

**Alexithymia and Personality Aspects in Patients with Panic  
Disorder and/or Major Depressive Disorder and the  
Relationship between These Aspects and the Childhood  
Traumas of the Patients**

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## **Abstract**

The present study aims to understand the relationship between alexithymia and personality in patients with major depressive disorder (MDD) and/or panic disorder (PD) in the context of childhood traumas. The total sample of the study consists of 161 people. The patient group consists of 103 people, 50 with MDD, and 53 with PD. The control group consists of 58 healthy people. The Childhood Trauma Questionnaire (CTQ), The Toronto Alexithymia Scale (TAS-20), The Eysenck Personality Questionnaire Revised-Abbreviated Form (EPQR-A), and the Hospital Anxiety and Depression Scale (HADS) were given to all participants. Results show that people in the patient groups have more alexithymic than the people in the control group. However, no differences were found between MDD patients and PD patients in terms of their alexithymia scores. In line with previous research, the correlational analysis revealed that there was a relationship between alexithymia and childhood trauma, MDD and childhood trauma, and neuroticism and childhood trauma in the patient groups.

**Keywords:** Alexithymia; childhood trauma; major depressive disorder; panic disorder; personality

## INTRODUCTION

Mental health disorders, including Major Depressive Disorder (MDD) and Panic Disorder (PD), continue to be significant global health concerns affecting a considerable portion of the population (WHO, 2021). This study explores the intricate interplay between these disorders, individual personality traits, the phenomenon of alexithymia, and the lasting impact of childhood trauma.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) defines MDD as a persistent low mood accompanied by cognitive and somatic changes significantly affecting daily functioning (APA, 2013). PD, falling within the spectrum of anxiety disorders, manifests as recurrent and unexpected panic attacks marked by intense fear and distress (APA, 2013).

Personality, a multifaceted construct influenced by both nature and nurture, plays a crucial role in shaping individuals' thoughts, emotions, and behaviors (Cervone & Pervin, 2014). The PEN theory by Eysenck outlines three dimensions of personality—neuroticism, extraversion, and psychoticism—each influenced by biological and genetic factors (Eysenck & Eysenck, 1991). Neuroticism is characterized by heightened negative emotionality, extraversion by sociability and assertiveness, and psychoticism by a lack of empathy and a tendency towards aggression (Eysenck, 1990; Revelle, 2016).

Alexithymia, a term denoting difficulty in recognizing and expressing emotions, is a noteworthy aspect of the realm of mental health. Initially conceptualized by Sifneos and Nemiah (1970s), alexithymia encompasses four components: difficulty identifying and describing feelings, challenges in expressing emotions to others, restricted imaginative processes, and a stimulus-bound externally oriented cognitive style (Taylor et al., 1991; Taylor, Bagby & Parker, 1997).

Childhood trauma, encompassing abuse and neglect, is acknowledged for its enduring impact on mental health. Traumatic events during childhood have been linked to various psychological conditions, including personality disorders, anxiety disorders, posttraumatic stress disorder, and depressive disorders (Heim & Nemeroff, 2001; Maniglio, 2010; Jaffee, 2017).

Recently, the difficulty in recognizing and verbalizing emotions has been associated with various psychiatric syndromes, such as panic disorder, somatization

disorders, and depression (Fukunishi et al., 1997; Güleç et al., 2005; Motan & Gençöz, 2007). It is hypothesized that this inadequacy in emotional expression may be rooted in childhood traumas, as individuals with a traumatic past often exhibit higher alexithymia scores (Evren & Evren, 2006; Brown et al., 2017). The present study aims to compare alexithymia scores among patient groups and a control group concerning childhood traumas and personality traits. Consequently, four hypotheses were formulated. These hypotheses will guide the exploration of whether individuals with MDD and PD exhibit higher levels of alexithymia, the correlation between childhood trauma and psychopathology, and the association between childhood trauma and specific personality traits.

