Original Research

Prenatal Attachment, Parental Confidence, and Mental Health in Expecting Parents: The Role of Childhood Trauma

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Introduction: Exposure to childhood abuse or neglect may lead to negative outcomes during pregnancy in expecting parents, which may contribute to a negative experience of childbearing and have consequences for the developing fetus. This study examined the associations between exposure to childhood abuse or neglect, psychological symptoms, prenatal attachment, and perception of parental competence in expectant parents.

Methods: Individuals at low sociodemographic risk were recruited in community perinatal care settings and completed self-report assessment measures of depression, posttraumatic stress disorder, dissociation, personality disorders, perception of parental competence, and prenatal attachment.

Results: There were 322 participants (78% women), including 91 adults with a history of childhood abuse or neglect, Participants who were exposed to childhood abuse or neglect reported significantly higher levels of symptoms on all indices of mental health than nonexposed adults, even when controlling for sociodemographic risks. However, both groups reported similar levels of prenatal attachment and parental confidence. The impact of childhood maltreatment was similar in men and women. Structural equation modeling showed that childhood abuse or neglect leads to poor mental health and that poor mental health, but not childhood maltreatment, is associated with low parental confidence and prenatal attachment.

Discussion: Psychological symptoms are frequent in expectant parents who experienced maltreatment during their childhood. However, childhood abuse or neglect is not associated with their attitude regarding parenthood and the child in the absence of psychopathology. Supporting mental health may be an important target of parental programs offered during pregnancy to women and men with a history of childhood abuse or neglect.

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INTRODUCTION

Childbearing and the first year of an infant's life may represent particularly challenging periods for adults with personal histories of childhood abuse or neglect, because the adaptations required may trigger or intensify latent or apparent vulnerabilities. For instance, parents exposed to childhood maltreatment seem more likely than nonexposed parents to report posttraumatic stress symptoms,[1,2] mother-infant bonding impairment,[3,4] and later parenting problems.[5] Early in their development, offspring of parents exposed to childhood maltreatment are correspondingly more likely to present poor outcomes such as insecure (mainly disorganized) working models of attachment[6] as well as emotional and behavioral

problems.[7] In addition, offspring of parents exposed to childhood maltreatment are 3 times more likely than children of nonexposed parents to be maltreated themselves.[8] Therefore, there is a critical need for timely detection of subgroups of parents exposed to childhood maltreatment who are more likely to transmit risk trajectories to provide effective preventive interventions.

Childhood Maltreatment and Psychological Symptoms During Pregnancy

Most studies on mental health in pregnant women who experienced childhood maltreatment focused on depression and reported a robust association between child abuse or neglect and depressive symptoms.[9] Depression in adults exposed to maltreatment may be even more frequent during pregnancy than after the birth.[10] Despite the fact that antenatal depression is more prevalent in women than in men, a significant proportion of expectant fathers who have a history of childhood maltreatment report depressive symptoms.[11] Antenatal depression is suggested to be a critical factor in the intergenerational transmission of maltreatment.[12]

Pregnancy may as well be a particularly sensitive period for the emergence or exacerbation of posttraumatic stress disorder (PTSD) symptoms, considering that PTSD is more prevalent in perinatal (7.9%) than in general (3.1%) samples of women.[13] Pregnant women exposed to childhood maltreatment are more likely to report trauma-related symptoms, such as dissociation and PTSD[14] or comorbid

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Quick Points

◆ This study shows that exposure to high doses of adversity during childhood, in the form of abuse or neglect, is a significant risk factor for poor mental health in expectant parents.

◆ This study provides new information on potential risk factors for antenatal attachment to the fetus and parental sense of competence and shows that poor mental health, but not trauma, negatively affects parental attitudes.

◆ Perinatal care providers have the opportunity to offer or provide access to trauma-informed mental health services that support women and men with personal histories of trauma and that contribute to the interruption of intergenerational risk trajectories.

PTSD and depression,[2] than nonexposed women. PTSD symptoms play a key role in the intergenerational transmission of risk trajectories, as they negatively affect mother-infant bonding in the early postpartum period.[4] There is very limited literature on the association between childhood maltreatment and PTSD in expectant fathers.

To our knowledge, the literature on the association between childhood maltreatment and the clinical features of personality disorders during pregnancy is sparse. However, childhood maltreatment has been extensively linked to personality disorders in adulthood.[15] Moreover, stressful events and transitions, such as becoming a parent, could increase emotionality and heighten preexisting personality traits.[16] Pregnancy may thus be a particularly sensitive window for the expression of pathological personality traits in adults with personal histories of abuse or neglect.

