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Relationship between childhood traumas, cognitive distortions and aggression in forensic psychiatry patients aggression in forensic psychiatry patients

Eda Atay[a], Ufuk Doğan[b], Özlem Işıl[c], Büke Hekim[d] and Nilüfer Kılıç[e]

[a]Faculty of Health Sciences, Nursing Department, Hasan Kalyoncu University, Gaziantep, Turkey; [b]Firat University Kovancılar Vocational School, Home Care Program Fırat University School of Health Services, Elazığ, Turkey; [c]Faculty of Health Sciences, Department of Child Development, Istanbul Gedik University, Istanbul, Turkey; [d]Elazığ Fethi Sekin City Hospital High Security Forensic Psychiatry Hospital, High Security Forensic Psychiatric Hospital Affiliated to Elazığ Fethi Sekin City Hospital, Elazığ, Turkey; [e]Elazığ Provincial Health Directorate, Elazığ, Turkey

ABSTRACT

Aggression is a common problem in forensic psychiatric patients and an important problem for psychiatric nurses during the treatment, care and rehabilitation of patients. The aim of this study is to determine the relationship between childhood traumas, cognitive distortions and aggression in forensic psychiatry patients. This descriptive study was conducted with 103 forensic psychiatry patients treated in a high security forensic psychiatry hospital. The data of study were collected Introductory Information Form, Childhood Psychological Traumas Scale (CTQ), Cognitive Distortions Scale (CDS) and Buss-Perry Aggression Scale (BAQ). The data of the study were collected using the Introductory Information Form, the Childhood Trauma Questionnaire (CTQ), which assesses traumatic experiences in childhood; the Cognitive Distortions Scale (CDS), which measures dysfunctional thought patterns; and the Buss-Perry Aggression Questionnaire (BAQ), which evaluates levels of aggression. The study found a significant positive correlation among childhood traumas, cognitive distortions, and aggression, indicating that higher levels of childhood trauma and cognitive distortions are associated with increased aggression. This study highlights the importance of considering both early traumatic experiences and cognitive processes together in the management and prevention of aggression among forensic psychiatric patients. The findings emphasize the necessity of taking these factors into account for risk assessment and effective treatment planning.

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CONTACT Eda Atay eda.acikgoz@hku.edu.tr

Introduction

Forensic psychiatric practices aim to carry out the treatment of patients with mental disorders, to increase their compliance with treatment and to reintegrate patients into their environment after treatment. However, one of the important goals is to prevent new crimes and minimize the experience of violence by patients (Balcıoğlu, 2022).

Forensic psychiatry patients' aggression towards themselves and others is a common (Huitema et al., 2021) and very difficult to treat behaviour (Tolisano et al., 2017). It is stated that 86% of patients show aggressive behaviour at least once (Tuente et al., 2021). There are many important factors in patients' aggressive behaviours (Maguire et al., 2017; Markiewicz et al., 2020). Childhood traumas, which are one of the most important environmental factors in the emergence of aggressive behaviour (Fritz et al., 2021), and exposure to neglect and abuse increase the tendency of patients to show aggressive behaviours and re-offend in adulthood (Dudeck et al., 2016; Tuente et al., 2021). It is stated that patients exposed to trauma in childhood lose their conscious awareness of themselves and their environment (Yıldız et al., 2021) and are associated with various psychological symptoms and cognitive distortions (Yiğit & Erden, 2015). In addition, there are studies indicating that aggressive behaviours of forensic psychiatry patients are associated with cognitive distortions (Chabrol et al., 2011; Smeijers, Brazil, et al., 2018). However, it is stated that studies examining the relationship between childhood traumas, cognitive distortions and aggression in forensic psychiatry patients are insufficient (Fosse et al., 2021).

The frequency of aggression events of forensic patients, evidence for determining the factors affecting the severity, and the implementation of preventive measures are important in terms of protecting patients, staff working with patients (Huitema et al., 2021) and society (Polat & Uğur, 2021). A good understanding of the factors affecting and contributing to violent behaviour is the basic building block for improving forensic psychiatric treatment (Koolschijn et al., 2023). Furthermore, To conduct risk assessments and provide effective care, psychiatric nurses must understand the relationship between their patients' childhood traumas, cognitive distortions, and aggression levels. Unfortunately, it was stated in the literature that the relationship of these factors with forensic psychiatry patients was not sufficiently investigated (Koolschijn et al., 2023; Petrovic & Injac Stevovic, 2021). Therefore, this study will reveal the relationship between childhood traumas and cognitive distortions leading to aggressive behaviors in forensic psychiatry patients and contribute to effective treatment planning. Also care for these patients and will provide a theoretical basis that will guide future research in the planning of protective and preventive interventions aimed at preventing aggressive behavior. The purpose of this study is to determine the relationship between childhood traumas, cognitive distortions, and aggression in forensic psychiatric patients.