A total of 161 participants, including 103 from patient groups -50 with MDD, 53 with PD- and 58 from the control group, underwent assessments using the Turkish version of the Childhood Trauma Questionnaire (CTQ; Şar et al., 2012), Toronto Alexithymia Scale (TAS-20; Güleç et al., 2009), Eysenck Personality Questionnaire Revised-Abbreviated Form (EPQR-A; Karancı et al., 2007), and Hospital Anxiety and Depression Scale (HADS; Aydemir et al., 1997).

## **RESULTS**

### **Descriptive Statistics of the Sample**

The study comprised 161 participants, with a mean age of 35.93 (SD = 13.072), ranging from 18 to 65. The sample included 116 women (72%) and 45 men (28%). Educational backgrounds varied, with 6.2% completing primary school, 4.3% completing middle school, 19.9% completing high school, 6.2% holding associate degrees, 52.8% undergraduates, 9.3% graduate students/graduates, and 1.2% holding doctorate degrees. Further sociodemographic details can be found in Table 1.

**Table 1**

*Sociodemographic characteristics of the sample*

Variables	Groups							
	MDD		PD		Healthy		Total	
	n	%	n	%	n	%	N	%
<b>Gender</b>								
Women	36	72.0	41	77.4	39	67,2	116	72,0
Men	14	28.0	12	22.6	19	32,8	45	28,0
<b>Education level</b>								
Literate	0	0.0	0	0.0	0	0.0	0	0,0
Primary school	2	4.0	8	15.1	0	0.0	10	6.2
Middle school	6	12.0	1	1.9	0	0.0	7	4.3
High school	13	26.0	13	24.5	6	10.3	32	19.9
Associate degree	3	6.0	3	5.7	4	6.9	10	6.2
Graduate	21	42.0	27	50.9	37	63.8	85	52.8
Undergraduate	5	10.0	0	0.0	10	17.2	15	9.3
Doctorate	0	0.0	1	1.9	1	1.7	2	1.2
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	32.56	10.0	32.9	10.47	41.6	15.52	35.9	13.07
		76	1	0		9	3	2

Note. N = 161

**Normality Tests**

The results of the Shapiro-Wilk test indicate a non-normal distribution for most variables. Additionally, the skewness and kurtosis values further support the non-normal distribution characteristics of the data (see Table 2). Therefore, a square root transformation was applied to the data in an attempt to normalize the distribution. However, even after the square root transformation, the data did not exhibit a normal distribution. Consequently, non-parametric tests were deemed more appropriate for the subsequent analyses.

**Table 2**

*Test of normality*

Variables	Groups	Shapiro-Wilk			Skewness		Kurtosis	
		Statistic	df	Sig.	Statistic	Std. Error	Statistic	Std. Error
CTQ emotional abuse	Control	.613	58	.000	2.091	.314	3.514	.618
	MDD	.917	50	.002	.798	.337	-.083	.662
	PD	.880	53	.000	.620	.327	-.896	.644
CTQ physical abuse	Control	.395	58	.000	3.844	.314	15.288	.618
	MDD	.505	50	.000	3.358	.337	13.779	.662
	PD	.713	53	.000	1.260	.327	.152	.644
CTQ sexual abuse	Control	.358	58	.000	4.285	.314	20.298	.618
	MDD	.647	50	.000	1.772	.337	2.286	.662
	PD	.595	53	.000	2.360	.327	5.245	.644
CTQ physical neglect	Control	.606	58	.000	2.564	.314	7.428	.618
	MDD	.823	50	.000	1.756	.337	4.444	.662
	PD	.858	53	.000	.567	.327	-.846	.644
CTQ emotional neglect	Control	.863	58	.000	1.260	.314	1.304	.618
	MDD	.952	50	.039	-.017	.337	-1.126	.662
	PD	.957	53	.052	.289	.327	-.768	.644
CTQ minimization	Control	.796	58	.000	.775	.314	-.637	.618
	MDD	.615	50	.000	1.909	.337	3.191	.662
	PD	.710	53	.000	1.329	.327	.951	.644
CTQ total	Control	.749	58	.000	1.910	.314	3.228	.618
	MDD	.951	50	.037	.711	.337	.270	.662
	PD	.939	53	.009	.442	.327	-.695	.644
EPQR-A neuroticism	Control	.905	58	.000	-.137	.314	-1.291	.618
	MDD	.720	50	.000	1.881	.337	3.431	.662
	PD	.855	53	.000	.480	.327	-.997	.644
EPQR-A extraversion	Control	.900	58	.000	.619	.314	-.008	.618
	MDD	.878	50	.000	-.679	.337	.053	.662
	PD	.907	53	.001	-.436	.327	-.380	.644
EPQR-A psychocitism	Control	.866	58	.000	.102	.314	-.851	.618
	MDD	.909	50	.001	-.275	.337	.301	.662
	PD	.923	53	.002	.351	.327	.236	.644
EPQR-A lie scale	Control	.867	58	.000	-.841	.314	-.130	.618

