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Dyadic Analysis of Cumulative Childhood Trauma and Relationship Satisfaction: The Role of Parental Alliance

 Mathilde Baumann¹  | Élise Villeneuve¹ | Claude Bélanger¹ | Alison Paradis¹ | Catherine M. Herba¹ | Natacha Godbout²
¹Department of Psychology, University of Quebec in Montreal, Montreal, Quebec, Canada | ²Department of Sexology, University of Quebec in Montreal, Montreal, Quebec, Canada

Correspondence: Natacha Godbout (godbout.natacha@uqam.ca)

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ABSTRACT

Cumulative childhood trauma (CCT) increases the risk of relationship difficulties in adulthood. Couples welcoming a new child are particularly prone to relationship distress, and CCT survivors may be especially vulnerable during this period. This study examined the association between CCT and relationship satisfaction and tested the role of parental alliance in this association. A random sample of 1136 different-gender parental couples completed online self-report questionnaires. Path analyses guided by the Actor–Partner Interdependence Model revealed that parents' CCT was associated with their own lower relationship satisfaction through their own and their partner's parental alliance in both mothers and fathers. Results also revealed dyadic associations between one parent's CCT and their partner's relationship satisfaction through their own and their partner's parental alliance. These findings support the relevance of couple interventions focusing on the parental alliance to improve relational well-being in parental couples where one or both partners have experienced CCT.

1 | Introduction

Childhood interpersonal trauma, which includes physical, psychological, or sexual abuse, emotional or physical neglect, witnessing violence (whether psychological or physical), or being subjected to bullying, all directed at a child under 18 within a relationship involving caregiving, trust, or authority (Godbout, Bigras, and Sabourin 2017), is an endemic problem (World Health Organization 2006, 2020). It is widely recognized as detrimental to individuals' physical, psychological, and relational health (for reviews, see Afifi et al. 2016; Jaffee 2017; Norman et al. 2012; Zamir 2022). The term cumulative childhood trauma (CCT; Briere and Scott 2015; Cloitre et al. 2009) refers specifically to the cumulative experience of different types of interpersonal trauma, rather than repeated instances of a single type. According to various international studies, CCT is

the most commonly reported experience among survivors, with 30%–50% reporting exposure to at least two types of childhood interpersonal trauma (Finkelhor, Ormrod, and Turner 2007, 2011; Stoltenborgh et al. 2015).

Research indicates that CCT is associated with more severe and complex long-term consequences on well-being in survivors, compared to those who experience only one type of childhood trauma (Briere and Scott 2015; Hodges et al. 2013; Godbout et al. 2020). This highlights the importance of considering CCT in order to avoid a limited understanding of trauma-related outcomes. Additionally, CCT survivors are likely to experience difficulties in adulthood, particularly during major life transitions such as the birth of a child (Chamberlain et al. 2019; Christie et al. 2017). The arrival of a child is recognized as an important life transition that introduces significant changes

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(e.g., more responsibilities, fatigue) that may affect relationship satisfaction in most couples (Doss and Rhoades 2017; Keizer and Schenk 2012). For CCT survivors, this period can be especially challenging, as the emotional and relational demands of parenthood may exacerbate unresolved trauma and strain coping mechanisms (Christie et al. 2017; Chamberlain et al. 2019). To comprehensively grasp the long-term impacts of CCT in adulthood and to pinpoint effective intervention strategies for enhancing the well-being of survivors, it is important to study the mechanisms that influence their parental experiences (Greene et al. 2020; Godbout et al. 2023).

While experts underscore the necessity of incorporating both co-parents to unravel the complexities of partner interactions in parenting research, dyadic data remains scarce in scientific literature. Existing studies have mainly focused on investigating the maternal experience, resulting in a significant gap in the current literature concerning the paternal experience and the mutual influence between parents (Christie et al. 2017; Mickelson and Biehle 2017). Studying co-parents is necessary to understand the links between CCT and relationship satisfaction in adulthood and to provide data that better represents the experiences of both parents. Targeted exploration of co-parents in the context of CCT would also provide valuable information and pave the way for targeted interventions that encompass the entire parenting experience.

1.1 | CCT and Relationship Satisfaction

Relationship satisfaction, defined as positive dyadic adjustment that reflects a sense of happiness and stability within a relationship with a consistent partner (Sabourin, Valois, and Lussier 2005; Spanier 1976), is recognized as an important predictor of individuals' long-term physical and psychological health (Kiecolt-Glaser and Wilson 2017) as well as family functioning (for review, see Jiménez-Picón et al. 2021). While it is recognized that, for many couples, relationship satisfaction decreases with parenthood (Doss and Rhoades 2017), this is not the case for all (Lévesque et al. 2020; Leonhardt et al. 2022; Delicate, Ayers, and McMullen 2018), highlighting the need to study the variables related to higher relationship satisfaction.

A consistent body of empirical data reveals negative associations between exposure to interpersonal trauma during childhood and relationship satisfaction in adulthood (for review, see Zamir 2022). Studies indicated that relationship satisfaction tends to decrease as a function of increased CCT (Vaillancourt-Morel et al. 2019; Godbout et al. 2020), which further supports the importance of considering CCT as a variable of influence in relationship satisfaction. Dyadic studies using the Actor-Partner Interdependence Model (APIM; Kenny, Kashy, and Cook 2006) have started to document the complex relational dynamics among couples in the general population and confirmed mutual influences between CCT history and the degree of relationship satisfaction in both partners (for review, see Vaillancourt-Morel et al. 2024).