Methods

Design and participants

This descriptive study was conducted with forensic psychiatry patients treated in a high security forensic psychiatry hospital in Turkey between 20 November 2022 and 30 March 2023. G* Power 3.1.9.7 (Düsseldorf/Germany) programme was used to determine the sample size of the study. Sample size calculation was based on Meddeb et al. (2022), with a minimum total number of participants ($n = 94$), and a medium effect size = 0.15, α error = 0.05, and power = 0.95. Inclusion criteria included being over 18 years of age, being able to read and write, having no reading comprehension problems, a diagnosis of a mental illness that precludes criminal responsibility, being subject to compulsory treatment in a forensic psychiatric hospital by court order, and participating voluntarily in the study. Exclusion criteria included not meeting the inclusion criteria, completing the data collection form incompletely. The study sample was comprised of 103 patients who were receiving inpatient treatment in a forensic psychiatric ward between the relevant dates, met the inclusion criteria, and volunteered to participate in the study using simple random sampling.

Procedure

Before beginning the study, written permission was obtained from the Firat University Social and Human Sciences Research Ethics Committee (2023/1) and the institution where the study was conducted. Before the forms were distributed to the participants, the purpose and objectives of the study were explained, and written informed consent was obtained for participation. Data were collected through individual face-to-face interviews with patients in a quiet room by the researcher, an experienced clinical nurse working in a forensic psychiatric hospital. Participants completed the data collection form, but the researcher provided explanations for any questions they did not understand. Participants completed the questionnaires in approximately 15–20 minutes.

Measures

(1) *Introductory Information Form*: The form, which was created by the researchers in line with the literature (Smeijers, Bulten, et al., 2018; Tuente et al., 2021), consists of a total of 12 questions including age, gender, marital status, number of children, education level, employment status, diagnosis of psychiatric illness, age of onset of illness, number of hospitalizations, previous experience of a forensic event (It is being investigated whether he was involved in any past crimes or legal investigations), alcohol/substance use and suicide attempt.

(2) *Childhood Psychological Traumas Questionner (CTQ)*: It is a scale developed by Bernstein Ahluvalia,Pogge, & Handelsman (1994) that retrospectively evaluates neglect-abuse experiences in childhood and adolescence. The Turkish validity and reliability study of this scale was conducted by Şar, Öztürk & İkikardeş (2012). The scale has subdimensions as childhood emotional, physical, sexual abuse and physical, emotional neglect. The sub-dimensions range between 5-25 points and the total score between 25-125 points. An increase in the score obtained from the scale indicates the frequency of childhood traumas. The cronbach alfa of the scale is 0.93 (Şar, Öztürk & İkikardeş 2012). The cronbach alfa coefficient in this study is 0.89.

(3) *Cognitive Distortions Scale (CDS)*: The validity and reliability of this scale, developed by Briere (2000), was adapted into Turkish by Sert-Ağır and Yavuzer (2018). The scale consists of 40 questions expressing dysfunctional cognitive thoughts. Each item is graded on a five-point Likert scale with a score between '1-5'. A minimum score of 40 points and a maximum score of 200 points can be obtained from the scale. The higher the score obtained from the scale, the higher the level of cognitive distortion. The cronbach alfa of the scale is 0.93 Sert-Ağır and Yavuzer (2018). The cronbach alfa coefficient in this study is 0.93.

(4) *Buss-Perry Aggression Scale (BAQ)*: The scale developed by Buss and Perry (1992) and validity and reliability study of the Turkish form by Madran (2012). The scale is a five-point Likert-type scale consisting of 29 items and 4 sub-dimensions. An increase in the total score indicates an increase in the level of aggression. Cronbach's a coefficient of the scale is 0.85 (Madran, 2012). The cronbach alfa of the scale is 0.85. The cronbach alfa coefficient in this study is 0.95.

Data analysis

Statistical evaluation of the data was performed using IBM SPSS 25.0 New York package programme. The normal distribution of the data was evaluated by Kolmogorov-Smirnov test. Parametric tests were used since the research data were suitable for normal distribution. Mean and standard deviation were used for continuous variables and number and percentage were used for categorical data. Independent Sample t Test was used in the evaluation of binary categorical data, One-Way Analysis of Variance was used in the evaluation of more than two categorical variables and Post Hoc Bonferonni correction was used in further analysis to determine the difference between groups. Pearson Correlation Analysis was used to evaluate the relationship between the scales. Factors affecting BAQ were investigated using multiplere gression analysis.Residuals were examined to confirm the assumptions of regression, and variance inflation

factor (VIF) values confirmed the absence of multicollinearity. The results were considered statistically significant at $p < 0.05$, with a confidence interval of 95%.

Results

In this study, 82.5% of forensic psychiatry patients were male, 50.5% were married, 49.5% had secondary education, 53.4% were not working. Of the patients, 45.6% had a diagnosis of schizophrenia spectrum and other psychotic disorders, 42.7% had an onset age of 20–24 years, 35% had been hospitalized 1–2 times before, 45.6% had a previous experience of a forensic event, and 21.4% had attempted suicide before. The mean total score of the childhood mental traumas scale was 87.66 ± 7.29 (min: 64, max: 116), the mean total score of the Buss-Perry aggression scale was 81.86 ± 18.50 (min: 31, max: 116), and the mean total score of the cognitive distortions scale was 86.03 ± 29.07 (min: 40, max: 159) (Table 1).