NOTE: This preprint reports new research that has not been certified by peer review and should not be used as established information without consulting multiple experts in the field.

	MDD	.931	50	.006	-.326	.337	-.691	.662
	PD	.933	53	.005	-.112	.327	-.820	.644
TAS-20 DIF	Control	.916	58	.001	.811	.314	-.049	.618
	MDD	.976	50	.396	0.73	.337	-.544	.662
	PD	.953	53	.036	-.402	.327	-.708	.644
TAS-20 DDF	Control	.939	58	.006	.853	.314	.987	.618
	MDD	.972	50	.275	.425	.337	.054	.662
	PD	.964	53	.112	-.178	.327	-.836	.644
TAS-20 EOT	Control	.980	58	.453	.290	.314	-.260	.618
	MDD	.978	50	.488	-.179	.337	-.537	.662
	PD	.870	53	.000	-1.607	.327	4.505	.644
TAS-20 Total	Control	.930	58	.002	.987	.314	.978	.618
	MDD	.976	50	.398	.060	.337	-.287	.662
	PD	.969	53	.178	-.421	.327	-.526	.644
HADS Anxiety	Control	.978	58	.363	.305	.314	.231	.618
	MDD	.948	50	.028	-.345	.337	-.929	.662
	PD	.966	53	.133	-.141	.327	-.836	.644
HADS Depression	Control	.977	58	.345	.250	.314	-.388	.618
	MDD	.967	50	.182	-.170	.337	-.649	.662
	PD	.913	53	.001	1.077	.327	1.407	.644
HADS Total	Control	.966	58	.104	.198	.314	-.778	.618
	MDD	.979	50	.516	-.316	.337	-.529	.662
	PD	.973	53	.274	.332	.327	-.339	.644

Note. CTQ: Childhood Trauma Questionnaire; EPQR-A: The Eysenck Personality Questionnaire Revised-Abbreviated Form; TAS-20: Toronto Alexithymia Scale; DIF: Difficulty identifying feelings; DDF: Difficulty describing feelings; EOT: Externally oriented thinking; HADS: Hospital Anxiety and Depression Scale

### Comparison of TAS-20 Scores of the Sample

The Kruskal-Wallis test indicated significant differences in TAS-20 scores between patient and control groups (see Table 3). Specifically, TAS-20 dif, TAS-20 eot, and TAS-20 total scores showed significant variation among the groups.

**Table 3**

*Group differences in TAS-20 scores*

Scores	Groups	Mean Rank	Kruskal-Wallis Test		
			H	df	P
DIF	Control	53.85	30.902	2	.000
	MDD	95.13			
	PD	97.38			
DDF	Control	70.27	5.844	2	.054
	MDD	91.73			
	PD	82.62			
EOT	Control	100.80	16.536	2	.000
	MDD	68.68			
	PD	70.95			
Total	Control	65.89	9.561	2	.008
	MDD	90.23			
	PD	88.83			

*Note.* DIF: Difficulty identifying feelings; DDF: Difficulty describing feelings; EOT: Externally oriented thinking

A subsequent Mann-Whitney U test revealed significantly higher TAS-20 scores in the MDD group compared to the control group and in the PD group compared to the control group. However, no significant differences were observed between the MDD and PD groups.