Childhood Maltreatment and Parental Attitude During Pregnancy

Childhood maltreatment is associated with insecure (mainly unresolved) attachment representations in pregnant women[17] and with insecure (mainly disorganized) infant attachment.[6] However, little is known regarding emotional attachment to the developing fetus, which has been labeled *antenatal attachment*.[18] Antenatal attachment was shown to predict postnatal maternal involvement and was thus suggested as being useful in the early detection of women for whom the mother-child relationship is likely to be suboptimal.[19] To our knowledge, only 2 studies assessed prenatal attachment in expectant women exposed to childhood maltreatment. These studies observed that pregnant women who experienced interpersonal trauma during childhood or adulthood[20] or who witnessed intimate partner violence[21] reported lower antenatal attachment than those with no history of trauma. However, the number of participants exposed to trauma in these studies was very small (n = 23 and n = 11, respectively). Recent studies also suggest that poor mental health is associated with lower prenatal attachment.[22]

Research on parenting behaviors in women exposed to childhood maltreatment is inconsistent. Whereas some studies identified poorer functioning across multiple domains of parenting,[23] others showed that childhood maltreatment, in the absence of postpartum psychopathology, did not convey parenting risk.[24] This suggests that parenting behaviors have to be considered concurrently with psychopathology in trauma research. Although parenting behaviors cannot be assessed during pregnancy, perception of competency (ie, a global impression of having the skills required to adequately manage an infant's care and understand his or her needs) can be approached. Little is known, however, about parental confidence during pregnancy in men and women exposed to childhood maltreatment, and available results suggest no association between perception of competence and history of childhood maltreatment when assessed in low-stress conditions in pregnant women.[25] Postnatal data were mainly obtained in samples of sexually abused women and yield inconsistent results. Congruently with studies on parenting behaviors, a recent study showed that the association between childhood maltreatment and postnatal parenting confidence was moderated by women's well-being.[26]

The current literature on the psychological characteristics of expectant parents exposed to childhood maltreatment has several limitations. First, there is a definite gap in our knowledge about how pregnant women, and particularly fathers-to-be, perceive themselves as parents and how they get emotionally involved during pregnancy. Second, past research on perception of competence[25] and prenatal attachment[20] in adults exposed to trauma did not consider psychopathology. This appears essential because poor parenting outcomes in this population may depend on psychological distress.[24,26] Third, many studies evaluated the association between a specific type of trauma (mainly sexual abuse) and a specific type of symptom (mainly depression), which offers a partial portrait of the impact of childhood maltreatment on psychological well-being during pregnancy. Fourth, we have limited evidence about the association between childhood maltreatment and dissociative symptoms or personality disorders during pregnancy, although these mental health problems are very likely to interfere with postpartum parenting.[27] Finally, few studies used samples of expecting parents from the general population, and most available evidence relies on clinical or high-risk samples.[14,28]

In light of the current gaps in our knowledge about the psychological dispositions of expectant parents exposed to childhood maltreatment, this research addresses 3 aims. First, we will evaluate whether men and women who experienced child abuse or neglect report, during pregnancy, significantly higher levels of depressive, dissociative, and posttraumatic symptoms, as well as manifestations of personality disorders, compared with adults without childhood maltreatment. Second, we will assess whether adults exposed to childhood maltreatment report significantly lower levels of parental competence and of prenatal attachment than parents-to-be

without childhood maltreatment. As our third aim, we will evaluate a theoretical model in which childhood maltreatment leads to poor mental health, which in turn predicts low prenatal attachment and poor perception of parental confidence. To adequately address the current gaps, we purposely chose a nonclinical sample of both female and male parents-to-be, assessed across a range of trauma exposures and psychopathologies, and propose novel interactive statistics to assess the associations between concepts.

METHODS

Participants and Procedure

Adults were recruited between September 2015 and September 2018 during prenatal classes offered to the general population by a large university hospital. Potential participants first completed, on site, a short set of questionnaires, including sociodemographic information and the Childhood Trauma Questionnaire (CTQ; see below). Adults interested in participating in the research left their contact information and were contacted by the research team in the third trimester of pregnancy. Women and men who agreed to participate received, by mail or electronically, a set of self-report questionnaires assessing childhood interpersonal traumas, mental health, parental confidence, and prenatal attachment. Inclusion criteria were being aged 17 years or older and not suffering from a severe psychiatric disorder (eg, psychosis). The study received ethical approval from the Centre intégré universitaire de santé et de services sociaux de la Mauricie-et-du-Centre-du-Québec and the Université du Québec à Trois-Rivières.

Measures

Childhood Trauma Questionnaire

Childhood maltreatment was assessed using the French version[29] of the CTQ-28.[30] The 28-item self-reported measure examines 5 types of childhood maltreatment: physical, psychological, and sexual abuse as well as physical and psychological neglect. Responses to each item are rated on a 5-point Likert scale, ranging from 0 (never true) to 5 (always true). Higher scores reflect more severe exposure to childhood maltreatment. Cutoffs were validated for each subscale.[31] The CTQ-28 shows a good validity across diverse clinical and general populations.[30] Cronbach's α for the CTQ in this study was .83. Classification of participants in the 2 groups (childhood maltreatment vs no maltreatment) was obtained by consensus among 2 independent clinical psychologists with an expertise on trauma using all available information, including the CTQ and a 34-item screening of interpersonal traumas.[32]

Edinburgh Postnatal Depression Scale

Prenatal depressive symptoms were assessed using the French version of the Edinburgh Postnatal Depression Scale (EPDS),[33] a 10-item self-reported measure using a variable 4-point Likert scale. First designed to assess postnatal depression, the EPDS has shown good reliability and validity when used to measure prenatal depressive symptoms.[34] The convergent validity and the internal consistency of the original version and of the French version of the EPDS are satisfactory.[34,35] Cronbach's α for the EPDS in this study was .85.