A significant difference was descriptive characteristics between the level of education and the total childhood trauma scores based on the characteristics of the patients. Following the Bonferroni correction, it was determined that patients with a high school education or higher had significantly higher levels of childhood trauma compared to other patients ($p = 0.04$).

A significant difference was found in the total scores of the Buss – Perry Aggression Questionnaire when compared across psychiatric diagnostic categories. Patients with schizophrenia spectrum and other psychotic disorders, as well as those with bipolar affective disorder, were found to have higher levels of aggression compared to other patient groups ($p = 0.04$). When the total scores of the Buss – Perry Aggression Questionnaire were compared according to the number of hospitalizations, it was determined that patients who had been hospitalized once or twice exhibited lower levels of aggression than those with a higher number of hospitalizations ($p = 0.02$). When the level of aggression was evaluated based on the patients' history of forensic incidents, it was found that those with prior forensic experience had significantly higher levels of aggression compared to patients without such experience ($p = 0.03$). When the aggression levels of the patients were compared according to alcohol/substance use, it was found that patients who used alcohol or substances exhibited higher levels of aggression than those who did not ($p = 0.03$).

When the total cognitive distortion scores were compared according to the educational status of the patients, a statistically significant difference was found. It was determined that patients with primary school education had higher levels of cognitive distortions compared to those with higher educational attainment ($p = 0.02$). When the level of cognitive distortion was evaluated according to the psychiatric diseases of the patients, it was found that

Table 1. Distribution of descriptive characteristics of forensic psychiatry patients ($N = 103$).

Gender	N	%	CTQ	Test ve p	BAQ	Test ve p	CDS	Test ve p
Female	18	17.5	87.78 ± 5.93	t = 0.069	82.67 ± 16.47	t = 0.242	87.39 ± 21.57	t = 0.216
Male	85	82.5	87.65 ± 7.58	p = 0.94	81.69 ± 18.99	p = 0.84	85.75 ± 30.53	p = 0.83
Maritial Status								
Married	52	50.5	87.13 ± 7.16	t = 0.750	80.27 ± 16.57	t = 0.882	83.02 ± 29.25	t = 1.065
Single	51	49.5	88.22 ± 7.46	p = 0.45	83.49 ± 20.32	p = 0.38	89.12 ± 28.86	p = 0.28
Child								
0	46	44.7	88.74 ± 7.27	F = 0.985	83.83 ± 19.84	F = 0.291	89.57 ± 28.56	F = 0.118
1–2	26	25.2	86.77 ± 7.29	p = 0.37	76.73 ± 19.77	p = 0.74	81.96 ± 33.39	p = 0.88
3 or more	31	30.1	86.84 ± 7.35		83.26 ± 14.74		84.23 ± 26.17	
Educational Status								
Primary School[a]	33	32.1	86.39 ± 6.54	**F = 3.141**	86.42 ± 18.12	F = 2.230	97.21 ± 30.65	**F = 3.390**
Secondary School[b]	51	49.5	87.14 ± 5.29	**p = 0.04***	81.31 ± 17.35	p = 0.11	82.06 ± 27.51	**p = 0.02***
High School or above[c]	19	18.4	91.32 ± 11.40	**c > a,b**	75.42 ± 20.92		77.32 ± 25.79	**a > b,c**
Employment								
Yes	55	53.4	87.62 ± 7.96	t = 0.077	78.84 ± 17.67	t = 1.797	82.45 ± 29.98	t = 1.344
No	48	46.6	87.73 ± 6.54	p = 0.39	85.33 ± 19.00	p = 0.07	90.15 ± 27.74	p = 0.18
Psychiatric Diagnosis								
Schizophrenia Spectrum and Other Psychotic Disorders[a]	47	45.6	87.70 ± 7.14	F = 0.841	83.02 ± 18.76	**F = 2.756**	87.53 ± 26.44	**F = 3.235**
Bipolar Affective Disorders[b]	36	35.0	86.78 ± 6.95	p = 0.43	84.64 ± 15.27	**p = 0.04***	90.61 ± 27.57	**p = 0.04***
Others (Antisocial Personality Disorder, Dissociative disorders)[c]	20	19.4	89.47 ± 8.47		73.00 ± 21.76	**b,a > c**	71.00 ± 33.10	**b,a > c**
Age of disease onset								
1–19	23	22.3	85.87 ± 6.91	F = 0.985	83.22 ± 19.21	F = 0.291	88.48 ± 32.53	F = 0.118
20–24	44	42.7	87.89 ± 6.37	p = 0.37	82.70 ± 16.59	p = 0.74	84.82 ± 27.34	p = 0.88
25 or above	36	35.0	88.56 ± 8.50		79.97 ± 20.54		85.97 ± 29.57	
Hospitalizations								
1–2[a]	37	35.9	88.95 ± 7.94	F = 0.883	75.41 ± 19.38	**F = 3.900**	85.43 ± 33.10	F = 0.445
3–4[b]	35	34.0	86.91 ± 6.11	p = 0.41	84.23 ± 14.68	**p = 0.02***	83.23 ± 22.80	p = 0.64
5 or more[c]	31	30.1	87.00 ± 7.73		86.90 ± 19.62	**a < b,c**	89.94 ± 30.74	
Previous forensic case experience								
Yes	47	45.6	86.26 ± 7.20	t = 1.824	87.72 ± 16.30	**t = 3.063**	89.55 ± 29.46	t = 1.125
No	56	54.4	88,86 ± 7.22	p = 0.07	76.95 ± 18.94	**p = 0.03***	83.09 ± 28.68	p = 0.26

