD symptoms contribute to expecting fathers

experiencing a more challenging transition to parenthood. Practitioners working with families, such as social workers, psychologists, nurses, midwives and physicians, should monitor PTSD symptoms among expecting fathers to prevent difficulties in the relationship between parents as well as in the father-child relationship. It might be one way, even before the child is born, to mitigate the intergenerational repercussions of childhood maltreatment.

References

Agler, R., & De Boeck, P. (2017). On the interpretation and use of mediation: Multiple perspectives on mediation analysis. *Frontiers in Psychology*, *8*(11). https://doi.org/10.3389/fpsyg.2017.01984

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders: DSM-5* (5th ed.). American Psychiatric Association.

Amos, J., Furber, G., & Segal, L. (2011). Understanding maltreating mothers: a synthesis of relational trauma, attachment disorganization, structural dissociation of the personality, and experiential avoidance. *Journal of Trauma & Dissociation*, *12*(5), 495-509. https://doi.org/10.1080/15299732.2011.593259

Ashbaugh, A. R., Houle-Johnson, S., Herbert, C., El-Hage, W., & Brunet, A. (2016). Psychometric validation of the English and French versions of the posttraumatic stress disorder checklist for DSM-5 (PCL-5). *PloS One*, *11*(10). https://doi.org/10.1371/journal.pone.0161645

Badr, L. K. (2005). Further psychometric testing and use of the Maternal Confidence Questionnaire. *Issues in Comprehensive Pediatric Nursing*, *28*(3), 163-174. https://doi.org/10.1080/01460860500227572

Baldwin, S., Malone, M., Sandall, J., & Bick, D. (2018). Mental health and wellbeing during the transition to fatherhood: a systematic review of first-time fathers' experiences. *JBI Database of Systematic Reviews and Implementation Reports*, *16*(11). https://doi.org/10.11124/JBISRIR-2017-003773

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., Stokes, J., Handelsman, L., Medrano, M., Desmond, D., & Zule, W. (2003). Development and validation of a brief screening version of the childhood trauma questionnaire. *Child Abuse & Neglect*, *27*(2), 169–190. https://doi.org/10.1016/S0145-2134(02)00541-0

Berthelot, N., Drouin-Maziade, C., Garon-Bissonnette, J., Lemieux, R., Sériès, T., & Lacharité, C. (2021). Evaluation of the acceptability of a prenatal program for women with histories of childhood trauma: the Program STEP. *Frontiers in Psychiatry*, *12* (4) 772706–77270. https://doi.org/10.3389/fpsyt.2021.772706

Berthelot, N., Lemieux, R., Garon-Bissonnette, J., Lacharité, C., & Muzik, M. (2019). The protective role of mentalizing: Reflective functioning as a mediator between child maltreatment, psychopathology and parental attitude in expecting parents. *Child Abuse & Neglect*, *95*(9), 104065. https://doi.org/10.1016/j.chiabu.2019.104065

Berthelot, N., Lemieux, R., Garon-Bissonnette, J., & Muzik, M. (2020). Prenatal attachment, parental confidence, and mental health in expecting parents: the role of childhood trauma. *Journal of Midwifery & Women's health*, *65*(1), 85-95. https://doi.org/10.1111/jmwh.13034

Berthelot, N., Lemieux, R., & Lacharité, C. (2018). Development of a prenatal program for adults with personal histories of childhood abuse or neglect: a Delphi consensus

consultation study. *Maladies chroniques et blessures au Canada*, *38*(11). https://doi.org/10.24095/hpcdp.38.11.01

Berthelot, N., Savard, C., Lemieux, R., Garon-Bissonnette, J., Ensink, K., & Godbout, N. (2022). Development and validation of a self-report measure assessing failures in the mentalization of trauma and adverse relationships. *Child Abuse & Neglect*, *128*(6). https://doi.org/10.1016/j.chiabu.2021.105017

Bryant, R. A., Creamer, M., O'Donnell, M., Forbes, D., McFarlane, A. C., Silove, D., & Hadzi-Pavlovic, D. (2017). Acute and chronic posttraumatic stress symptoms in the emergence of posttraumatic stress disorder: A network analysis. *JAMA Psychiatry*, *74*(2), 135-142. https;//doi.org/10.1001/jamapsychiatry.2016.3470