Personality Diagnostic Questionnaire

Personality disorders were assessed using the French version[36] of the Personality Diagnostic Questionnaire for the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), *fourth edition, revised* (PDQ-4+).[37] The PDQ-4+ consists of 99 true or false items. It has 11 subscales, but validation studies recommend the use of the total score for screening clinical manifestations of personality disorders. The instrument has a good convergent validity with the Structured Clinical Interview for DSM-IV.[38] Cronbach's α for the PDQ in this study was .92.

Dissociative Experiences Scale

The validated French version[39] of the Dissociative Experiences Scale (DES),[40] a 28-item self-reported questionnaire, was used to assess dissociative symptoms. Items are evaluated on an 11-point rating scale (from 0% to 100%) where participants indicate the extent to which each statement reflects their experience. The total score is obtained by calculating the average; a higher score indicates more severe dissociation. The instrument has good construct validity and reliability.[39,40] Cronbach's α for the DES in this study was .90.

PTSD Checklist for DSM-5

Symptoms of PTSD were assessed using the validated French version[41] of the PTSD Checklist for DSM-5 (PCL-5).[42] This 20-item self-reported questionnaire is based on the PTSD diagnostic criteria of the fifth edition of the DSM. Responses are rated on a 5-point Likert scale ranging from 0 (not at all) to 4 (always). Both the French and the English versions have good reliability (internal consistency, temporal stability, test-retest) and convergent validity.[41,42] Cronbach's α for the PCL-5 in this study was .93.

Maternal Confidence Questionnaire

Parental confidence was assessed using the French version of the Maternal Confidence Questionnaire (MCQ).[43] The MCQ is a 14-item self-reported questionnaire that can be administered to both men and women. Responses are rated on a 5-point frequency Likert scale, from 1 (never) to 5 (always). A higher score reflects a higher degree of perceived confidence regarding parental aptitudes. A literature review revealed good construct validity and internal consistencies in over 20 studies (mean α = .89).[44] Cronbach's α for the MCQ in this study was .74.

Maternal and Paternal Antenatal Attachment Scales

To assess prenatal attachment, the maternal and paternal versions of the Antenatal Attachment Scales (MAAS, PAAS)[18] were used. The MAAS and the PAAS are designed to assess attachment to the fetus and commitment to the pregnancy. Higher scores reflect stronger attachment and greater

commitment. The maternal version of the self-reported questionnaire includes 19 items, whereas the paternal version has 16 items, evaluated on a variable 5-point Likert scale. Both versions (maternal and paternal) have good psychometric properties.[18] Cronbach's α for the MAAS in this study was .68.

Data Analysis Strategies

Data were assessed by a correlation matrix between all variables, as well as gender comparisons (t test). Next, analysis of covariance (ANCOVA) evaluated whether adults exposed to childhood maltreatment reported significantly higher levels of depressive, dissociative, and posttraumatic symptoms, as well as clinical features of personality disorders, than adults without childhood maltreatment (aim 1). Similarly, ANCOVA was used to examine whether adults who experienced childhood maltreatment reported significantly lower levels of parental competence and of antenatal attachment than parents-to-be without childhood maltreatment (aim 2). To control for potentially confounding variables, a sociodemographic risk index was created on a scale of 0 to 4 by adding binary scores (absent vs present) on 4 recognized risk factors: not having a high school diploma, being under the low-income cutoff for a family with one child, being a parent younger than 20 years, and having been involved with the criminal justice system. Adults exposed to childhood maltreatment (mean [SD], 0.66 [0.85]) had a significantly higher score on the sociodemographic risk index than nonexposed participants (mean [SD], 0.29 [0.55]; $t'[115.15] = -3.76$; $P <$ .001). Exposure to childhood maltreatment was thus included as a covariate in the ANCOVAs. Structural equation modeling (SEM) was used to examine the adequacy of a theoretical model in which childhood maltreatment leads to poor mental health, which in turn predicts low prenatal attachment and poor parental confidence (aim 3). The latent variable *mental health* was estimated through the 4 measures of psychological symptoms. SEM was performed with the IBM SPSS Amos module version 24.0 (IBM, Armonk, NY), using maximum likelihood parameter estimates. Adequacy of model fit was assessed through several indices: a nonstatistically significant chi-square value, a comparative fit index (CFI) value of 0.90 or higher, a normed-fit index (NFI) value of 0.95 or higher, and a root mean square error of approximation (RMSEA) value below 0.08, with an RMSEA 90% CI ranging from 0 to 0.08. A ratio of chi-square to degrees of freedom (χ^2/df) was also used because chi-square tests are sensitive to sample size. Satisfactory fit is observed when values are less than 5 and considered ideal when the value is around 3. The SEM was next performed with women only to rule out the possibility that the results were inflated by the inclusion of partners in the analyses. In complement to the SEM, multiple regressions with the 4 measures of psychopathology as predictors and prenatal attachment or parental confidence as criterion were performed with men and women separately to evaluate the relative contribution of different types of symptoms.