(*Continued*)

Table 1. (Continued).

Gender	N	%	CTQ	Test ve p	BAQ	Test ve p	CDS	Test ve p
Alcohol-Substance Abuse								
Yes	17	16.5	86.76 ± 4.97	t = 0.558	93.18 ± 14.72	**t = 2.854**	92.76 ± 31.81	t = 1.044
No	86	83.5	87.85 ± 7.68	p = 0.58	79.63 ± 18.42	**p = 0.03***	84.71 ± 28.52	p = 0.29
Suicide Attempt								
Yes	22	21.4	87.23 ± 5.89	t = 0.320	88.00 ± 17.73	t = 1.772	91.86 ± 23.89	t = 1.060
No	81	78.6	87.79 ± 7.66	p = 0.75	80.20 ± 18.46	p = 0.79	84.46 ± 30.27	p = 0.23

Age: 38.24 ± 8.84 (min-max:22–59).

CTQ=87.66 ± 7.29 (min-max:64–116), Emotional Abuse Subdimention = 13.71 ± 2.14 (min-max:7–20), Emotional Neglect Subdimention = 20.67± (min-max:8–58), Sexual Abuse Subdimention = 17.64 ± 1.24 (min-max:13–23), Physical Abuse Subdimention = 18.18 ± 1. 31 (min-max:14–22) Physical Neglect Subdimention = 4.69 ± 0.75 (min-max:1–5).

BAQ=81.86 ± 18.50 (min- max: 31–116) Physical Aggression Subdimention = 23.85 ± 6.07 (min-max:9–36) , hostility Subdimention = 23.47 ±6.57 (min-max:8–39) , Anger Subdimention=20.10 ± 4.59 (min-max:7–33), Verbal Agression Subdimention = 14.42 ± 3.25 (min-max:5–21).

CDS=86.03 ± 29.07 (min- max: 40–159) Negative Self-Perception Subdimention = 14.94 ± 5.54 (min-max:8–32), ,Self-Blame Subdimention = 17.39 ± 6.63(min-max:8–34), Helplessness Subdimention = 18.69 ± 7.04 (min-max:8–4 Hopelessness Subdimention = 16.91 ± 7.31 (min-max:8–34), Seeing Life as Dangerous Subdimention = 18.08 ± 6.75 (min-max:8–34).

CTQ = Childhood Trauma Questionarre, BAQ = Buss-Perry Agression Scale, CDS = Cognitive Distortion Scale, F = One Way ANOVA, *t* = Student t Test, *$p < 0.05$.

the level of aggression of the patients in the other group such as dysociative disorder was lower than the other patient groups ($p = 0.04$).

Correlation analyses revealed significant associations among childhood traumas, aggression, and cognitive distortions (Table 2). A positive and statistically significant relationship was observed between the total score of the Childhood Trauma Questionnaire (CTQ) and the Buss – Perry Aggression Questionnaire (BAQ), indicating that individuals who experienced higher levels of childhood trauma exhibited increased levels of aggression ($r = .228$, $p < 0.00$). Among the subdimensions of childhood trauma, emotional neglect showed the strongest correlation with overall trauma scores and was also significantly associated with aggression levels ($r = .244$, $p < 0.05$).

Aggression scores were positively correlated with cognitive distortions ($r = .412$, $p < 0.01$). The strongest relationships were found between the subdimensions of physical aggression, hostility, and anger, which also showed consistent correlations with all subdimensions of the Cognitive Distortions Scale (respectively: $r = .343$ $p < 0.01$, $r = .393$ $p < 0.01$, $r = .436$ $p < 0.01$). Overall, significant and positive correlations were observed between all aggression and cognitive distortion subdimensions ($p < 0.01$).

The linear regression analysis revealed that both emotional neglect and perceiving life as dangerous significantly predicted aggression (Table 3). Emotional neglect had a positive effect ($\beta = 0.206$, $p < 0.05$), indicating that individuals who experienced higher emotional neglect exhibited higher aggression scores. Moreover, perceiving life as dangerous emerged as the strongest predictor ($\beta = 0.441$, $p < 0.01$), suggesting that a hostile perception of the world contributes substantially to aggressive tendencies. Overall, the model accounted for 25.3% of the variance in aggression scores ($R^2 = 0.253$), representing a moderate explanatory power. The effects of childhood traumas and cognitive distortion – related variables on aggression were found to be statistically non-significant ($p > 0.05$).