Moreover, studies with parents have indicated that childhood interpersonal trauma survivors encounter more challenges than non-victims, including post-traumatic symptoms, fear of

repeating abusive acts, and repetition of problematic parenting patterns they experienced in childhood (Siverns and Morgan 2019; Berthelot et al. 2019). Studies also suggest that childhood interpersonal trauma is a major risk factor for relationship satisfaction in parental couples (for reviews, see Chamberlain et al. 2019; Christie et al. 2017). However, the majority of research focused on a single type of traumatic experience (e.g., emotional neglect, Cao, Zhou, and Leerkes 2020; sexual abuse, MacIntosh and Ménard 2021) and mainly targeted mothers, neglecting the experience of fathers and the interaction between co-parents' variables (e.g., Tekin and Karakuş 2019). A study by Liu et al. (2019) is one of the few to have examined the link between CCT history and relationship satisfaction in both parents using a dyadic design (i.e., the APIM method). Their findings point to a direct negative link between CCT experiences and each partner's relationship satisfaction, which confirms the dyadic influences of a traumatic history on the relational satisfaction of both co-parents. However, in this study, only two types of interpersonal trauma (i.e., psychological abuse and neglect) were considered for conceptualizing CCT, thus omitting other common childhood traumas, such as sexual abuse, physical abuse, psychological neglect, and witnessing interparental violence.

1.2 | Theoretical Framework

Accumulated evidence suggests that CCT may exert detrimental effects on the satisfaction levels within couples, potentially giving rise to negative relational dynamics and perpetuating a cycle of trauma (Greene et al. 2020; Rowell and Neal-Barnett 2022). However, the perinatal period also offers parents a unique opportunity to overcome the challenges posed by their traumatic experiences and to establish the foundations of a healthy and satisfying couple relationship (Chamberlain et al. 2019; Greene et al. 2020; Siverns and Morgan 2019). Thus, research is needed to understand the factors that may influence the experience of parent survivors of CCT and the potential explanatory mechanisms linking CCT to diminished relational satisfaction. For example, the findings of Liu et al. (2019) indicate that psychological distress and difficulties in emotional regulation would be explanatory mechanisms for the links between both parents' emotional neglect and their levels of relationship satisfaction. Yet interpersonal variables are also crucial to consider the link between CCT and relationship satisfaction in couples welcoming a new child, given their dyadic nature. Indeed, in order to gain a comprehensive understanding of the effects of CCT on relational satisfaction in adulthood, it is necessary to study the dyadic nature of these complex interactions (Vaillancourt-Morel et al. 2024). Studying interpersonal factors would thus provide a more comprehensive picture of how a history of CCT relates to the relational satisfaction of parents of a new child.

This echoes two theoretical models that can provide a comprehensive framework to better understand these dynamics. First, the Model of Couple Adaptation to Traumatic Stress (CATS; Goff and Smith 2005) explains how traumatic events impact couple adjustment. The model posits that an individual's traumatic experience, such as CCT, influences both partners' responses and their interaction patterns within the relationship.

This model also delineates cycles of interactions, where supportive and empathetic exchanges can enhance relational satisfaction, while conflict and withdrawal can exacerbate stress and dissatisfaction. By incorporating both individual and dyadic processes, the model underscores the necessity of examining how couples navigate the aftermath of trauma together. The Vulnerability–Stress–Adaptation model (VSA; Karney and Bradbury 1995; McNulty et al. 2021) complements this framework by offering a broader perspective by examining how each partner's vulnerabilities, external stressors or challenges, and adaptive processes (i.e., mechanisms for regulating relationship functioning and for coping with stressors and vulnerabilities) influence relationship satisfaction and stability. This model highlights the dynamic interaction between these components and their evolution over time, suggesting that effective coping processes can mitigate the negative impact of an individual's vulnerabilities and stressors on relationship satisfaction. Distal variables, such as one partner's experience of CCT, may impact relationship satisfaction differently during periods of relationship stress (e.g., the birth of a child), influenced by proximal intra- and interpersonal variables.

These theoretical perspectives underscore the importance of understanding how traumatic experiences like CCT influence the adjustment of both partners within a couple and highlight the need to study these interpersonal processes in the context of parenting. The birth of a child involves significant relational changes as co-parents adjust to their parental roles, with the couple differentiating into romantic and parental subsystems (Doss and Rhoades 2017). Studying these processes may ultimately provide a better understanding of how parental couples can adapt and overcome the challenges posed by a history of trauma, thereby complementing current empirical findings.

1.3 | The Potential Role of Parental Alliance

Since CCT is an interpersonal phenomenon, its repercussions could manifest through interpersonal variables among parental couples, such as the parental alliance, which refers to the collaboration and cooperation between parents in childcare and education (Abidin and Konold 1999; Feinberg 2002). The arrival of a new child can awaken traumatic memories, arouse anxiety, and negatively influence the establishment of a cohesive parental alliance (e.g., showing respect for the other parent's choices and judgment and demonstrating a strong willingness to communicate about the child; Feinberg, Brown, and Kan 2012). However, parental alliance plays an essential role in the adjustment of couples following childbirth (Feinberg 2002, 2003; Delicate, Ayers, and McMullen 2018), yet research studies involving dyadic data remain limited.

One study highlighted levels of parental alliance as an explanatory mechanism in the relationship between parents' attachment insecurity and their levels of parental stress (Delvecchio et al. 2015). Another study pointed out the role of parental alliance as a mediator in the link between parental stress and relationship satisfaction (Camisasca, Miragoli, and Di Blasio 2014). These findings are complemented by Durtschi et al. (2017), who indicate that parental alliance significantly predicts better relationship satisfaction in both mothers and

fathers 2 years after the child's birth. Moreover, when parents fail to develop a cohesive parental alliance, negative effects (e.g., conflict over the child, exclusion of a parent; Sheedy and Gambrel 2019) are likely to have a long-term influence on partners' relationship satisfaction and parenting experiences.