### **Correlational Analyses**

#### **Correlation Analysis of TAS-20 Scores with CTQ Scores**

Spearman correlation analysis revealed significant associations between TAS-20 scores and CTQ scores. In the control group, sexual abuse correlated positively with TAS-20 total scores. In the MDD group, emotional abuse correlated positively with TAS-20 total scores. In the PD group, physical abuse, emotional abuse, sexual abuse, and CTQ total scores showed positive correlations with TAS-20 total scores.



No significant correlations were found between physical neglect, minimization scores, and TAS-20 total scores in any group.

For detailed correlation results, refer to Tables 4, 5, 6, and 7.

**Table 4**

*Correlation analysis of TAS-20 Total scores and CTQ scores*

			Emotional Abuse	Physical Abuse	Sexual Abuse	Physical Neglect	Emotional Neglect	Minimization	Total
Control	TAS-20	r	.165	.222	.312*	.080	.011	-.115	.146
		p	.217	.095	.017	.550	.933	.391	.274
	Total	n	58	58	58	58	58	58	58
MDD	TAS-20	r	.332*	.094	.142	.072	.267	-.085	.307*
		p	.018	.517	.327	.621	.060	.555	.030
	Total	n	50	50	50	50	50	50	50
PD	TAS-20	r	.309*	.328*	.302*	.040	.176	-.052	.310*
		p	.024	.017	.028	.778	.208	.713	.024
	Total	n	53	53	53	53	53	53	53

Note. \* $p < .05$ . \*\* $p < .01$ ; TAS-20: Toronto Alexithymia Scale

**Table 5**

*Correlation analysis of TAS-20 DIF scores and CTQ scores*

			Emotional Abuse	Physical Abuse	Sexual Abuse	Physical Neglect	Emotional Neglect	Minimization	Total
Control	TAS-20	r	.199	.210	.349**	-.032	.145	-.204	.216
		p	.134	.114	.007	.814	.279	.125	.103
	DIF	n	58	58	58	58	58	58	58
MDD		r	.463**	.106	.242	.231	.504**	-.295*	.452**
		p	.001	.463	.091	.107	.000	.037	.001

	TAS-20	n	50	50	50	50	50	50	50
	DIF								
	TAS-20	r	.288*	.270	.321*	.191	.210	-.014	.342*
PD	DIF	p	.036	.050	.019	.171	.132	.920	.012
		n	53	53	53	53	53	53	53

Note. \*p < .05. \*\*p < .01; TAS-20: Toronto Alexithymia Scale; DIF: Difficulty identifying feelings

**Table 6**

*Correlation analysis of TAS-20 DDF scores and CTQ scores*

			Emotional Abuse	Physical Abuse	Sexual Abuse	Physical Neglect	Emotional Neglect	Minimization	Total
	TAS-20	r	.248	.235	.197	.108	.136	-.131	.283*
Control	DIF	p	.061	.076	.138	.420	.309	.326	.031
		n	58	58	58	58	58	58	58
	TAS-20	r	.286*	.035	.087	.176	.198	-.114	.287*
MDD	DIF	p	.044	.810	.546	.221	.168	.431	.044
		n	50	50	50	50	50	50	50
	TAS-20	r	.373**	.349*	.208	.115	.210	-.120	.350*
PD	DIF	p	.006	.010	.134	.412	.132	.394	.010
		n	53	53	53	53	53	53	53

Note. \*p < .05. \*\*p < .01; TAS-20: Toronto Alexithymia Scale; DDF: Difficulty describing feelings

