The Impact of Maternal Childhood Abuse and Parenting Stress on Children's Fear Responses

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BACKGROUND

Trauma exposure in caregivers, particularly mothers, has profound implications for child development. **Maternal childhood abuse (MCA)** often disrupts emotional regulation, stress reactivity, and parenting behaviors, potentially altering their children's physiological and emotional responses to stress.

Fear-potentiated startle (FPS) reflects threat sensitivity and maladaptive fear processing, while **fear load** indicates impaired extinction. Elevated FPS and fear load in children correlate with increased anxiety and PTSD.

Our study investigated whether maternal childhood trauma history was linked to fear processing in children

We hypothesized that maternal childhood trauma exposure would be associated with an increased fear load, demonstrating an impaired ability to appropriately inhibit a fear response during extinction.

METHODS – Interviews

Data was collected from **25 children** (Age = 9) from Metro Detroit area

Maternal Childhood Abuse (MCA) was evaluated using the Childhood Trauma questionnaire (CTQ), which included 5 subscales: *emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect*

Maternal Stress was evaluated using the Parenting Stress Index (PSI)

Parenting Style was evaluated using the Parenting Questionnaire (PQ)
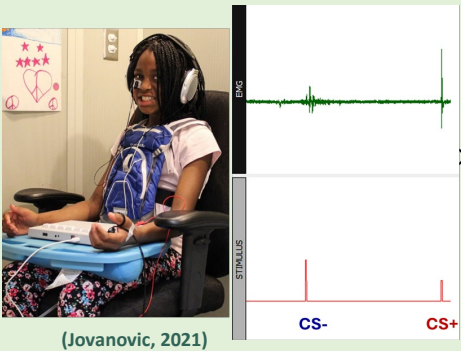
METHODS – Fear Processing

(Jovanovic, 2021)

Figure 1 (left): Children completed a fear-potentiated startle (FPS) task, measuring eyeblink electromyogram responses during differential fear conditioning with a reinforced (CS+) and non-reinforced (CS-) stimulus, followed by extinction learning.

Figure 2 (right): Schematic of fear conditioning and extinction, showing the experimental setup (top) and expected fear responses (bottom).
(Jovanovic et al., 2013)
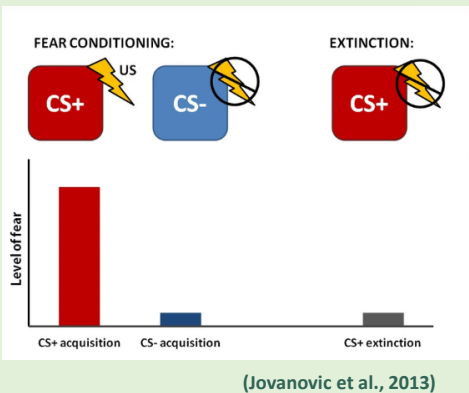
RESULTS

		Correlations			
		MCA - Physical Abuse	MCA - Emotional Abuse	Fear Potentiated Startle (FPS)	Fear Load
MCA - Physical Abuse	Pearson Correlation (r)	--			
MCA - Emotional Abuse	Pearson Correlation (r)	.694**			
	Sig. (2-tailed)	<.001			
Fear Potentiated Startle (FPS)	Pearson Correlation (r)	-.126	.527**	--	
	Sig. (2-tailed)	.550	.007		
Fear Load	Pearson Correlation (r)	.467	.684**	.166	--
	Sig. (2-tailed)	.038	<.001	.428	
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Table 1: MCA (physical) was also linked to higher fear load (r = 0.47, p = 0.04) MCA (emotional) related with increased FPS (r = 0.53, p = 0.01) and fear load (r = 0.68, p < 0.001).

RESULTS

Simple Slope Estimates						
			95% Confidence Interval			
	Estimate	SE	Lower	Upper	Z	p
Average	6.58	8.86	–10.78	24.0	0.743	0.457
Low (-1SD)	–14.00	13.81	–41.07	13.1	–1.014	0.311
High (+1SD)	27.17	9.47	8.61	45.7	2.868	0.004