Results support Feinberg's (2003) ecological model of coparenting, which emphasizes that the quality of the parental alliance is shaped by the interaction between partners, with direct implications for relationship satisfaction. This model highlights the critical importance of cooperation and communication between parents in their role as co-parents for overall marital dynamics. A cohesive parental alliance, characterized by mutual support and effective management of parental responsibilities, is associated with greater harmony and satisfaction in the relationship (Feinberg 2002, 2003). On the other hand, difficulties in the parental alliance can generate more hostility, conflict, and increased relational dissatisfaction (Feinberg 2002, 2003).

Ultimately, when both partners share responsibilities and support one another effectively in their parenting roles, it fosters mutual trust and reduces conflict, thereby enhancing the couple's overall relationship satisfaction. This dynamic aligns with interdependence theory (Kelley and Thibaut 1978), which suggests that each partner's experience is shaped by their perception of the other's contributions. Strong collaboration and emotional support within the parental alliance are likely to nurture a more positive relational climate, whereas a lack of coordination or support can negatively impact relationship satisfaction. Longitudinal studies further confirm that the quality of the parental alliance predicts couples' future relationship satisfaction, highlighting its important role in maintaining relational well-being (Durtschi, Soloski, and Kimmes 2017; Le et al. 2016).

Based on these theoretical and empirical insights, it is warranted to propose that the parental alliance serves as a key mechanism in the relationship between CCT and relationship satisfaction among couples, following the birth of a child. Survivors of CCT may experience additional challenges in forming a cohesive parental alliance, which could, in turn, adversely affect their relationship satisfaction during this transition. However, this proposition warrants further empirical examination.

1.4 | Objectives and Hypotheses

The objective of this study was to examine the indirect effect of parental alliance in the association between CCT and relationship satisfaction following the birth of a child, using a dyadic perspective (Cook and Kenny 2005). Additionally, the study aimed to investigate differences between mothers and fathers in the studied variables, contributing to a comprehensive understanding of the unique experiences and responses of both parents.

We hypothesized that (H1) one parent's level of CCT would be negatively associated with their own relationship satisfaction (i.e., *actor effects*) and (H2) their co-parent's relationship satisfaction (i.e., *partner effects*), and that (H3) level of CCT would be indirectly related to parent's own relationship satisfaction

and their co-parent's through their own and their co-parent's parental alliance. Specifically, it was expected that (H3a) one parent's level of CCT would be associated with their own lower parental alliance, which, in return, would be associated with their lower relationship satisfaction (*actor-actor* indirect effect); and (H3b) that one parent's higher level of CCT would be positively associated to their own lower level of parental alliance which, in turn, would be positively associated with their co-parent's relationship satisfaction (*actor-partner* indirect effect); (H3c) that one parent's higher level of CCT would be positively associated with their co-parent's low level of parental alliance which, in turn, would be positively associated with their own relationship satisfaction (*partner-partner* indirect effect); (H3d) that one parent's level of CCT would be negatively associated with their co-parent's level of parental alliance which, in turn, would be positively associated to their co-parent's relationship satisfaction (*partner-actor* indirect effect).

2 | Methods

2.1 | Procedure and Participants

Parents who welcomed a new child were randomly selected through a collaboration with the regional parental insurance plan across the province of Quebec. The inclusion criteria for the present study were as follows: (1) being parents of an infant aged < 12 months; (2) being in a romantic relationship with the other parent; (3) being 18 years of age or older; (4) demonstrating fluency in both spoken and written French or English; (5) having one of the parents carry the child during pregnancy; and (6) having the participation of both parents. Parents were initially contacted by phone and subsequently by email. They were invited to complete an online survey hosted on the Qualtrics platform. The study was described as a confidential online survey on the mental and relational well-being of parental couples. Participation took approximately 40 min. Each parent received \$20 (\$40 per couple) as compensation. A total of 2186 eligible couples (4372 participants) were initially invited to participate, with 2564 participants (58.65%) completing the study. Among the 2564 participants who filled out the questionnaire, 1136 couples (2272 participants) were kept in the final sample because some couples had one partner who did not complete the questionnaire (134 couples), or they were from same-sex couples (12 couples). This study was approved by the research ethics committee of the University of Quebec at Montreal.

The final sample consisted of 1136 different-gender parental couples (2272 parents). Most participants were Canadian (83%, $n = 1889$) and primarily spoke French (82%, $n = 1852$). Regarding ethnic origin, 83% ($n = 1325$) of participants identified themselves as White, 4.4% ($n = 71$) as Black, 2.8% ($n = 45$) as Middle Eastern, 2.3% ($n = 35$) as Latino, 2.2% ($n = 33$) as Asian, 0.6% ($n = 10$) as Indigenous, and 1.7% ($n = 27$) indicated mixed ethnic origins. Most participants (39%; $n = 893$) completed college or professional education and 27% ($n = 616$) obtained a university degree. Personal annual income ranged from less than CAD 19,999 to over CAD 100,000, with most participants (81%, $n = 1840$) earning CAD 79,999 or less. Mothers were aged between 19 and 50 years old ($M = 30.04$, standard deviation [SD] = 5.12), while fathers were aged between 20

and 57 years old ($M = 32.04$, $SD = 6.13$). The relationship duration ranged from 1 to 21 years ($M = 7.09$, $SD = 4.11$). All participants were currently living together at the time of the study, with most couples in common-law relationships (72%), while 27.1% were married, and 0.9% reported another relationship status (e.g., engaged). About half of the parents (47.6%) were welcoming their first child, about a third of the parents (32.7%) were welcoming their second, and 19.6% were welcoming a third child or more. Parents had 1–15 children ($M = 1.81$, $SD = 1.07$). The final sample appeared to be representative of the sociodemographic profile (e.g., age, education, income) of the population of parental couples welcoming a new child in the targeted population (Quebec Institute of Statistics 2016; Statistics Canada 2023).