**Table 7**

*Correlation analysis of TAS-20 EOT scores and CTQ scores*

			Emotional Abuse	Physical Abuse	Sexual Abuse	Physical Neglect	Emotional Neglect	Minimization	Total
Control	TAS-20	r	-.068	.103	-.035	.107	-.268*	.096	-.193
	EOT	p	.613	.442	.797	.423	.042	.473	.147
		n	58	58	58	58	58	58	58
MDD	TAS-20	r	-.282*	-.062	-.135	-.316*	-.404**	.345*	-.327*
	EOT	p	.047	.669	.351	.025	.004	.014	.020
		n	50	50	50	50	50	50	50
PD	TAS-20	r	-.099	.006	.069	-.321*	-.180	.122	-.146
	EOT	p	.482	.966	.624	.019	.197	.385	.296
		n	53	53	53	53	53	53	53

*Note.* \*p < .05. \*\*p < .01; TAS-20: Toronto Alexithymia Scale; EOT: Externally oriented thinking

### **Correlation Analysis of HADS Scores with CTQ Scores**

Correlation analysis between HADS scores and CTQ scores indicated significant associations in the MDD group, with positive correlations between emotional neglect and physical neglect.

No significant correlations were found in the control or PD groups.

**Table 8**

*Correlation analysis of HADS scores and CTQ scores*

			Emotional Abuse	Physical Abuse	Sexual Abuse	Physical Neglect	Emotional Neglect	Minimization	Total
Control	HADS	r	.179	.049	.157	-.214	.050	-.060	.070
	Total	p	.179	.717	.238	.107	.710	.657	.600
		n	58	58	58	58	58	58	58
MDD	HADS	r	.198	.040	.053	.281*	.389**	-.236	.272
	Total	p	.169	.783	.716	.048	.005	.099	.056
		n	50	50	50	50	50	50	50
PD	HADS	r	.118	.180	.185	.165	.088	-.201	.190
	Total	p	.400	.198	.185	.239	.531	.149	.174
		n	53	53	53	53	53	53	53

Note. \*p < .05. \*\*p < .01; HADS: Hospital Anxiety and Depression Scale

### **Correlation Analysis of EPQR-A Neuroticism Scores with CTQ Scores**

Correlation analysis between EPQR-A neuroticism scores and CTQ scores revealed positive associations in the control, MDD, and PD groups. Notable correlations included neuroticism with CTQ total scores, emotional neglect, emotional abuse, and physical abuse.

**Table 9**

*Correlation analysis of EPQR-A Neuroticism scores and CTQ scores*

		Emotional Abuse	Physical Abuse	Sexual Abuse	Physical Neglect	Emotional Neglect	Minimization	Total
Control	Neuroticism	r .355**	.259*	.174	.197	.463**	-.197	.507**
		p .006	.050	.193	.137	.000	.138	.000
		n 58	58	58	58	58	58	58
MDD	Neuroticism	r .363**	.004	.154	.187	.235	-.184	.298*
		p .009	.977	.286	.193	.100	.201	.035
		n 50	50	50	50	50	50	50
PD	Neuroticism	r .264	.116	.280*	.280*	.276*	-.152	.294*
		p .056	.406	.042	.043	.046	.277	.033
		n 53	53	53	53	53	53	53

Note. \*p < .05. \*\*p < .01.

These results suggest a nuanced relationship between childhood trauma, alexithymia, and psychopathological symptoms across different patient groups. Further interpretation and implications are discussed in the following sections.

## DISCUSSION

### Comparison of Alexithymia Scores Among Patient Groups

Consistent with expectations, individuals with MDD and PD exhibited significantly higher alexithymia scores compared to the control group. This aligns with prior research highlighting the association between alexithymia and various psychiatric disorders (Karayağız & Baştürk, 2016; Marchesi et al., 2005). The absence of significant differences in alexithymia scores between MDD and PD patients raises intriguing questions about shared underlying mechanisms and warrants further exploration.