Camoirano, A. (2017). Mentalizing makes parenting work: A review about parental reflective functioning and clinical interventions to improve it. *Frontiers in Psychology*, *8* (1), 14. https://doi.org/10.3389/fpsyg.2017.00014

Cardenas, S. I., Morris, A. R., Marshall, N., Aviv, E. C., Martínez García, M., Sellery, P., & Saxbe, D. E. (2022). Fathers matter from the start: The role of expectant fathers in child development. *Child Development Perspectives*, *16*(1), 54-59. https://doi.org/10.1111/cdep.12436

Chapman, H., & Gillespie, S. M. (2019). The Revised Conflict Tactics Scales (CTS2): A review of the properties, reliability, and validity of the CTS2 as a measure of partner abuse in community and clinical samples. *Aggression and Violent Behavior*, *44*(1-2), 27-35. https://doi.org/10.1016/j.avb.2018.10.006

Chisholm, C. A., Bullock, L., & Ferguson II, J. E. J. (2017). Intimate partner violence and pregnancy: epidemiology and impact. *American Journal of Obstetrics and Gynecology*, *217*(2), 141-144. https://doi.org/10.1016/j.ajog.2017.05.042

Christie, H., Hamilton-Giachritsis, C., Alves-Costa, F., Tomlinson, M., & Halligan, S. L. (2019). The impact of parental posttraumatic stress disorder on parenting: A systematic review. *European Journal of Psychotraumatology*, *10*(1), 1550345. https://doi.org/10.1080/20008198.2018.1550345

Dabb, C., Dryer, R., Brunton, R. J., Yap, K., & Roach, V. J. (2022). Paternal pregnancy-related anxiety: Systematic review of men's concerns and experiences during their partners' pregnancies. *Journal of Affective Disorders, 323* (2). https://doi.org/10.1016 /j.jad. 2022.11.092

Davis, E. P., & Narayan, A. J. (2020). Pregnancy as a period of risk, adaptation, and resilience for mothers and infants. *Development and psychopathology*, *32*(5), 1625-1639. https://doi.org/10.1017/S0954579420001121

Diniz, E., Brandao, T., Monteiro, L., & Verissimo, M. (2021). Father involvement during early childhood: A systematic review of the literature. *Journal of Family Theory & Review*, *13*(1), 77-99. https://doi.org/10.1111/jftr.12410

Ensink, K., Bégin, M., Martin-Gagnon, G., Biberdzic, M., Berthelot, N., Normandin, L., Fonagy, P., Bernazzani, O., & Borelli, J. L. (2023). Post-traumatic stress in the context of childhood maltreatment: Pathways from attachment through mentalizing during the transition to parenthood. *Frontiers in Psychology*, *14*, 919736–919736. https://doi.org/10.3389/fpsyg.2023.919736

Fang, Y., Boelens, M., Windhorst, D. A., Raat, H., & van Grieken, A. (2021). Factors associated with parenting self-efficacy: A systematic review. *Journal of Advanced Nursing*, *77*(6), 2641-2661. https://doi.org/10.1111/jan.14767

Fenerci, R. L. B., & DePrince, A. P. (2018). Intergenerational transmission of trauma: maternal trauma–related cognitions and toddler symptoms. *Child Maltreatment*, *23*(2), 126-136. https://doi.org/10.1177/1077559517737376

Folger, A. T., Eismann, E. A., Stephenson, N. B., Shapiro, R. A., Macaluso, M., Brownrigg, M. E., & Gillespie, R. J. (2018). Parental adverse childhood experiences and offspring development at 2 years of age. *Pediatrics*, *141*(4). https://doi.org/10.1542/peds.2017-2826

Gagnier, C., & Collin-Vézina, D. (2016). The disclosure experiences of male child sexual abuse survivors. *Journal of Child Sexual Abuse*, *25*(2), 221-241. https://doi.org/10.1080/10538712.2016.1124308

Garon-Bissonnette, J., Bolduc, M. È. G., Lemieux, R., & Berthelot, N. (2022). Cumulative childhood trauma and complex psychiatric symptoms in pregnant women and expecting men. *BMC Pregnancy and Childbirth*, *22*(1), 1-10. https://doi.org/10.1186/s12884-021-04327-x