Discussion

This study revealed that childhood traumas and cognitive distortions were associated with the aggression levels of forensic psychiatry patients. In the literature, it has been reported that most forensic psychiatry patients have a history of childhood trauma (Bruce & Laporte, 2015; Fritz et al., 2021; Schuringa et al., 2019), that individuals who have experienced childhood trauma tend to display higher levels of aggressive behaviour (Koolschijn et al., 2023), and that these patients have been exposed to high levels of childhood trauma not only based on self-reports but also according to forensic records (Meddeb et al., 2022). Moreover, carefully examining childhood experiences during the assessment of forensic psychiatry patients is of

Table 2. Relationship between childhood traumas, cognitive distortions and aggression.

		CTQ	CTQ1	CTQ2	CTQ3	CTQ4	CTQ5	BAQ	BAQ1	BAQ2	BAQ3	BAQ4	CDS	CDS1	CDS2	CDS3	CDS4	CDS5
CTQ	r	1																
	p																	
CTQ1	r	0.187	1															
	p	0.05																
CTQ2	r	0.029	0.053	1														
	p	0.76	0.59															
CTQ3	r	0.099	0.068	0.184	1													
	p	0.32	0.49	0.06														
CTQ4	r	.860**	0.004	0.158	.312**	1												
	p	0.00	0.96	0.11	0.00													
CTQ5	r	0.062	0.061	.236*	.254**	0.002	1											
	p	0.53	0.53	0.01	0.01	0.98												
BAQ	r	**.228***	0.136	0.103	0.059	**.244***	0.117	1										
	p	0.02	0.17	0.29	0.55	0.013	0.239											
BAQ1	r	**.234***	0.155	0.044	0.179	.236*	0.16	.920**	1									
	p	0.01	0.11	0.65	0.07	0.01	0.10	0.00										
BAQ2	r	**.198***	0.034	0.168	0.021	**.235***	0.05	.930**	.766**	1								
	p	0.04	0.73	0.08	0.83	0.01	0.61	0.00	0.00									
BAQ3	r	**.219***	0.125	0.015	0.088	**.228***	**.249***	.910**	.817**	.791**	1							
	p	0.02	0.20	0.88	0.37	0.02	0.01	0.00	0.00	0.00								
BAQ4	r	0.15	**.236***	0.147	0.082	0.157	0.085	.819**	.675**	.737**	.651**	1						
	p	0.13	0.01	0.13	0.40	0.11	0.39	0.00	0.00	0.00	0.00							
CDS	r	0.098	0.145	0.109	0.144	0.055	**.457****	**.412****	**.343****	**.399****	**.436****	**.286****	1					
	p	0.32	0.14	0.271	0.14	0.57	0.00	0.00	0.00	0.00	0.00	0.00						
CDS1	r	0.1	0.154	0.069	0.162	0.057	**.451****	**.299****	**.283****	**.261****	**.354****	0.15	.853**	1				
	p	0.31	0.12	0.49	0.10	0.56	0.00	0.00	0.00	0.00	0.00	0.12	0.00					
CDS2	r	0.027	0.152	0.093	0.053	0.011	**.402****	**.292****	**.227***	**.272****	**.365****	0.177	.853**	.779**	1			
	p	0.78	0.12	0.35	0.59	0.90	0.00	0.00	0.02	0.00	0.00	0.07	0.00	0.00				
CDS3	r	0.033	0.091	0.119	0.161	0.04	**.399****	**.394****	**.309****	**.428****	**.378****	**.274****	.896**	.644**	.669**	1		
	p	0.7	0.36	0.23	0.10	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
CDS4	r	0.126	0.135	0.04	0.086	0.069	**.322****	**.350****	**.267****	**.358****	**.344****	**.289****	.900**	.692**	.705**	.774**	1	

(*Continued*)

Table 2. (Continued).

		CTQ	CTQ1	CTQ2	CTQ3	CTQ4	CTQ5	BAQ	BAQ1	BAQ2	BAQ3	BAQ4	CDS	CDS1	CDS2	CDS3	CDS4	CDS5
	p	0.20	0.17	0.68	0.38	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
CDS5	r	0.145	0.112	0.157	0.177	0.088	**.448****	**.460****	**.416****	**.414****	**.469****	**.343****	.883**	.686**	.610**	.810**	.752**	1
	p	0.14	0.26	0.11	0.07	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

CTQ= Childhood Trauma Questionarre. CTQ1= Sexual Abuse. CTQ2= Physical Abuse. CTQ3= Emotional Abuse. CTQ4= Emotional Neglect. CTQ5= Physical Neglect. BAQ= Buss-Perry Agression Scale. BAQ1= Physical Aggression. BAQ2= Hostility. BAQ3= Anger. BAQ4= Verbal Agression. CDS= Cognitive Distortion Scale. CDS1= Negative Self Perception. CDS2= SelfBlame. CDS3= Helplessness. CDS4= Hopelessness. CDS5= Seeing Life as Dangerous $*p < 0.05$. $**p < 0.01$ r = pearson correlation.