RESULTS

Of the 1355 potential participants approached, 765 left their contact information and 322 completed all the measures.

Seventy-two adults declined participation, 49 had been contacted too near the expected date of birth, 139 could not be reached, 4 were not an expectant parent, and 179 did not complete the entire set of questionnaires. Participants were no different from those who did not participate in terms of exposure to childhood maltreatment ($\chi^2[1]$, 1.52; $P = .70$).

Demographic characteristics of the 251 women and 71 men who completed all measures are presented in Table 1. Overall, the members of this community sample were predominantly white, in a common-law relationship, highly educated, and financially well resourced and should be considered at low risk.

Ninety-one participants (28.3%) reported having been exposed to at least one type of maltreatment. Women (29.9%) and men (22.5%) were similarly exposed to trauma ($\chi^2[1$, N = 322], 1.47; $P = .23$).

Women and men did not differ in terms of severity of childhood maltreatment, dissociation, personality disorders, and parental confidence (data not shown). However, women reported significantly higher levels of depressive symptoms (mean [SD], 8.75 [4.92]) than men (mean [SD], 7.23 [4.17]; $t[310]$, 2.34; $P = .02$), as well as higher levels of posttraumatic symptoms (women: mean [SD], 10.56 [11.23]; men: mean [SD], 7.47 [10.18]; $t[314]$, 2.07; $P = .04$).

A correlation matrix is presented in Table 2. Results show that the severity of childhood maltreatment was positively correlated with the severity of depressive, PTSD, and dissociative symptoms as well as with the severity of the clinical features of personality disorders. With the exception of dissociation, which was not significantly correlated with physical and sexual abuse, significant associations between childhood maltreatment and symptomatology were observed for all types of trauma. No significant correlation was observed between the severity of childhood maltreatment, antenatal attachment, and perception of parental competence, with the exception of a small association between maternal antenatal attachment, emotional abuse, and emotional neglect.

As shown in Table 3, even when controlling for sociodemographic risk, adults exposed to childhood maltreatment presented more psychological symptoms than nonexposed participants on all measures. No significant difference in parental confidence and prenatal attachment was observed between groups.

The SEM is presented in Figure 1. Results revealed a good fit for the data ($\chi^2[13$, N = 322], 26.80; $P = .01$; ratio χ^2/df, 2.06; CFI, 0.98; NFI, 0.96; RMSEA, 0.06, [90% CI, 0.03–0.09]). Significant relationships were observed between childhood maltreatment and mental health. Mental health was in turn associated with antenatal attachment and parental confidence. Antenatal attachment also contributed to parental confidence. Antenatal attachment was associated with poor mental health (Figure 1) but not with a specific type of symptoms (Table 4). Poor parental confidence was specifically associated with depressive symptoms in women and with PTSD in men.

DISCUSSION

The aim of the study was to examine whether exposure to childhood maltreatment leads to negative outcomes in terms of mental health, antenatal attachment, and perception of

Table 1. Demographic Characteristics of Participants (N = 322)

Demographic Characteristic	Overall (N = 322)	Women (n = 251)	Men (n = 71)
Gender, n (%)		251 (78.0)	71 (22.0)
Age, mean (SD), y	28.54 (4.74)	28.25 (4.90)	29.54 (3.99)
Expecting their first child, n (%)	289 (89.9)	219 (87.3)	70 (98.6)
Ethnicity, n (%)			
White	305 (94.7)	238 (94.8)	67 (94.4)
American Indian	4 (1.2)	3 (1.2)	1 (1.4)
Asian	4 (1.2)	1 (0.4)	3 (4.2)
African American	3 (0.9)	3 (1.2)	0
Other	6 (1.9)	6 (2.4)	0
Relationship status, n (%)			
In relationship	309 (96.0)	238 (94.8)	71 (100.0)
Single	13 (4.0)	13 (5.2)	0
Education and employment status, n (%)			
No high school diploma	20 (6.2)	15 (6.0)	5 (7.0)
High school diploma	22 (6.8)	13 (5.2)	9 (12.7)
Postsecondary education (collegial or professional training)	153 (47.5)	116 (46.2)	37 (5.2)
University degree	127 (39.4)	107 (42.6)	20 (28.2)
Currently unemployed	28 (8.7)	26 (10.4)	2 (2.8)
Annual income level below low-income cutoff,[a] n (%)	71 (22.0)	58 (23.1)	13 (18.3)
Trauma history, n (%)			
At least one type of trauma	91 (28.3)	75 (29.9)	16 (22.5)
Physical abuse	29 (9.0)	19 (7.6)	10 (14.1)
Sexual abuse	28 (8.7)	26 (10.4)	2 (2.8)
Emotional abuse	67 (20.8)	51 (20.3)	16 (6.4)
Physical neglect	52 (16.1)	43 (17.1)	9 (12.7)
Emotional neglect	22 (6.8)	18 (7.2)	4 (5.6)