Godbout, N., Daspe, M. È., Lussier, Y., Sabourin, S., Dutton, D., & Hébert, M. (2017). Early exposure to violence, relationship violence, and relationship satisfaction in adolescents and emerging adults: The role of romantic attachment. *Psychological Trauma: Theory, Research, Practice, and Policy*, *9*(2), 127. https://doi.org/10.1037/tra0000136

Godbout, N., Vaillancourt-Morel, M. P., Bigras, N., Briere, J., Hebert, M., Runtz, M., & Sabourin, S. (2019). Intimate partner violence in male survivors of child maltreatment: A

meta-analysis. *Trauma, Violence, & Abuse*, *20*(1), 99-113. https://doi.org/10.1177/1524838017692382

Hickey, G., McGilloway, S., Leckey, Y., Furlong, M., Leavy, S., Stokes, A., O'Connor, S., Bywater, T., & Donnelly, M. (2019). Mothers' well-being, parenting attitudes, and home environment: Cumulative risk and parity in early motherhood. *Child: Care, Health and Development*, *45*(4), 523-530. https://doi.org/10.1111/cch.12677

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1-55. https://doi.org/10.1080/10705519909540118

IBM Corp. (2022*). IBM SPSS Statistics for Mac, Version 28.0*. Armonk, IBM Corp.

Krieg, D. B. (2007). Does motherhood get easier the second-time around? Examining parenting stress and marital quality among mothers having their first or second child. *Parenting: Science and Practice*, *7*(2), 149-175. https://doi.org/10.1080/15295190701306912

Lieberman, A. F., Van Horn, P., & Ippen, C. G. (2005). Toward evidence-based treatment: Child-parent psychotherapy with preschoolers exposed to marital violence. *Journal of the American Academy of Child & Adolescent Psychiatry*, *44*(12), 1241-1248. https://doi.org/10.1097/01.chi.0000181047.59702.58

Little, T. D. (2013). *Longitudinal structural equation modeling*. Guilford press.

Lussier, Y. (1997). French translation of the Revised Conflict Tactics Scale (CTS-2). Unpublished manuscript.

MacBeth, A., Christie, H., Golds, L., Morales, F., Raouna, A., Sawrikar, V., & Gillespie-Smith, K. (2023). Thinking about the next generation: The case for a mentalization-informed

approach to perinatal and intergenerational mental health. *Psychology and Psychotherapy: Theory, Research and Practice*. (8). https://doi.org/10.1111/papt.12483

Messman-Moore, T. L., & Bhuptani, P. H. (2017). A review of the long-term impact of child maltreatment on posttraumatic stress disorder and its comorbidities: An emotion dysregulation perspective. *Clinical Psychology: Science and Practice*, *24*(2), 154-169. https://doi.org/10.1111/cpsp.12193

Muthén, B., & Muthén, B. O. (2017). *Statistical analysis with latent variables*. New York: Wiley.

Muzik, M., McGinnis, E. W., Bocknek, E., Morelen, D., Rosenblum, K. L., Liberzon, I., ... & Abelson, J. L. (2016). PTSD symptoms across pregnancy and early postpartum among women with lifetime PTSD diagnosis. *Depression and Anxiety*, *33*(7), 584-591. https://doi.org/10.1002/da.22465

O'Brien, J., Creaner, M., & Nixon, E. (2019). Experiences of fatherhood among men who were sexually abused in childhood. *Child Abuse & Neglect*, *98*(12), 104-177. https://doi.org/10.1016/j.chiabu.2019.104177

Paquette, D., Laporte, L., Bigras, M., & Zoccolillo, M. (2004). Validation de la version française du CTQ et prévalence de l'histoire de maltraitance. *Santé mentale au Québec*, *29*(1), 201-220. https://doi.org/10.7202/008831ar

Parker, S., & Zahr, L. (1985). *The Maternal Confidence Questionnaire*. Boston, MA: Boston City Hospital