Table 3. Factors affecting the BAQ score.

BAQ							
	Unstandardized Coefficients		Standardized Coefficients				
Modal	B	Std. Err.	Beta(ß)	t	p	R^2	VIF
(Constant)	73.532	7.609		0.441	0.00**		
CTQ4 (Emotional Neglect)	0.654	0.276	0.206	2.371	0.02*	1.008	
CTQ4 (Emotional Neglect)	1.209	0.238	0.441	5.089	0.00**		1.008

F=16.948, R=0.503 *p<0.05 **p<0.01.

vital importance for identifying trauma histories and developing appropriate interventions to prevent the recurrence of aggressive behaviours or reoffending. Individuals who were abused during childhood may come to believe that violence is an acceptable form of behaviour, thereby exhibiting aggressive behavioural tendencies in adulthood. Therefore, it is essential to take appropriate and comprehensive measures for the proper and effective treatment of forensic psychiatry patients (Koolschijn et al., 2023). Additionally, the significant relationship found in this study between cognitive distortions and aggression levels is consistent with previous findings (Chereji et al., 2012; Huang et al., 2023; Oostermeijer et al., 2017). In a study conducted with forensic patients, primary cognitive distortions were described as self-centred attitudes and beliefs, whereas secondary distortions included minimization, blaming others, and assuming the worst (Akpoduado, 2022). It has been reported that cognitive distortions among forensic psychiatry patients – particularly those related to defiance and physical aggression (Smeijers, Brazil, et al., 2018) – as well as automatic associations (Smeijers, Bulten, et al., 2018), increase the tendency toward aggressive behaviour. Furthermore, interventions aimed at reducing aggressive behaviour are unlikely to succeed if these distortions remain unaddressed (Brugman et al., 2016). Similarly, this study found that physical neglect led to cognitive distortions such as anger, hostility, helplessness, hopelessness, and negative self-perception. The finding that childhood traumas such as physical neglect and cognitive distortions like perceiving life as dangerous significantly influence patients' tendencies toward aggressive behaviour should be taken into consideration when planning therapeutic interventions. Therefore, psychiatric nurses play a crucial role and bear significant responsibilities in recognising warning signs related to aggressive behaviour exhibited by patients. They should establish therapeutic communication with patients from the moment of hospital admission through the post-discharge period, remain aware of patients' feelings and thoughts, and continuously monitor potential risks (Açıkgöz & Gençarslan, 2019).

In this study, patients diagnosed with schizophrenia spectrum disorders, other psychotic disorders, and bipolar affective disorders were found to have higher levels of aggression compared to other patients. It has been suggested that forensic psychiatry patients may be more prone to exhibit aggressive behaviour due to their various psychiatric diagnoses and histories of violent behaviour (Koolschijn et al., 2023). A large proportion of this patients are reported to consist of individuals diagnosed with schizophrenia spectrum and other psychotic disorders who are unable to comprehend the meaning and consequences of their actions or whose ability to regulate their behaviour in relation to these acts is markedly impaired; individuals in the acute exacerbation phase of schizophrenia spectrum disorders at the time of the offence; and those diagnosed with bipolar disorder in the psychotic phase (Balcıoğlu, 2022). Considering the nature of schizophrenia spectrum and bipolar disorders, it can be argued that these conditions increase the likelihood of experiencing cognitive distortions and displaying aggressive tendencies.

It was determined that forensic psychiatry patients who had been hospitalized once or twice previously had lower levels of aggression compared to other patients. This finding is consistent with the results reported in the literature (Fosse et al., 2021; Weltens et al., 2021). Koolschijn et al. (2023) noted that patients tend to re-offend after being discharged from forensic psychiatric institutions. Repeated hospitalizations of forensic psychiatry patients may be associated with poor treatment response, incomplete treatment processes, or resistance to treatment; however, the literature has primarily indicated that a history of prior hospitalization itself is a predictive factor for aggressive tendencies (Neumann & Klatt, 2022). Therefore, reviewing patients' hospital records can contribute to shaping the treatment process and facilitate care management by the treatment team.

It was found that patients who had previously experienced a criminal incident resulting from self-harm or aggressive behavior towards their environment had higher aggression than patients who had not experienced a criminal incident. It has been determined that most inpatients with a history of aggression have a tendency towards aggressive behaviour (Markiewicz et al., 2020) and aggression is commonly recurrent (Tuente et al., 2021). The results of this study confirm that forensic psychiatry patients with previous forensic incident experience may show recurrent aggressive behaviours in their lives and emphasize the importance of questioning previous forensic incident experience in the evaluation of forensic psychiatry patients.