[a]The low-income cutoff for a family with one child in Canada is Can$34,000.

parental confidence during pregnancy in expectant parents. Results first showed that participants who experienced childhood maltreatment were more likely to report mental health problems during pregnancy than nonexposed participants. This association held for all types of childhood maltreatment and was particularly strong for emotional abuse. The higher levels of depression, posttraumatic, and dissociative symptoms observed in adults with personal histories of childhood maltreatment is congruent with previous results in high-risk and community samples of women.[3,14,28] Interestingly, in our sample, the type of symptoms showing the strongest association with childhood maltreatment was the severity of personality disorders. This finding adds to the currently limited literature on this mental health outcome and is important, considering that personality disorders are associated with high-risk behaviors (eg, functional impairments, interpersonal violence, suicidal behaviors, substance use) likely to compromise the expecting parent's health and the development of the fetus.[45] Parents suffering from a personality disorder, especially borderline personality disorder, commonly report parenting difficulties, and their children are more likely than children of healthy parents to present a range of behav-

ioral risk factors as well as poor mental health.[27] In addition, although personality is considered to be relatively stable over time, important life transitions, such as having a child, could exacerbate the clinical features of personality disorders,[16] particularly considering that awaiting a child activates attachment representations at the core of personality disorders.

This study adds to the very limited literature on expectant fathers exposed to childhood maltreatment. Overall, similar results were observed for men and women. Whereas women were more likely to report depression and PTSD during pregnancy, men were as likely as women to report symptoms of dissociation and clinical features of personality disorders, suggesting that psychological distress is also frequent in expectant fathers. The association between childhood maltreatment and psychological symptoms held for both genders, with the exception of depression, which was only associated with maternal traumas. Although the theoretical model showed that poor mental health was associated with lower parental confidence in the whole sample, we observed that parental confidence was particularly associated with PTSD in men and with depression in women. This is intriguing and calls for further research. Some interventions exist for women with personal

Table 2. Correlations, Means, SDs, and Ranges of Study Variables[a]

Measures	Mean (SD)	Range	1	2	3	4	5	6	7	8	9	10	11	12
1. CTQ total score (n = 322)	35.49 (9.78)	26-85												
2. Physical abuse (n = 322)	5.72 (1.95)	5-17	.75[b]											
3. Psychological abuse (n = 322)	7.43 (3.62)	5-22	.86[b]	.62[b]										
4. Sexual abuse (n = 322)	5.73 (2.63)	5-25	.63[b]	.40[b]	.32[b]									
5. Physical neglect (n = 322)	6.12 (2.33)	5-21	.80[b]	.47[b]	.62[b]	.37[b]								
6. Psychological neglect (n = 322)	10.49 (2.22)	6-21	.76[b]	.45[b]	.58[b]	.30[b]	.63[b]							
7. Sociodemographic risk (n = 313)	0.39 (0.67)	0-3	.31[b]	.19[b]	.25[b]	.25[b]	.27[b]	.18[c]						
8. Depression (n = 315)	8.44 (4.80)	0-22	.22[b]	.16[c]	.19[b]	.19[b]	.25[c]	.12[d]	.12[c]					
9. PTSD (n = 319)	9.88 (11.04)	0-62	.44[b]	.30[b]	.45[b]	.22[b]	.29[b]	.36[b]	.18[c]	.60[b]				
10. Dissociation (n = 310)	15.85 (7.83)	7.5-54.14	.23[b]	.10	.26[b]	.06	.21[b]	.21[b]	.09	.33[b]	.54[b]			
11. Personality disorder (n = 307)	21.98 (11.95)	0-54	.47[b]	.29[b]	.42[b]	.25[b]	.34[b]	.44[b]	.29[b]	.50[b]	.69[b]	.49[b]		
12. Parental confidence (n = 310)	61.44 (5.17)	41-70	−.06	−.004	−.08	.02	−.07	−.05	.02	−.27[b]	−.27[b]	−.09	−.22[b]	
13. Maternal attachment (n = 241)	82.06 (5.53)	64-94	−.09	−.007	−.13[d]	.01	−.08	−.14[d]	−.09	−.11	−.21[c]	−.02	−.12	.40[b]
14. Paternal attachment (n = 69)	60.74 (5.49)	44-73	−.10	.06	−.12	.02	−.02	−.22	.03	−.24[d]	−.17	−.28[d]	−.17	.46[b]

Abbreviations: CTQ, Childhood Trauma Questionnaire; PTSD, posttraumatic stress disorder.
[a] Each cell in the table shows the correlation between 2 variables. To avoid repetitions, only the number associated with each variable, instead of the name of the variable, is indicated in the columns.
[b] $P < .001$.
[c] $P < .01$.
[d] $P < .05$.

