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Childhood Trauma is Associated with Cognitive Functioning in Adult Affectively Stable Patients with Bipolar Disorder

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BACKGROUND

- Bipolar disorder (BD) is a chronic mental illness associated with functional decline, mortality, and significant health care costs.[1]
- Cognitive impairment is common in BD and is among the most consistent predictors of community function and quality life in patients with BD.[2]
- Early childhood trauma can exert long-term influence on mental and physical health throughout life.[3]
- Childhood trauma is highly associated with bipolar disorder.[4]
- Further research is needed to better understand the specific neurocognitive deficits found in BD patients with various forms of childhood abuse: emotional abuse (EA), physical abuse (PA), sexual abuse (SA), emotional neglect (EN), and physical neglect (PN).
- *In this study, we investigated whether poor performance in certain domains of cognitive functioning during adulthood is associated with certain subtypes of childhood trauma.*

METHODS

Participants
- Participating adults (n=41) were recruited for an ongoing longitudinal study. This preliminary analysis focuses on patients' baseline visit.

Procedures
- Structured Clinical Interviews for DSM-5 were administered to confirm BD.
- The Young Mania Rating Scale (YMRS) and Hamilton Rating Scale for Depression (HRSD) were administered to confirm affective stability. Participants completed the Childhood Trauma Questionnaire (CTQ).
- Participants were administered the MATRICS Consensus Cognitive Battery (MCCB), a neuropsychological assessment that evaluates cognitive domains, and the Wide Range Achievement Test (WRAT) in reading.
- CTQ scores were generated for each trauma subtype. The following cutoff scores were used to categorize the absence/presence of moderate to extreme trauma: EA ≥ 13, PA ≥ 10, SA ≥ 8, EN ≥ 15, & PN ≥ 10.

Analyses
- Multiple linear regression (controlled for age, sex and years of education) and Bivariate Pearson's correlations analyses were performed.

RESULTS

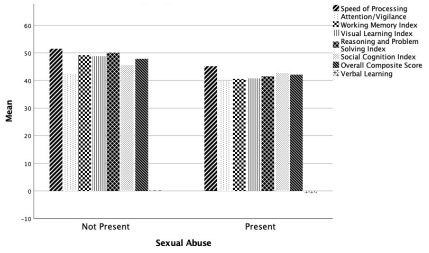
Table 1. Sociodemographic and clinical features of sample

Variable	Mean(SD)	Range
Age	41.51(15.37)	19 - 66
Years of Education	15.52 (2.32)	12 - 20
Current Depression	6.78 (6.68)	0 - 27
Current Mania	2.34 (2.96)	0 - 10
Premorbid IQ	107.6 (13.08)*	62 - 119
Variable	**N; %**	**Descriptor**
Sex	30; 73.2%	Female
Race	33; 78%	White
Bipolar Subtype	32; 78%	BDI
Psychosis History	20; 48.78%	Yes
Comorbid Anxiety	21; 48.8%	Yes
Comorbid SUD	11; 26.8%	Yes

Table 1. Data shown on 41 patients with bipolar disorder. Data represented as Mean (SD) or N(%). Premorbid IQ was estimated using the Reading section of the WRAT. *Data missing from one participant.

Figure 1. SA is associated with poorer cognitive functioning

Overall mean generated by averaging the T-Scores (controlled for age and gender).



RESULTS SUMMARY

- A history of **sexual abuse significantly predicted impaired working memory** (*b* = -.37, *t*(4) = -2.43, *p* = .021) and **impaired reasoning and problem solving** (*b* = -.43, *t*(4) = -2.54, *p* = .016).
- There is a moderate association between a history of **sexual abuse and impaired performance** in the following cognitive domains:
  - **Working memory** (*r* = -.40, *p* = .012)
  - **Visual learning** (*r* = -.34, *p* = .032)
  - **Reasoning and Problem Solving** (r = -.42, p = .009)
  - **Verbal Learning** (r = -.32, *p* = .049)
  - **Overall cognitive functioning** (*r* = -.33, *p* = .043).
- **Physical neglect** is moderately associated with **impaired working memory** (*r* = -.35, *p* = .028). **Emotional abuse** is moderately associated with **impaired speed of processing** (*r* = -.37, *p* = .021).

DISCUSSION & LIMITATIONS

- Childhood sexual abuse, physical neglect, and emotional abuse are moderately inversely correlated with several domains of cognitive functioning in patients with BD.
- After applying Bonferroni corrections for multiple comparisons, none of the findings remained significant.
- Limitations include the lack of racial and ethnic diversity in the sample and the notable gender difference favoring female patients.
- Ongoing data collection and subsequent increases in sample size will permit a more rigorous controlled analysis of the data and strengthen our understanding of the relationship between the variables.
- Follow-up analyses may provide further insight into the trajectory of cognitive deficits in BD as participants complete the longitudinal study.

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