Patients who used alcohol/substances were found to have higher aggression than non-users. Nanney et al. (2015) reported that the risk of recurrence of injuries due to aggressive behaviours was high in substance abusers. In addition, it has been stated that substance use in forensic psychiatry patients diagnosed with schizophrenia accompanied by substance abuse is a risk factor for exacerbation of psychotic symptoms and also for recurrent criminal

behaviour (Balcıoğlu, 2022; Markiewicz et al., 2020). It is stated that especially amphetamines, cocaine and hallucinogens directly affect the emergence of aggressive behaviours with chemical effects, weakening the control mechanisms of the individual or increasing aggression as a result of the emergence of intense energy state (Açıkgöz & Gençarslan, 2019). For this reason, it is important to include interventions for alcohol/substance use in the treatment and care programmes of forensic psychiatry patients.

Conclusion

The findings of this study provide a meaningful contribution to the literature by examining the relationship between childhood traumas, cognitive distortions, and aggression among forensic psychiatric patients. The results indicate that patients with a history of physical neglect during childhood are more likely to develop cognitive distortions such as negative self-perception, anger, hopelessness, and hostility, which may, in turn, increase their tendency toward aggressive behaviour. This finding is noteworthy as it suggests that aggression in forensic psychiatric patients may be influenced not only by current psychiatric symptoms but also by early life experiences.

Moreover, the observation that aggression levels vary according to patients' psychiatric diagnoses, number of hospitalizations, alcohol or substance use, and previous forensic experiences underscores the need for a multidimensional approach to assessing aggression risk. In this context, focusing on patients' childhood experiences during hospitalization and planning interventions aimed at restructuring cognitive distortions – such as anger, hostility, and negative self-perception – caused by childhood trauma are of great importance. These practices can contribute to the development of more effective approaches to the treatment and management of forensic psychiatric patients and serve as valuable guidance for physicians, psychiatric nurses, and other healthcare professionals involved in their care.

Nevertheless, further research is needed to explore in greater depth the childhood traumas that underlie aggressive behaviours and to identify the specific types of cognitive distortions exhibited by patients. Future qualitative studies conducted through individual interviews or focus group discussions could provide deeper insights into patients' emotions and thoughts. Additionally, intervention-based research aimed at reducing aggressive tendencies would strengthen both the scientific evidence base and the effectiveness of clinical practice in this field.

Limitations

There are several limitations to this study. Firstly, the study relied on retrospective self-report instruments, which may be subject to recall or memory

biases, potentially leading to inaccuracies in the reported data. Additionally, the relatively small sample size may limit the generalizability of the findings to broader populations.

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Data availability statement

The data that support the findings of this study are available [from] [third party]. Restrictions apply to the availability of these data, which were used under license for this study. Data are available [from the authors/at URL] with the permission of [third party]

References

Açıkgöz, E., & Gençarslan, D. Ö. (2019). Ruhsal hastalıklarda agresyon. *Sağlık Bilimleri Üniversitesi Hemşirelik Dergisi*, *1*(1), 61–65. (ın Turkish).

Akpoduado, E. V. (2022). Inventory of cognitive distortions: Validation of a measure of cognitive distortions in a forensic sample [PhD Dissertation]. Philadelphia College of Osteopathic Medicine.

Balcıoğlu, Y. H. (2022). Koruyucu ve toplum temelli psikiyatri perspektifinden adli psikiyatri: suçun ve şiddet davranışının önlenmesi. In H. G. Özgen (Ed.), *Psikiyatri uygulamalarının koruyucu ve toplum temelli boyutları. 1. baskı. Türkiye Klinikleri* (pp. 53–59. (ın Turkish.

Briere, J. (2000). *Cognitive distortion scales*. PAR Psychological Assessment Resources, Inc.

Bruce, M., & Laporte, D. (2015). Childhood trauma, antisocial personality typologies and recent violent acts among inpatient males with severe mental illness: Exploring an explanatory pathway. *Schizophrenia Research*, *162*(1–3), 285–290. https://doi.org/10.1016/j.schres.2014.12.028

Brugman, S., Lobbestael, J., von Borries, A. K. L., Bulten, B. E. H., Cima, M., Schuhmann, T., Dambacher, F., Sack, A. T., & Arntz, A. (2016). Cognitive predictors of violent incidents in forensic psychiatric inpatients. *Psychiatry Research*, *237*, 229–237. https://doi.org/10.1016/j.psychres.2016.01.035

Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, *63*(3), 452–459. https://doi.org/10.1037/0022-3514.63.3.452

Chabrol, H., van Leeuwen, N., Rodgers, R. F., & Gibbs, J. C. (2011). Relations between self-serving cognitive distortions, psychopathic traits, and antisocial behavior in a non-clinical sample of adolescents. *Personality and Individual Differences*, *51*(8), 887–892. https://doi.org/10.1016/j.paid.2011.07.008

Chereji, S. V., Pintea, S., & David, D. (2012). The relatıonshıp of anger and cognıtıve dıstortıons wıth vıolence ın vıolent offenders'populatıon: a meta-analytıc revıew. *The European Journal of Psychology Applied to Legal Context*, *4*(1), 59.