Table 3. One-Way Analyses of Covariance Evaluating Group Differences (Exposed to Childhood Maltreatment vs No Childhood Maltreatment) in Terms of Psychological Symptoms, Parental Confidence, and Antenatal Attachment in Men and Women

Dependent Variables	Group	Mean[a] (SE)	df	F	P Value	Effect Size η^2
Whole sample						
Depression	No CM	7.87 (0.32)	1, 304	6.32	.002	0.040
	CM	9.62 (0.52)				
PTSD	No CM	7.40 (0.70)	1, 308	25.57	<.001	0.140
	CM	15.84 (1.31)				
Dissociation	No CM	14.71 (0.53)	1, 299	8.92	<.001	0.060
	CM	18.68 (0.85)				
Personality disorder	No CM	19.16 (0.73)	1, 297	42.07	<.001	0.220
	CM	29.39 (1.19)				
Parental confidence	No CM	61.66 (0.35)	1, 302	0.54	.59	0.004
	CM	61.01 (0.57)				
Maternal attachment	No CM	82.45 (0.44)	1, 233	1.65	.19	0.010
	CM	81.46 (0.68)				
Paternal attachment	No CM	61.13 (0.76)	1, 65	0.56	.57	0.020
	CM	59.37 (1.50)				
Women only						
Depression	No CM	8.16 (0.38)	1, 235	7.20	.001	0.060
	CM	9.96 (0.60)				
PTSD	No CM	8.22 (0.82)	1, 238	19.36	<.001	0.140
	CM	15.71 (1.30)				
Dissociation	No CM	15.04 (0.65)	1, 232	5.99	.003	0.050
	CM	18.59 (1.03)				
Personality disorder	No CM	19.24 (0.87)	1, 230	34.44	<.001	0.230
	CM	29.47 (1.37)				
Parental confidence	No CM	62.08 (0.40)	1, 233	0.66	.52	0.006
	CM	61.21 (0.64)				
Maternal attachment	No CM	82.41 (0.44)	1, 231	1.45	.24	0.01
	CM	81.56 (0.69)				
Men only						
Depression	No CM	7.16 (0.58)	1, 66	0.71	.50	0.020
	CM	7.46 (1.05)				
PTSD	No CM	5.23 (1.29)	1, 67	6.73	.002	0.170
	CM	15.04 (2.37)				
Dissociation	No CM	13.83 (0.78)	1, 64	4.35	.02	0.120
	CM	18.39 (1.40)				
Personality disorder	No CM	18.97 (1.37)	1, 64	6.68	.002	0.170
	CM	28.85 (2.55)				
Parental confidence	No CM	60.24 (0.76)	1, 66	0.09	.91	0.003
	CM	60.17 (1.38)				
Paternal attachment	No CM	61.02 (0.78)	1, 63	0.49	.62	0.020
	CM	59.35 (1.51)				

