

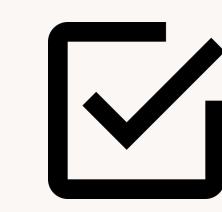
Unravelling the heterogeneity of mental health disorders following childhood trauma: Distinct patterns of association between disruptions in mentalizing trauma and cortisol in anxiety, trauma-related, and personality disorders

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INTRODUCTION

- Childhood trauma (abuse and neglect) is among the most important preventable causes of psychological disorders (Teicher et al., 2022).
- Up to 45% of childhood and between 25.9% and 32.0% of adult mental health disorders are attributable to childhood trauma (Green et al., 2010).
- However, trauma is a non-specific risk factor for most psychological disorders, and developmental trajectories following trauma are highly heterogeneous (Berthelot and Garon-Bissonnette, 2024).
- To date, the developmental mechanisms that lead a person who has experienced childhood trauma to develop one disorder rather than another remain unclear.
- Several studies suggest that the way in which people who have experienced childhood traumas are able to psychologically resolve these experiences is crucial to their adaptation. In this sense, impairments in trauma-related mentalization processes have been associated with various psychopathologies (Berthelot & Garon-Bissonnette, 2024).
- Trauma also has a persistent impact on biological stress regulation, measured via cortisol levels (Tiwari and Gonzalez, 2018), which is also involved in psychological disorders (Sherin and Nemeroff, 2011).
- Although alterations in mentalization and biological stress regulation have both been associated with various psychological symptoms, trauma mentalization and biological markers remain separately studied to date. A better understanding of the interactions between these two factors could lead to a better understanding of the heterogeneity of psychological disorders following trauma.

OBJECTIVE AND METHODOLOGY



To assess whether different types of psychological symptoms present distinct correlates in terms of psychological processes of trauma resolution (operationalized by the concept of trauma mentalization), biological markers of stress (measured by blood cortisol) and the interaction between these variables.



A sample of 84 women ($M_{age} = 29.16$, $SD = 5.14$) was recruited during pregnancy as part of a longitudinal study on the transition and commitment to parenthood.

Plasma cortisol during 2nd trimester

Evaluated using Elisa test kits and an 8 ml blood sample taken within two hours of waking up.

Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5 ; Blevins et al., 2015 ; $\alpha = 0,95$)

Evaluates post-traumatic stress symptoms over the past month, according to DSM-5 criteria.

Childhood Trauma Questionnaire (CTQ ; Bernstein et al., 1994 ; $\alpha = 0,95$)

Retrospectively assesses the severity of five types of maltreatment experienced before age 18: emotional neglect, emotional abuse, physical abuse, sexual abuse and physical neglect.

Kessler Psychological Distress Scale (K-10 ; Kessler et al., 2002 ; $\alpha = 0,76$)

Evaluates the level of subjective distress, especially in the form of anxiety and depressive symptoms, by asking about emotional states over the past month.

Self and Interpersonal Functioning Scale (SIFS ; Gamache et al., 2019 ; $\alpha = 0,92$)

Evaluates the current degree of personality dysfunction according to the four core elements (empathy, identity, intimacy and self-determination) of personality pathology according to the Alternative Model for Personality Disorders DSM-5.

Dissociative Experiences Scale (DES ; Bernstein & Putnam, 1986 ; $\alpha = 0,92$)

Evaluates dissociative symptoms.

Failure to Mentalize Trauma Questionnaire (FMTQ ; Berthelot et al., 2022 ; $\alpha = 0,93$)

Evaluates current mentalization failures regarding recent or past traumas and adverse relational experiences.

RESULTS

Table 1.

Results of moderation analyses including only covariates significantly associated with psychological disorders

Psychological disorders	Predictor variables	b (SE)	t	p value	95% CI
Personality dysfunctions	Level of cortisol	-0.08 (0.18)	-0.44	0.66	-0.43 à 0.27
	Failure to mentalize trauma	0.03 (0.003)	7.59	< 0.001	0.02 à 0.03
	Level of cortisol X Failure to mentalize trauma	0.01 (0.001)	0.72	0.47	-0.02 à 0.03
Dissociation symptoms	Age	-0.59 (0.20)	-2.97	0.004	-0.99 à -0.20
	Childhood maltreatment	0.17 (0.06)	2.69	0.01	0.04 à 0.30
	Level of cortisol	7.56 (3.30)	2.29	0.03	0.97 à 14.14
	Failure to mentalize trauma	0.10 (0.08)	1.29	0.20	-0.05 à 0.25
	Level of cortisol X Failure to mentalize trauma	0.58 (0.22)	2.60	0.01	0.13 à 1.02
Posttraumatic symptoms	Childhood maltreatment	0.23 (0.10)	2.38	0.02	0.03 à 0.43
	Level of cortisol	3.02 (5.19)	0.58	0.56	-7.34 à 13.38
	Failure to mentalize trauma	0.53 (0.11)	4.77	< 0.001	0.31 à 0.75
	Level of cortisol X Failure to mentalize trauma	1.05 (0.35)	2.38	0.004	0.34 à 1.76
Anxiodepressive symptoms	Level of cortisol	3.75 (2.16)	1.74	0.09	-0.55 à 8.06
	Failure to mentalize trauma	0.23 (0.04)	5.77	< 0.001	0.15 à 0.31
	Level of cortisol X Failure to mentalize trauma	0.18 (0.14)	1.21	0.23	-0.12 à 0.48

Figure 1.