2.2 | Measures

CCT was measured using the Childhood Cumulative Trauma Questionnaire (CCTQ; Godbout, Bigras, and Sabourin 2017). The CCTQ comprises 24 items assessing eight types of childhood interpersonal traumas experienced before the age of 18. These include parental psychological and physical neglect, parental psychological and physical abuse, interparental psychological and physical violence, sexual abuse, and peer bullying. Sexual abuse was evaluated based on Canada's Criminal Code criteria, assessing unwanted sexual contact or activity before 18 with a person at least 5 years older or in a position of authority. Participants rated the frequency of other traumas on a Likert scale (0 = *Never* to 5 = *Almost every day*). Types of childhood interpersonal trauma were considered present if occurring at least once in a typical year before the age of 18. The index of CCT ranged from 0 (*no trauma*) to 8 (*eight different forms of childhood interpersonal traumas experienced*). The instrument demonstrated excellent psychometric qualities in this study ($\alpha = 0.90$ for both mothers and fathers) and in previous research (e.g., $\alpha = 0.90$; Bigras et al. 2017).

Relationship satisfaction was assessed using the brief version of the Dyadic Adjustment Scale (DAS-4; Sabourin, Valois, and Lussier 2005). The DAS-4 includes three items using a 6-point Likert scale (0 = *Never* to 5 = *All the time*). The fourth item assessed happiness on a 7-point scale (0 = *Extremely unhappy* to 6 = *Perfectly happy*). Total scores ranged from 0 to 21, with higher scores indicating greater satisfaction. In the current sample, Cronbach's α were 0.77 for mothers and 0.68 for fathers, which is low.

Parental alliance was measured using the Parental Alliance Measure (PAM; Abidin and Konold 1999). This instrument consists of 20 items on a 5-point Likert scale (1 = *Strongly disagree* to 5 = *Strongly agree*). Total scores ranged from 20 to 100, with higher scores indicating a stronger parental alliance. Psychometric qualities were excellent in the current sample ($\alpha_{\text{mothers}} = 0.94$; $\alpha_{\text{fathers}} = 0.93$) and in previous studies (Konold and Abidin 2001).

2.3 | Data Analysis

Descriptive analyses were performed using the Statistical Package for Social Sciences software (SPSS, version 28) to examine the prevalence of each type of trauma, the clinical cut-off

for relationship satisfaction, and the means and distributions of the study variables. All participants, regardless of whether they experienced trauma, were included in the analyses to analyze the link between more experiences of CCT (on a continuum ranging from 0 to 8) and levels of other variables under study. Correlational analyses were then conducted to examine two-way relationships between study variables. Two-tailed paired-sample *t*-tests were conducted to examine potential differences between mothers and fathers.

Before specifying the final model, the omnibus test of distinguishability was conducted to test whether parents' data differed by gender using the software *Mplus* (Muthén and Muthén 2015; Kenny, Kashy, and Cook 2006). In this test, an unconstrained model was compared to a model where all associations, means, and variances were constrained to be equal across parents. A significant chi-square index ($p < 0.05$) indicated that the dyads were distinguishable (i.e., results differ between women and men). Results of the omnibus test of distinguishability (Kenny, Kashy, and Cook 2006) revealed that parents were distinguishable based on gender ($\chi^2(12) = 135.781, p < 0.001$). Because parents could not be considered indistinguishable, each member of the different-gender couple was treated as distinct (i.e., mothers and fathers).

Next, path analysis with indirect effects was conducted based on the APIM (Kenny, Kashy, and Cook 2006) using the software *Mplus* (Muthén and Muthén 2015). This model enables the nonindependence of data to be considered while measuring actor effects (i.e., the effect of an individual's independent variable on their own dependent variable) and partner effects (i.e., the effect of an individual's independent variable on their partner's dependent variable). Furthermore, it allows the examination of indirect effects through the mediating variables (Ledermann, Macho, and Kenny 2011). All paths were estimated using a maximum likelihood approach with standard errors (MLR) which is robust to non-normality. Missing data were handled using full information maximum likelihood (FIML) estimation (Muthén and Muthén 2015). The bootstrap method was used to simulate 5000 resamples and to calculate 95% confidence intervals (CIs). The indirect effects are considered significant if the interval does not contain zero (Caron 2018). To consider potential confounding variables in the measure of relationship satisfaction, eight socio-demographic variables (i.e., fathers' and mothers' age, fathers' and mothers' annual income, duration of the relationship, the infant's age, the number of children, and whether they were first-time parents or not) were tested as covariates in the integrative model. Several fit indices were used to examine whether the model was well-adjusted to the data. A ratio of chi-square value to degrees of freedom of < 3 , a CFI value ≥ 0.90 , and an RMSEA value < 0.06 indicate a good fit (Bonneville-Roussy, Fenouillet, and Morvan 2022).