Abbreviations: CM, childhood maltreatment; df, degrees of freedom; No CM, absence of childhood maltreatment; PTSD, posttraumatic stress disorder.
[a] Estimated marginal mean. Estimated marginal means were computed using the sociodemographic risk index as covariate.
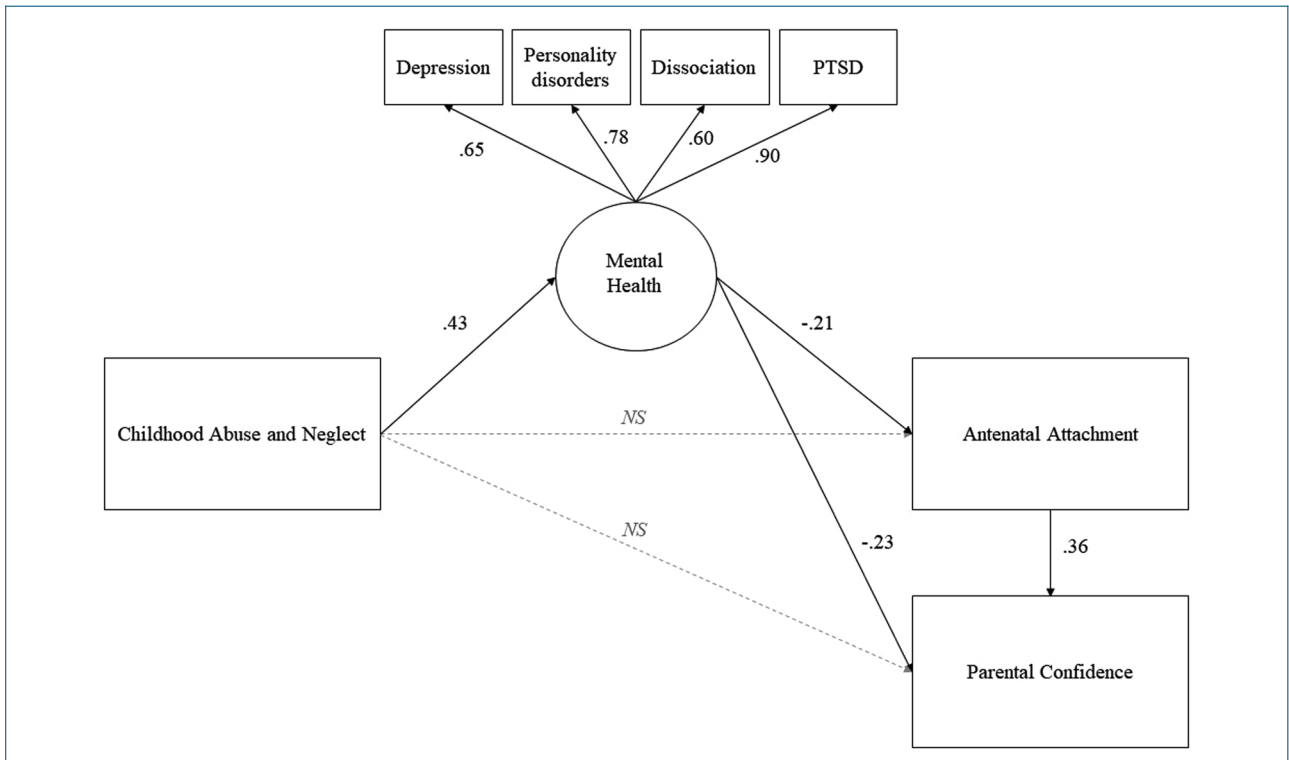
Figure 1. Structural Equation Model of the Association Between Childhood Abuse and Neglect, Mental Health, Antenatal Attachment, and Parental Confidence

All associations reported were significant at $P < .001$. Model fit: χ^2(13, N = 322) = 26.80, P = .01, ratio of chi-square to degrees of freedom (χ^2/df) = 2.06, comparative fit index (CFI) = 0.98, normed-fit index (NFI) = 0.96, and root mean square error of approximation (RMSEA) = 0.06 with 90% CI = 0.03-0.09. Results were similar when only women were included in the analyses: χ^2(13, n = 251) = 25.96, P = .02, ratio χ^2/df = 2.00, CFI = 0.98, NFI = 0.95, and RMSEA = 0.06 with 90% CI = 0.03-0.10.

Abbreviations: *NS*, statistically nonsignificant association; PTSD, posttraumatic stress disorder.

histories of childhood maltreatment, but a recent literature review confirmed that there is currently no perinatal intervention that considered the needs of men with histories of childhood maltreatment.[46] This is particularly surprising knowing that childhood maltreatment affects both men and women, that men play a crucial and distinctive role in child development, and that prevention of family violence requires programs reaching both women and men.[47]

Contrary to our expectations, there was no direct association between prenatal attachment and childhood maltreatment. This is intriguing considering previous evidence showing that pregnant women exposed to childhood maltreatment are very likely to have insecure attachment representations[17] and to develop an insecure attachment relationship with their child.[6] Similar lack of association was observed for parental confidence. However, we found that psychopathology was a significant predictor of antenatal attachment and parental confidence. Our findings are in line with previous findings that childhood maltreatment, in the absence of psychopathology, did not convey parenting risk at 6 months postpartum.[24] The fact that childhood maltreatment was not associated with parental attitudes during pregnancy, in the absence of psychopathology, is very interesting and suggests several interpretations. One possibility is that parents who did not develop psychological symptoms even if they were exposed to high doses of adversity during childhood are generally resilient. Most of the participants of our nonclinical commu-

nity sample are in a common-law relationship, highly educated, and financially well resourced, 3 demographic factors promoting resilience in the face of adversity and contributing to the discontinuity of intergenerational risk trajectories associated with childhood maltreatment.[48] A second possibility is that this apparent resilience is limited to the prenatal period and that differences between exposed and nonexposed parents emerge only when parents are confronted with the real newborn. Indeed, prenatal attachment may be facilitated by the fact that this emotional investment is directed toward an imagined, and largely idealized, child. Similarly, the high levels of parental confidence that participants exposed to childhood maltreatment reported during pregnancy may eventually collapse in the face of stress. In this regard, a recent study suggested that a poor sense of parental competence only appears under stressful circumstances in adults with histories of childhood maltreatment.[25] Finally, we cannot rule out the possibility that parents who experienced childhood maltreatment defensively suppress negative thoughts and feelings regarding their child and themselves as parents in an attempt to avoid identifying with their abusive or neglectful caregivers, which would lead to inflated scores on self-report instruments of prenatal attachment and competence. Such defensive processes would represent a breeding ground for the intergenerational transmission of maltreatment, as suggested by Fraiberg and her colleagues.[49] Further studies should evaluate the longitudinal correlates of prenatal attachment and parental