Interactions between dissociative symptoms and level of cortisol according to trauma mentalization failures.

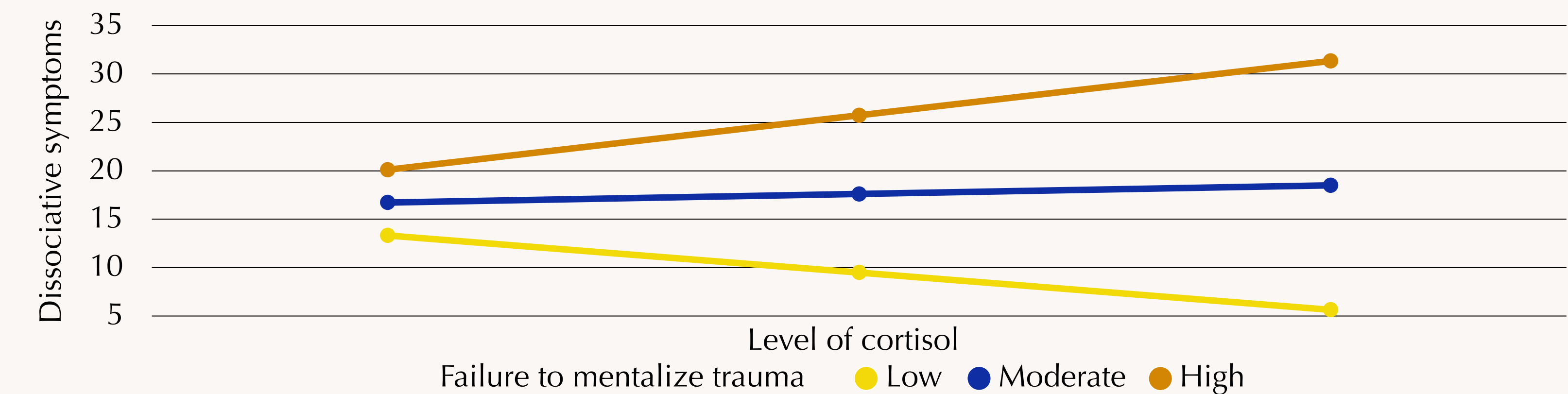
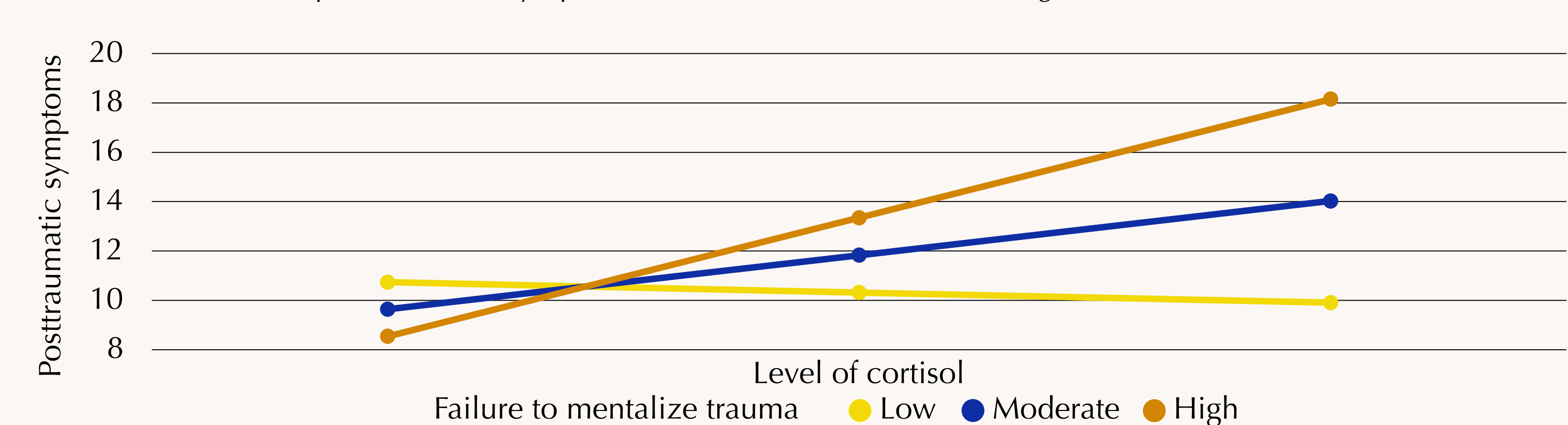


Figure 2.

Interactions between posttraumatic symptoms and level of cortisol according to trauma mentalization failures.



DISCUSSION

Moderation analyses showed that personality dysfunction and anxio-depressive symptoms were associated with trauma mentalization impairments but not cortisol, with a greater proportion of variance explained by mentalization for personality dysfunction than for anxio-depressive symptoms (44% vs. 29%). Trauma-related disorders (dissociation and post-traumatic stress symptoms) were associated with interactions between disruptions in mentalizing trauma and cortisol, with elevated cortisol being a risk factor only in the presence of significant mentalization disruptions. These results highlight that different psychological symptoms have distinct correlates in terms of trauma resolution processes and biological markers of stress. These findings could provide promising avenues for developmental research and clinical practice. Limitations of the study include the modest sample size ($N = 84$) and the data collection during pregnancy, which limits the generalizability of the results.

REFERENCES