Note. shows the effect of the predictor (MCA - Physical Abuse) on the dependent variable (Fear Load) at different levels of the moderator (Parenting Stress)
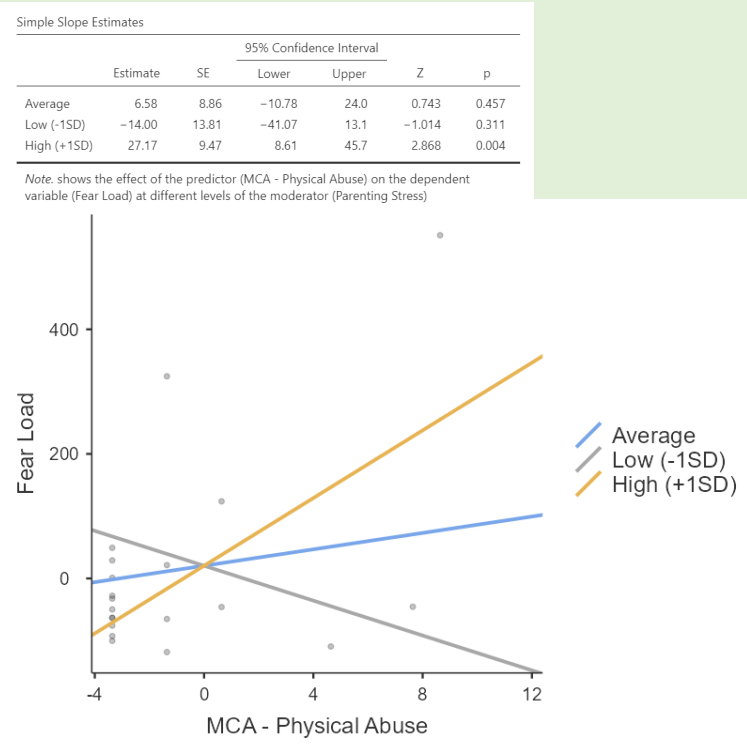
Figure 3:
MCA (physical abuse) × Parenting Stress (B = 2.88, SE = 1.00, p = .004) was also significant, with a particularly strong effect observed at higher (+1 SD) parenting stress levels (B =27.17, SE = 9.47, p =.004))

Simple Slope Estimates						
			95% Confidence Interval			
	Estimate	SE	Lower	Upper	Z	p
Average	15.8727	4.62	6.83	24.9	3.4387	<.001
Low (-1SD)	–0.0963	6.36	–12.56	12.4	–0.0152	0.988
High (+1SD)	31.8417	5.51	21.05	42.6	5.7814	<.001

Note. shows the effect of the predictor (MCA - Emotional Abuse) on the dependent variable (Fear Load) at different levels of the moderator (Parenting Stress)

Figure 4:
MCA (emotional abuse) × Parenting Stress (B = 2.24, SE = 0.39, p < .001) indicated that higher parenting stress (+1 SD) exacerbated the impact of emotional abuse on the child's fear response (B = 31.84, SE = 5.51, p < .001)
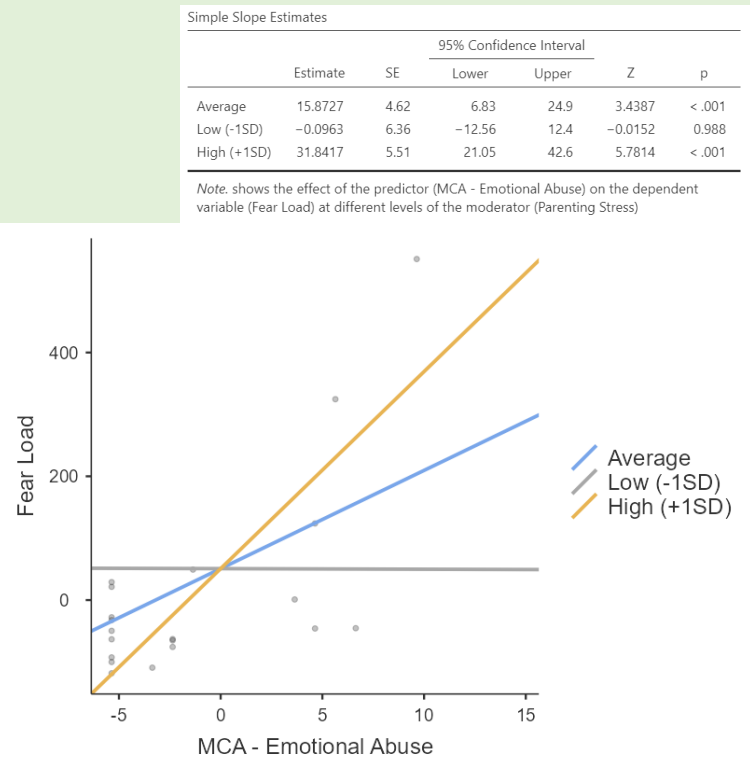
CONCLUSIONS

MCA is linked to increased fear load in children, with parenting stress as a moderator. These findings highlight the need to consider both maternal trauma history and current stress in understanding children's fear responses and potential psychopathology risk.