Powell, C., Bamber, D., Long, J., Garratt, R., Brown, J., Rudge, S., Morris, T., Bhupendra Jaicim, N., Plachcinski, R., Dyson, S., Boyle, E. M., & St James-Roberts, I. (2018). Mental health and well-being in parents of excessively crying infants: prospective

evaluation of a support package. *Child: Care, Health and Development*, *44*(4), 607–615. https://doi.org/10.1111/cch.12566

Price-Robertson, R. (2012). Child sexual abuse, masculinity and fatherhood. *Journal of Family Studies*, *18*(2-3), 130-142. https://doi.org/10.5172/jfs.2012.18.2-3.130

Ridge, D., Emslie, C., & White, A. (2011). Understanding how men experience, express and cope with mental distress: where next?. *Sociology of Health & Illness*, *33*(1), 145-159. https://doi.org/10.1111/j.1467-9566.2010.01266.x

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, *8*(2), 23-74. https://citeseerx.ist.psu.edu/viewdoc /download?doi=10.1.1.509.4258&rep=rep1&type=pdf

Semiatin, J. N., Torres, S., LaMotte, A. D., Portnoy, G. A., & Murphy, C. M. (2017). Trauma exposure, PTSD symptoms, and presenting clinical problems among male perpetrators of intimate partner violence. *Psychology of Violence*, *7*(1), 91-100. https://doi.org/10.1037/vio0000041

Seng, J. S., Sperlich, M., Rowe, H., Cameron, H., Harris, A., Rauch, S. A., & Bell, S. A. (2011). The survivor moms' companion: open pilot of a posttraumatic stress specific psychoeducation program for pregnant survivors of childhood maltreatment and sexual trauma. *International Journal of Childbirth*, *1*(2), 111-121. https://doi.org/10.1891/2156-5287.1.2.111

Skjothaug, T., Smith, L., Wentzel-Larsen, T., & Moe, V. (2018). Does fathers' prenatal mental health bear a relationship to parenting stress at 6 months? *Infant Mental Health Journal*, *39*(5), 537-551. https://doi.org/10.1002/imhj.21739

Smith, D. T., Mouzon, D. M., & Elliott, M. (2018). Reviewing the assumptions about men's mental health: An exploration of the gender binary. *American Journal of Men's Health*, *12*(1), 78-89. https://doi.org/10.1177/1557988316630953

Straus, M. A., Hamby, S. L., Boney-McCoy, S. U. E., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS-2): Development and preliminary psychometric data. *Journal of Family Issues*, *17*(3), 283-316. https://doi.org/10.1177/019251396017003001

Tremblay, S., & Pierce, T. (2011). Perceptions of fatherhood: Longitudinal reciprocal associations within the couple. *Canadian Journal of Behavioural Science*, *43*(2), 99–110. https://doi.org/10.1037/a0022635

Walker, E. A., Unutzer, J., Rutter, C., Gelfand, A., Saunders, K., VonKorff, M., ... & Katon, W. (1999). Costs of health care use by women HMO members with a history of childhood abuse and neglect. *Archives of General Psychiatry*, *56*(7), 609-613. https://doi.org/10.1001/archpsyc.56.7.609

Wang, X., Lee, M. Y., & Quinn, C. R. (2023). Intergenerational transmission of trauma: unpacking the effects of parental adverse childhood experiences. *Journal of Family Studies*, *29*(4), 1687-1703. https://doi.org/10.1080/13229400.2022.2073903

Wilkins, K. C., Lang, A. J., & Norman, S. B. (2011). Synthesis of the psychometric properties of the PTSD checklist (PCL) military, civilian, and specific versions. *Depression and Anxiety*, *28*(7), 596-606. https://doi.org/10.1002/da.20837

Wroe, J., Campbell, L., Fletcher, R., & McLoughland, C. (2019). "What am I thinking? Is this normal?" A cross-sectional study investigating the nature of negative thoughts, parental self-efficacy and psychological distress in new fathers. *Midwifery*, *79*(12), 102527. https://doi.org/10.1016/j.midw.2019.08.009

Xue, W. L., Shorey, S., Wang, W., & He, H. G. (2018). Fathers' involvement during pregnancy and childbirth: an integrative literature review. *Midwifery*, *62*(7), 135-145. https://doi.org/10.1016/j.midw.2018.04.013