Next, all actor and partner links were progressively constrained to be equal to examine which associations differed between parents. These constrained models were compared to the unconstrained saturated baseline model in terms of model fit. Subsequently, to identify the type of dyadic patterns present in the data, the APIM model was adjusted to calculate the *k* parameters (i.e., partner effect/actor effect) using the procedure

outlined by Kenny and Ledermann (2010). The presence of several types of patterns was examined, namely the actor-only pattern (i.e., no partner effect), partner-only pattern (i.e., no actor effect), couple pattern (i.e., equal contribution of actor and partner effects), and contrast pattern (i.e., equal contribution but different directionality of actor and partner effects). Three values of *k* are of particular interest: 0, 1, and -1 . An actor-only or partner-only pattern is determined if *k* has the value of 0; a couple pattern is indicated if the value of *k* is 1; a contrast pattern is suggested if *k* has the value of -1 . As suggested by Kenny and Ledermann (2010), 95% CIs were estimated to better interpret the *k* parameters. Model comparison was conducted using the -2 log-likelihood difference test, which is distributed as chi-squared with degrees of freedom equal to the difference in the number of parameters between models.

3 | Results

3.1 | Descriptive and Preliminary Statistics

Analyses revealed that, in most parental couples, both partners reported a history of interpersonal trauma (74.3%; $n = 812$), while only one partner reported a history of interpersonal trauma in 21.6% of couples ($n = 236$), and neither partner reported a history of interpersonal trauma in 4.1% of couples ($n = 45$). Means, SDs, and correlations for each measure for mothers and fathers are presented in Table 1.

Two-tailed paired-sample *t*-tests revealed that mothers reported more CCT exposure ($t(1092) = 4.316, p < 0.001$), and a higher level of relationship satisfaction ($t(1131) = 2.918, p < 0.001$), while fathers reported a higher level of parental alliance ($t(1115) = -2.751, p < 0.01$).

3.2 | Dyadic Associations Between CCT and Relationship Satisfaction

Using path analysis, we first examined the direct links between mothers' and fathers' CCT and their own relationship satisfaction. Results showed significant actor effects between CCT and relationship satisfaction (H1) for both mothers ($\beta = -0.168, p < 0.001$) and fathers ($\beta = -0.227, p < 0.001$). Direct partner effects (H2) were also observed between mothers' CCT and fathers' relationship satisfaction ($\beta = -0.073, p < 0.01$) and between fathers' CCT and mothers' relationship satisfaction ($\beta = -0.119, p < 0.001$). This model explained respectively 4.9% and 6.3% of the variance in mothers' and fathers' relationship satisfaction.

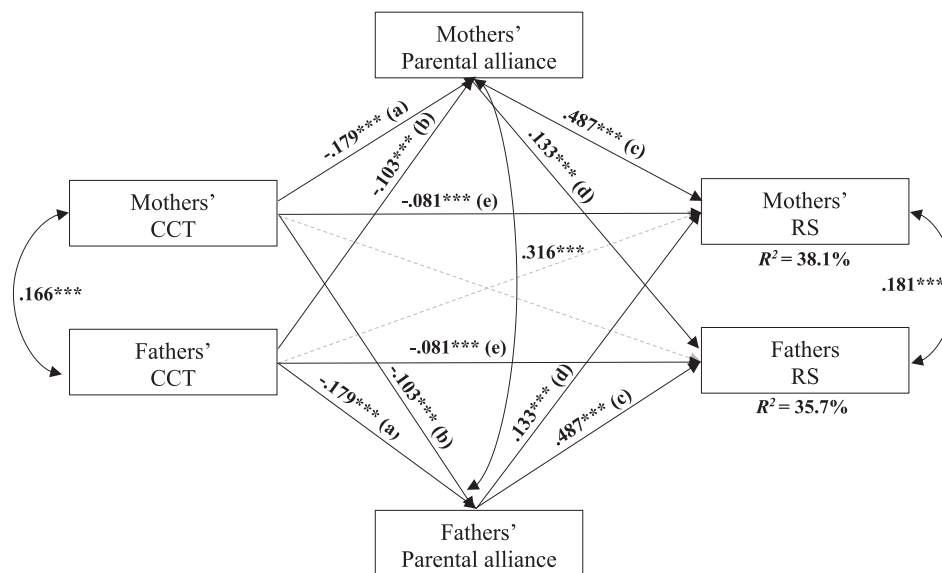
3.3 | Indirect Association Between CCT and Relationship Satisfaction Through Parental Alliance

Next, mothers' and fathers' parental alliance levels were added to the model to examine the indirect associations (see Figure 1). In both parents, the direct actor links between CCT and relationship satisfaction remained significant, while the direct partner links became non-significant. The Bootstrap procedure

TABLE 1 | Means, standard deviations, range, and correlational analyses for mothers' and fathers' study variables.

Variables	1	2	3	4	5	6
1. Mothers' CCT	1	—	—	—	—	—
2. Fathers' CCT	0.174***	1	—	—	—	—
3. Mothers' PA	-0.184***	-0.130***	1	—	—	—
4. Fathers' PA	-0.138***	-0.223***	0.365***	1	—	—
5. Mothers' RS	-0.196***	-0.147***	0.578***	0.380***	1	—
6. Fathers' RS	-0.115***	-0.239***	0.325***	0.570***	0.480***	1
<i>M</i>	2.78	2.44	89.07	90.05	17.59	17.34
<i>SD</i>	1.96	1.94	9.89	9.27	2.84	2.77
Range	0–8	0–8	20–100	21–100	4–21	4–21

Abbreviations: CCT = cumulative childhood trauma, PA = parental alliance, RS = relationship satisfaction.