### The Relationship Between Alexithymia and Childhood Trauma

The study substantiates the hypothesis positing a positive correlation between childhood trauma and alexithymia. Notably, the findings reveal nuanced associations

between specific types of childhood abuse and neglect and different facets of alexithymia. Sexual abuse emerged as a significant predictor of alexithymia in the control group, consistent with established literature (1988, as cited in Moormann et al., 2012; McLean et al., 2006; Bermond et al., 2008). In the MDD and PD groups, varied correlations between different forms of abuse and neglect underscore the complexity of these relationships.

These findings resonate with existing research, such as the study by Şenkal and Işıklı (2005), emphasizing the mediating role of alexithymia in the connection between depressive symptoms and childhood traumas. Moreover, the study adds granularity by revealing specific associations between types of abuse and different aspects of alexithymia.

### **The Relationship Between Psychopathology and Childhood Trauma**

The positive correlation between childhood trauma and psychopathology was confirmed in the MDD group, where HADS scores were positively associated with emotional and physical neglect. This aligns with extensive research linking childhood neglect to an increased vulnerability for Major Depressive Disorder (Bifulco et al., 2002; Hovens et al., 2012; Yıldırım et al., 2014). However, the absence of significant correlations in the PD group suggests potential disorder-specific nuances in the relationship between childhood trauma and psychopathology.

These results support recent meta-analyses (Humphreys et al., 2020) highlighting the robust connection between childhood maltreatment, particularly emotional abuse and neglect, and the severity of depression. The discrepancies between MDD and PD groups underscore the importance of considering disorder-specific factors when investigating the impact of childhood trauma on psychopathology.

### **The Relationship Between Neurotic Personality Trait and Childhood Trauma**

The study provides robust evidence supporting the positive correlation between neurotic personality traits and childhood trauma across different psychopathologies. The association between neuroticism and emotional abuse, as well as other forms of childhood trauma, substantiates prior findings (Roy, 2002; Masuya et al., 2022). The consistent link between neuroticism and childhood trauma, irrespective of psychiatric diagnosis, emphasizes the enduring impact of early-life experiences on personality traits.

These results align with existing literature (Bagby et al., 1994; Luminet et al., 1999) and contribute to a deeper understanding of the intricate relationship between neuroticism

and childhood trauma. The study suggests that a history of childhood trauma could contribute to the development of a neurotic personality trait, echoing the findings of Masuya et al. (2022).

### **Limitations of the Present Study and Recommendations for Future Research**

Several limitations should be considered when interpreting the study's findings. The unexpected shift to online forms during the COVID-19 pandemic introduced challenges, affecting the study's original design. Furthermore, the gender imbalance in the sample and the absence of pandemic-related questions limit the generalizability of the results. Future research should strive for a more balanced representation of gender and consider the unique impact of the pandemic on mental health outcomes.

The study's cross-sectional design and reliance on correlation analysis constrain the ability to establish causation. Longitudinal studies employing advanced statistical methods are recommended to explore causal relationships and temporal dynamics between variables.

Additionally, the study could benefit from incorporating pandemic-related questions to assess the potential impact on participants' responses.

### **CONCLUSION**

The study's findings hold valuable implications for clinical practice, emphasizing the importance of nuanced and integrated therapeutic approaches. The elevated levels of alexithymia in MDD and PD patients underscore the need for clinicians to address difficulties in emotional processing during treatment. Integrating assessments for childhood trauma and neurotic personality traits may enhance the precision and efficacy of therapeutic interventions.

The positive correlations between childhood trauma, neuroticism, and psychopathology highlight the need for comprehensive treatment plans. Clinicians should consider both childhood trauma and neurotic personality traits when designing interventions, aiming to address emotional regulation and personality factors simultaneously. Tailoring treatment strategies to the individual's specific profile may lead to more effective outcomes in managing MDD and PD.

In conclusion, this study contributes valuable insights into the intricate relationships between childhood trauma, alexithymia, and neurotic personality traits in

individuals with MDD and PD. The findings emphasize the need for a holistic and individualized therapeutic approach that considers the dynamic interplay between emotional processing, early-life experiences, and personality traits. Further research is warranted to delve deeper into these relationships and refine therapeutic strategies for improved mental health outcomes.

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