Zuravin, S. J., & Fontanella, C. (1999). Parenting behaviors and perceived parenting competence of child sexual abuse survivors. *Child Abuse & Neglect*, *23*(7), 623-632. https://doi.org/10.1016/S0145-2134(99)00045-9

Table 1

Sociodemographic Characteristics of Participants and Descriptive Statistics of Main Variables

Sociodemographic characteristics/Main variables	% or *M*	*n* or *SD*	*Range*
Age (years)	30.41	5.35	20-55
Expecting their first child	68.3%	136	
Ethnicity			
White	96.0%	216	
African American	.9%	2	
Hispanic	.9%	2	
Asian	1.3%	3	
First Nations, Inuit, or Métis	.4%	1	
Other	.4%	1	
Marital status (common-law union)	85.7%	197	
Education level			
No high school diploma	7.0%	16	
High school diploma	13.0%	30	
Postsecondary education (collegial or professional training)	49.1%	113	
University degree	30.9%	71	
Annual family income (Can $)			
Less than 34 999$	9.6%	22	
Between 35 000 and 54 999$	10.4%	24	
Between 55 000 and 74 999$	10.4%	24	
Between 75 000 and 94 999$	17.8%	41	
95 000$ or more	20.9%	48	
Currently unemployed	6.5%	15	
Have been in trouble with the law	12.8%	29	
Trauma history[a]			
At least one type of trauma	26.1%	60	
Physical abuse	9.1%	21	
Sexual abuse	1.7%	4	
Emotional abuse	16.5%	38	
Physical neglect	10.9%	25	
Emotional neglect	13.9%	32	
Severity of childhood maltreatment (CM)	33.18	11.00	25-96
Re-experiencing/intrusion symptoms	1.99	3.52	0-19
Avoidance symptoms	1.09	1.78	0-8
Cognition/mood symptoms	3.29	4.44	0-22
Arousal and reactivity symptoms	3.45	4.05	0-23
Perceived parental competence	59.20	6.09	30-70
Intimate partner violence	3.90	6.22	0-35

Note. [a] Cut-offs for each subscale: physical abuse ≥8, psychological abuse ≥ 10, sexual abuse ≥ 8, physical neglect ≥ 8 and psychological neglect ≥ 15; Walker et al. (1999). Participants with at least one subscale with a score above the cut-off were classified as having been exposed to CM.

Table 2

Correlations of Sociodemographic and Main Variables

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	.05	.23**	.21**	.37**	.11	.12	.09	-.04	-.07	-.02	-.05	.01	.02
2. Education level		.39**	-.28**	-.03	.08	-.03	-.19**	.06	-.03	.01	-.07	-.09	-.08
3. Annual family income			-.25**	-.06	-.03	-.15	-.16*	-.07	-.11	-.14	-.22**	-.04	-.09
4. Having been involved with the criminal justice				.20**	-.01	.07	.19**	-.01	.10	.12	.17*	.08	-.02
5.Already have children					.08	.10	.08	-.03	-.03	.01	.06	.09	.12
6.Married						-.01	-.03	-.05	-.02	-.04	.01	.09	-.09
7.Unemployed							.16*	.01	-.01	.02	-.003	.08	.06
8.Childhood maltreatment								.26**	.23**	.37**	.38**	-.02	.05
9. Re-experiencing/ intrusion symptoms									.72**	.73**	.65**	-.18**	.21**
10. Avoidance symptoms										.71**	.57**	-.16*	.14*
11.Cognition/ mood symptoms											.75**	-.23**	.22**
12. Arousal and reactivity symptoms												-.13	.24**
13. Perceived parental competence													-.18**
14.Intimate partner violence													

* $p < .05$. ** $p < .01$.