*** $p < 0.001$.**FIGURE 1** | Constrained APIM model of the association between cumulative childhood trauma and relationship satisfaction through parental alliance. CCT = cumulative childhood trauma; RS = relationship satisfaction; *** $p < 0.001$. Identical labels (a, b, c, d, e) indicate links that have been constrained to be equal. This model includes all covariates (i.e., fathers' and mothers' age, fathers' and mothers' annual income, duration of the relationship, the infant's age, the number of children, and whether they were first-time parents or not).

confirmed eight indirect associations (see Table 2). First, two actor links were identified. Results revealed an indirect association from one's CCT to their own low relationship satisfaction through one's own low parental alliance (H3a). Next, six partner associations were identified. Results showed an indirect association from one's CCT to their own low relationship satisfaction through their partner's low parental alliance (H3c). Results also indicated that one's CCT was associated with their partner's low relationship satisfaction through their partner's low parental alliance (H3d). Finally, results revealed an indirect association from one's CCT to their partner's low relationship satisfaction through one's own low parental alliance (H3b).

3.4 | Covariations and Covariates

Results showed significant covariations between mothers' and fathers' CCT, between mothers' and fathers' relationship

satisfaction, and between mothers' and fathers' parental alliance. In mothers, their own age ($\beta = -0.078$, $p < 0.05$) and the infant's age when the parent joined the study ($\beta = -0.085$, $p < 0.01$) were correlated with relationship satisfaction. In fathers, the infant's age ($\beta = -0.074$, $p < 0.05$) and the duration of the relationship ($\beta = -0.074$, $p < 0.05$) were correlated with relationship satisfaction. For both mothers ($\beta = -0.129$, $p < 0.001$) and fathers ($\beta = -0.081$, $p < 0.05$), being a first-time parent was correlated with a lower relationship satisfaction.

3.5 | Constrained Models, Final Model Fit, and Dyadic Patterns

To examine which associations differed according to gender, all actor and partner links were progressively constrained to be equal. All links could be constrained to be equal without worsening the model fit, indicating that associations did not differ

TABLE 2 | Estimates of indirect associations, with 95% CIs and significance levels.

	β	Standard error	95% CI: Lower limit	95% CI: Upper limit	<i>p</i>
Actor effects					
CCT M-PA M-RS M	-0.087	0.012	-0.112	-0.065	< 0.001
CCT F-PA F-RS F	-0.087	0.012	-0.112	-0.065	< 0.001
Partner effects					
CCT M-PA F-RS M	-0.014	0.004	-0.022	-0.007	< 0.001
CCT F-PA M-RS M	-0.050	0.011	-0.073	-0.030	< 0.001
CCT F-PA F-RS M	-0.024	0.005	-0.034	-0.015	< 0.001
CCT M-PA M-RS F	-0.024	0.005	-0.034	-0.015	< 0.001
CCT M-PA F-RS F	-0.050	0.011	-0.073	-0.030	< 0.001
CCT F-PA M-RS F	-0.014	0.004	-0.022	-0.007	< 0.001

Note: This model includes all covariates (i.e., fathers' and mothers' age, fathers' and mothers' annual income, duration of the relationship, the infant's age, and the number of children).

Abbreviations: CCT = cumulative childhood trauma, CI = confidence intervals, F = fathers, M = mothers, PA = parental alliance, RS = relationship satisfaction.

according to gender and were of similar strength for mothers and fathers in the integrative model. The final constrained model, which includes all covariates, is shown in Figure 1. The fit indices revealed a good adjustment between the data and the final model ($\chi^2/df = 2.408$; CFI = 0.95; RMSEA = 0.036, 90% CI [0.027; 0.046]). The final model explained, respectively, 38.1% and 35.7% of the variance in mothers' and fathers' relationship satisfaction.

Next, we examined the relative contributions of actor and partner effects. Because all links could be constrained to be equal, a simplified model was used to estimate the *ks* where all *ks* between partners were constrained to be equal. For the *a* path (i.e., between CCT and parental alliance), the pooled *k* across both partners was equal to 0.548. Its 95% CI [0.311, 0.785] did not include any of the three *ks* values (i.e., 0, 1, -1), indicating a contribution of both actor and partner effects for both partners, with a more important contribution from the actor effect. For the *b* path (i.e., between parental alliance and relationship satisfaction), the pooled *k* across both partners was equal to 0.293. Its 95% CI [0.208; 0.378] did not include any of the three *ks* values, also suggesting a contribution of both actor and partner effects for both partners, with a more important contribution from the actor effect. Lastly, for the *c* path (i.e., between CCT and relationship satisfaction), the pooled *k* across partners was equal to 0.184. Its 95% CI [-0.212, 0.580] included 0, suggesting an actor-only pattern. The fit of the constrained model in which the *ks* were constrained to 0 did not worsen relative to the fit of the model in which the *ks* were freely estimated, $\chi^2(7) = 3.385$, $p = 0.8447$.

4 | Discussion

The purpose of this study was to explore the indirect association between CCT and relationship satisfaction through parental alliance, from a dyadic perspective, in a randomly selected sample of parental couples welcoming a new child. Our results indicate that one's own CCT experience is associated with both their own and their partner's relationship satisfaction through both parents' parental alliance. This study contributes to a

growing body of research that addresses the need to examine the long-term effects of CCT on relational adjustment among parental couples using a dyadic design. By employing a dyadic perspective, we captured valuable data from both parents, providing a more complete understanding of how CCT relates to parental relationship dynamics. It is also the first study to document the role of parental alliance in the relationship between past CCT and relationship satisfaction in couples.