Table 4. Multiple Regression Evaluating the Association Between Different Types of Psychological Symptoms, Parental Confidence, and Antenatal Attachment in Men and Women

Independent and Dependent Variables	B (SE)	β	t	P Value	95% CI
Women Only					
Maternal attachment					
Depression	0.01 (0.09)	0.01	0.138	.89	−0.17 to 0.20
PTSD	−0.09 (0.05)	−0.18	−1.75	.08	−0.19 to 0.01
Dissociation	0.04 (0.05)	0.07	0.86	.39	−0.06 to 0.15
Personality disorder	−0.01 (0.04)	−0.02	−0.20	.84	−0.10 to 0.07
Parental confidence					
Depression	−0.20 (0.09)	−0.20	−2.33	.02	−0.37 to −0.03
PTSD	0.01 (0.05)	0.01	0.13	.89	−0.09 to 0.10
Dissociation	0.01 (0.05)	0.02	0.27	.79	−0.08 to 0.10
Personality Disorder	−0.04 (0.04)	−0.10	−0.97	.33	−0.11 to 0.04
Men Only					
Paternal attachment					
Depression	−0.20 (0.20)	−0.16	−1.05	.30	−0.58 to 0.18
PTSD	−0.02 (0.10)	−0.06	−0.33	.74	−0.23 to 0.16
Dissociation	−0.27 (0.16)	−0.29	−1.73	.09	−0.58 to 0.04
Personality disorder	0.04 (0.09)	0.09	0.46	.64	−0.14 to 0.23
Parental confidence					
Depression	−0.17 (0.18)	−0.13	−0.92	.36	−0.53 to 0.20
PTSD	−0.20 (0.09)	−0.29	−2.21	.03	−0.38 to −0.02
Dissociation	−0.01 (0.14)	−0.01	−0.07	.94	−0.30 to 0.28
Personality disorder	−0.01 (0.08)	−0.01	−0.03	.98	−0.18 to 0.17

Abbreviations: B, understandardized beta; PTSD, posttraumatic stress disorder.

confidence in expectant parents who were exposed to childhood maltreatment to clarify whether a very positive attitude toward parenthood, despite the experience of significant adversity, represents a trajectory of risk or resilience. Building on the current evidence that adults with childhood maltreatment report significant distress during pregnancy, future studies should also evaluate the theoretical proposal that pregnancy acts as a particular trigger in this population.

Overall, the study adds to the very limited literature on the association between childhood maltreatment, dissociation, personality disorders, prenatal attachment, and parental confidence during pregnancy. The inclusion of expectant fathers and the recruitment of a relatively large nonclinical community sample (N = 322) are particular strengths of the study. The results should, however, be interpreted in the lights of some limitations. First, the assessment of childhood maltreatment was retrospective and self-reported, which could have led to biases or distortions in recall. Second, mental health was assessed using self-report instruments rather than clinical interviews, which might have produced response bias. Third, the purpose of the study was explained during recruitment, which increases the risk of self-selection bias. However, most potential participants completed the CTQ on site, and participants were no different from adults who declined participation in terms of childhood maltreatment. Fourth, many factors that may impact prenatal attachment, parental confidence, and psychological distress, such as preexisting chronic conditions, antepartum problems, prenatal care received, current partner relationship quality, and current intimate partner violence were not controlled for in the analyses. Finally, our research is based on theoretical and historical grounds and was correlational in nature. Thus, a causal role of childhood maltreatment cannot be ensured.

Clinical Implications

The results of the study have clinical implications. First, one should note that most available interventions offered during pregnancy are parental education programs that principally aim to transmit knowledge and teach skills. Our results suggest that adults exposed to childhood maltreatment who did not develop a psychopathology may not identify themselves as good candidates for such programs considering that they are actually confident in their parental skills and mostly have positive thoughts about the fetus. Still, these parents may benefit from perinatal interventions that support resilience in this period of high stress. Second, results suggest that perinatal interventions offered to expectant parents who were exposed to childhood maltreatment should target mental health, which in turn would contribute to increased parental confidence and psychological investment toward the newborn to come. Third, our findings suggest that implementing trauma-informed care in perinatal settings may be particularly beneficial for expecting parents with psychological symptoms.

Finally, results confirm that the association between childhood trauma and prenatal psychological distress is not exclusive to women. Prenatal interventions should thus consider including expectant fathers.

CONCLUSION

Overall, this study showed that childhood maltreatment is associated with poor mental health during pregnancy and that poor mental health, but not trauma, negatively affects parental attitudes. Whereas most studies focused on prenatal depressive symptoms, this study showed that PTSD, personality disorders, and dissociation are also frequent during pregnancy in men and women who have a history of childhood maltreatment. Perinatal care providers should provide access to trauma-informed mental health services that support resilience and contributed to interrupting the intergenerational transmission of trauma.

CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

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