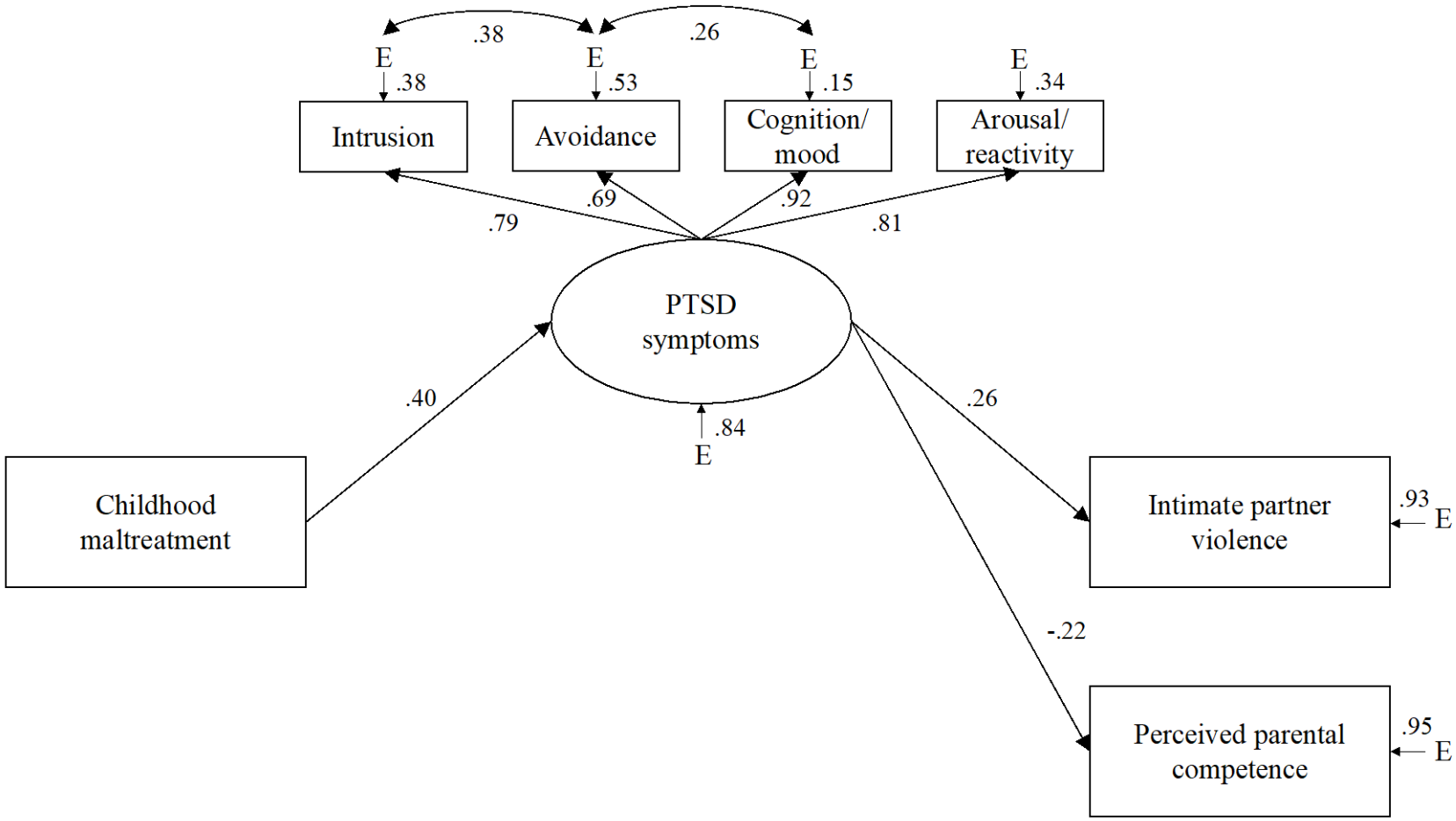
.38
.26
E
.38
E
.53
E
.15
E
.34
Intrusion
Avoidance
Cognition/
mood
Arousal/
reactivity
.69
.92
.79
.81
PTSD
symptoms
.40
.84
E
.26
Childhood
maltreatment
Intimate partner
violence
.93
E
-.22
Perceived parental
competence
.95
E

Figure 1

SEM of the Indirect Effect of Childhood Maltreatment on Intimate Partner Violence and Perceived Parental Competence via PTSD Symptoms

Note. $N = 230$. $\chi^2 (12) = 16.39$, $p = .17$, CFI = .99, TLI = .99, RMSEA = .04, SRMR = .03. All associations were statistically significant at the .05 level.