Moreover, our results provide relevant information regarding the prevalence of childhood interpersonal trauma among a large sample of parents welcoming a new child into their family. Results indicated that for most couples in our sample, both partners reported a history of interpersonal trauma. Parents participating in the study disclosed experiencing an average of 2.6 distinct types of childhood interpersonal trauma, the most common being psychological neglect, physical and psychological violence, and bullying. These findings align with previous research on adults from general populations (e.g., Godbout et al. 2020) and confirm the notion that childhood interpersonal trauma is seldom an isolated occurrence.

Finally, these results highlight the magnitude of this problem and the necessity to better understand the associated long-term effects of CCT on adult relationships.

4.1 | CCT and Relationship Satisfaction: Dyadic Effects

Our first hypothesis—that one's CCT would be negatively linked to their own and their partner's relationship satisfaction—was confirmed. These results support findings from previous studies conducted on survivors regarding the deleterious effects of CCT on survivors' relational sphere (e.g., Godbout et al. 2020) and on partners' satisfaction (Vaillancourt-Morel et al. 2024). In addition, the results of this study address a gap in empirical literature concerning the repercussions on the relational sphere of CCT survivors who welcomed a new child. These findings are relevant not only for parents who have just welcomed their first child but also for those welcoming an

additional child. They are also consistent with the results of a previous study suggesting that a history of emotional abuse was associated with more relationship distress in fathers (Liu et al. 2019). Our results, however, go further since they examine the cumulative nature of interpersonal traumas and indicate that more CCT was related to lower relationship satisfaction for both mothers and fathers. Furthermore, our results suggest that an individual's CCT history may not only influence their own level of relationship satisfaction but also that of their partner. This confirms the presence of a reciprocal correlation and a cycle of unfavorable interactions within couples where at least one of the partners is a CCT survivor (Vaillancourt-Morel et al. 2024; Zamir 2022).

These findings align with the VSA theory (Karney and Bradbury 1995; McNulty et al. 2021), as well as the CATS Model (Goff and Smith 2005), which suggests that a person's traumatic history may be linked to dysfunctional dynamics within the couple as a system. More specifically, the long-term repercussions of a history of CCT could generate negative interactions within the couple, where both partners adopt more pessimistic attitudes and perceptions, leading to lower relationship satisfaction (Goff and Smith 2005; Zamir 2022). Therefore, the influence of a history of CCT would extend beyond the relational well-being of survivors to encompass the fact that partners of CCT survivors might exhibit analogous reactions to the symptoms experienced by trauma survivors. This notion stems from the concept of secondary traumatic stress, where the demands of daily living and supporting someone with post-traumatic stress symptoms could lead to the development of similar feelings and distress. Thus, trauma-related pain could spread to the trauma survivor's partner. This process is recursive, such that each partner's trauma-related pain can reinforce the other's symptoms, with each partner's symptoms impacting relationship dynamics in terms of satisfaction and happiness. Finally, survivor, partner, and couple dynamics could all be influenced by a person's history of CCT, thus requiring careful consideration when developing appropriate prevention strategies and interventions (Goff and Smith 2005; McNulty et al. 2021).

4.2 | The Role of Parental Alliance

The second objective of this study was to examine the role of parental alliance in the association between CCT and relationship satisfaction. Our hypothesis that both parents' CCT would be associated with their parental alliance, which would then be associated with their relationship satisfaction, was confirmed. Thus, couples where at least one member reports a history of CCT may be in for a difficult transition upon the arrival of a new child. They might struggle to cooperate in the care and upbringing of their child, leading to increased relational distress. In contrast, parents who report higher levels of parental alliance could improve their relationship satisfaction. These findings are in accordance with Feinberg's (2003) ecological model of coparenting. These results support the idea that parental alliance plays a crucial role in the relationship between a history of CCT and the relationship satisfaction of survivors when welcoming a new child. Additionally, they suggest that higher levels of the parental alliance are associated with greater

relationship satisfaction, which underscores the importance of supporting and strengthening the parental alliance to promote the positive adjustment of parental couples' when at least one co-parent is a survivor of CCT.

4.3 | Dyadic Effects and Gender Differences

Our results suggest that while both parents' experiences are associated with their own and their partner's parental alliance and relationship satisfaction, actor effects remain more salient than partner effects. This highlights the importance of focusing on one's own perception of their CCT experiences and parental alliance since these may be more strongly associated with their relationship satisfaction. Furthermore, the same patterns were found in both mothers and fathers, suggesting that there are no differences based on gender. These findings are rather novel since fathers are usually not included in studies on parenthood. This may indicate the importance of considering CCT experiences in both mothers and fathers and promoting a parental alliance between both parents to foster satisfying couple relationships. The analyses also revealed a significant covariation between both parents' CCT, suggesting that trauma history may be a factor affecting how individuals find their match, a phenomenon that has also been found in other studies (Zamir 2022; Vaillancourt-Morel et al. 2024). Survivors might look for a partner who had similar childhood experiences to enhance their sense of understanding and support. Furthermore, the present study found that parental alliance and relationship satisfaction significantly covaried across parents. These findings could potentially be explained by the phenomenon of marital resemblance, which refers to the tendency of couples to be similar on a given characteristic (Andersson et al. 2021).

Ultimately, these results are consistent with previous empirical literature that emphasizes the importance of the quality of parental relationships on the relational adjustment of parents welcoming a newborn (Camisasca, Miragoli, and Di Blasio 2014; Durtschi, Soloski, and Kimmes 2017; Feinberg 2002). They also add relevant data by studying the experiences of parental couples where at least one of the co-parents is a survivor of CCT (Christie et al. 2017; Chamberlain et al. 2019). Finally, our results reveal that when CCT survivors have a new child, their past experiences may influence their ability to form positive parental relationships and attain a cohesive parental alliance. However, a cohesive and strong parental alliance can offset these negative effects and promote increased relationship satisfaction.

4.4 | Limitations and Directions for Future Research

The results of this study must be understood with some limitations. The directionality between the variables under study was postulated based on chronological (e.g., childhood trauma preceding parental alliance and satisfaction) and theoretical foundations. Therefore, a longitudinal design is needed to observe the evolution of the effects of the history of CCT on the level of relationship satisfaction. It is also essential to examine

whether parental alliance continues to explain this relationship as the child develops and to clarify the directionality of the links between variables. The utilization of self-reported questionnaires could have introduced biases, potentially influencing co-parents' responses. Although parents were instructed not to communicate with each other while completing the questionnaire, some of them may have disregarded this instruction and influenced each other's responses. Nevertheless, past research indicates that self-report (on a range of items/experiences) measures are reliable tools for detecting traumatic experiences (Baldwin et al. 2019) and are superior to subjective measures (e.g., when individuals must label themselves as "victims"; (Godbout et al. 2020). The use of an online questionnaire allowed parents to complete the survey from the privacy of their homes at their preferred time, but potential self-selection bias must be considered, as higher-functioning parents might have been more inclined to participate, while more vulnerable parents may have felt too burdened to join the study. Finally, the sample used in the present study was limited to different-gender dyads (i.e., mothers and fathers), with couples who are parents of a new child (0–12 months). Thus, future studies will need to be conducted with more diverse samples (e.g., sexual, gender, ethnicity diversity, etc.) to generalize conclusions to a larger population of parental couples.

4.5 | Clinical Implications

This study has important clinical implications for professionals working with parental couples who are experiencing relationship difficulties in the aftermath of CCT. First, the high prevalence of childhood interpersonal trauma and its effect on the relationship satisfaction of both parents underlines the need to strengthen prevention efforts. This could involve educating professionals about the prevalence of CCT and its potential consequences on intimate and parental relationships while also providing them with information on available resources and recovery pathways. Indeed, given the concerns that some parents may have about their traumatic history (e.g., reenactment, low sense of parental efficacy, etc.; Greene et al. 2020; Sivers and Morgan 2019), it is essential for professionals to be sensitive to their reality. Our findings underline the importance of training therapists and other professionals to systematically screen parents seeking help for various types of childhood interpersonal trauma. Moreover, these professionals should be equipped with trauma-sensitive interventions that consider the individual and dyadic effects of such experiences (e.g., Monson et al. 2012; MacIntosh 2019, 2024).

Additionally, the impact of secondary traumatic stress, particularly when both partners have experienced interpersonal trauma, is a key component of therapy. Secondary traumatic stress occurs when one partner's trauma triggers stress responses in the other, heightening emotional reactivity and creating cycles of mutual dysregulation (Goff and Smith 2005). This dynamic can make stress management, communication, and relationship distress more difficult. The interaction of their respective traumas can, therefore, complicate the therapeutic process. Given that many couples in our sample have both experienced CCT, therapists should examine how these interactions affect their dynamics. It would be recommended that they develop strategies to address

these complex dynamics (e.g., teaching couples how to communicate effectively about their traumatic experiences and current emotional needs without triggering each other, implementing strategies to manage the intense emotions that arise from secondary traumatic stress, and developing empathy and understanding; MacIntosh 2019, 2024).

Recognizing interpersonal childhood trauma is essential from societal, clinical, and scientific perspectives. However, it is important not to reduce all parenting difficulties to a history of trauma, as the arrival of a new child is a difficult time for most individuals, regardless of traumatic history (Sivers and Morgan 2019). While recognizing that these experiences can bring additional challenges to the parenting experience of survivors, and not only for the first child, it is also vital to not pathologize this situation by reinforcing the idea that their problems stem solely from their traumatic experiences. Thus, it is recommended to redirect interventions with survivors toward aspects over which they have control and can intervene (MacIntosh and Ménard 2021; MacIntosh 2019).

Our results further suggest that parental alliance may be a key target for therapeutic treatment. This supports the recommendations given by professionals who work with parents regarding the importance of fostering a strong parental alliance (Baumann, Bélanger, and Godbout 2023; Pinquart and Teubert 2010; Lévesque et al. 2020). Thus, understanding how the parental alliance levels of the two co-parents influence the relationship between their CCT histories and their levels of relationship satisfaction is essential for the development of effective support strategies and interventions tailored to families where at least one parent has experienced childhood interpersonal trauma. Targeting the parental alliance in therapeutic interventions could help improve relationship satisfaction and foster fulfilling relationships for CCT survivors welcoming a new child, whether firstborn or subsequent. Professionals can play a vital role in working with these parental couples to improve their communication, cooperation, and mutual support as co-parents. In addition, it is important for professionals to provide emotional support and validation to CCT survivors, recognizing the challenges they have faced and their efforts to establish healthy marital and parental relationships, despite their traumatic history and the fears that may be associated with it (MacIntosh and Ménard 2021). Finally, the results of this study also underline the importance of early interventions. When a couple, or at least one of the two co-parents, is a CCT survivor and is considering having a new child, it can be beneficial to offer preventive support and adapt resources to strengthen the parental alliance before relationship difficulties arise (Pinquart and Teubert 2010). This can include educational programs and workshops focused on developing parenting and relationship skills.

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Ethics Statement

Approval for this study was given by the University of Quebec in Montreal's institutional research ethics board.

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