Dudeck, M., Sosic-Vasic, Z., Otte, S., Rasche, K., Leichauer, K. E. A., Tippelt, S., Shenar, R., Klingner, S., Vasic, N., & Streb, J. (2016). The association of adverse childhood experiences and appetitive aggression with suicide attempts and violent crimes in male forensic psychiatry inpatients. *Psychiatry Research*, *240*, 352–357. https://doi.org/10.1016/j.psychres.2016.04.073

Fosse, R., Eidhammer, G., Selmer, L. E., Knutzen, M., & Bjørkly, S. (2021). Strong associations between childhood victimization and community violence in male forensic mental health patients. *Frontiers İn Psychiatry*, *11*, 628734. https://doi.org/10.3389/fpsyt.2020.628734

Fritz, M., Rösel, F., Dobler, H., Streb, J., & Dudeck, M. (2021). Childhood trauma, the combination of MAO-A and COMT genetic polymorphisms and the joy of being aggressive in forensic psychiatric patients. *Brain Sciences*, *11*(8), 1008. https://doi.org/10.3390/brainsci11081008

Huang, L. S., Molenberghs, P., & Mussap, A. J. (2023). Cognitive distortions mediate relationships between early maladaptive schemas and aggression in women and men. *Aggressive Behavior*, *49*(4), 418–430. https://doi.org/10.1002/ab.22083

Huitema, A., Verstegen, N., & de Vogel, V. (2021). A study into the severity of forensic and civil inpatient aggression. *Journal of Interpersonal Violence*, *36*(11–12), NP6661–NP6679. https://doi.org/10.1177/0886260518817040

Koolschijn, M., Janković, M., & Bogaerts, S. (2023). The impact of childhood maltreatment on aggression, criminal risk factors, and treatment trajectories in forensic psychiatric patients. *Frontiers in Psychiatry*, *14*, 1128020. https://doi.org/10.3389/fpsyt.2023.1128020

Madran, H. A. D. (2012). Buss-Perry saldırganlık ölçeği'nin Türkçe formunun geçerlik ve güvenirlik çalışması. *Türk Psikoloji Dergisi*, *24*(2), 1–6. (In Turkish).

Maguire, T., Daffern, M., Bowe, S. J., & McKenna, B. (2017). Predicting aggressive behaviour in acute forensic mental health units: A re-examination of the dynamic appraisal of situational aggression's predictive validity. *International Journal of Mental Health Nursing*, *26*(5), 472–481. https://doi.org/10.1111/inm.12377

Markiewicz, I., Pilszyk, A., & Kudlak, G. (2020). Psychological factors of aggressive behaviour in patients of forensic psychiatry wards with the diagnosis of schizophrenia. *International Journal of Law and Psychiatry*, *72*, 101612. https://doi.org/10.1016/j.ijlp.2020.101612

Meddeb, A., Berlin, J., Laporte, N., & Wallinius, M. (2022). Adverse childhood experiences do not moderate the association between aggressive antisocial behavior and general disinhibition in a forensic psychiatric inpatient sample. *Frontiers in Psychology*, *13*, 1019246. https://doi.org/10.3389/fpsyg.2022.1019246

Nanney, J. T., Conrad, E. J., McCloskey, M., & Constans, J. I. (2015). Criminal behavior and repeat violent trauma: A case-control study. *American Journal of Preventive Medicine*, *49*(3), 395–401. https://doi.org/10.1016/j.amepre.2015.02.021

Neumann, M., & Klatt, T. (2022, September). Identifying predictors of inpatient verbal aggression in a forensic psychiatric setting using a tree-based modeling approach.

Journal of Interpersonal Violence, *37*(17–18), NP16351–NP16376. https://doi.org/10.1177/08862605211021972 Epub 2021 Jun 13. PMID: 34120498; PMCID: PMC9682497.

Oostermeijer, S., Smeets, K. C., Jansen, L. M., Jambroes, T., Rommelse, N. N., Scheepers, F. E., Buitelaar, J. K., & Popma, A. (2017). The role of self-serving cognitive distortions in reactive and proactive aggression. *Criminal Behaviour and Mental Health*, *27*(5), 395–408. https://doi.org/10.1002/cbm.2039

Petrovic, M., & Injac Stevovic, L. (2021). Intergeneration transmission of violence in forensic patients with a diagnosis of schizophrenia and psychosis: Was parental alcoholic abuse a significant factor? *Frontiers in Psychiatry*, *12*, 765279. https://doi.org/10.3389/fpsyt.2021.765279

Polat, H., & Uğur, K. (2021). Adli psikiyatri hastalarının şiddet davranışlarının tedaviye uyum ve umut düzeyleri arasındaki ilişkinin incelenmesi. *Klinik Psikiyatri Dergisi*, *24* (4), 491–498. https://doi.org/10.5505/kpd.2021.84704 (In Turkish).

Schuringa, E., Spreen, M., & Bogaerts, S. (2019). Inpatient violence in forensic psychiatry: Does change in dynamic risk indicators of the IFTE help predict short term inpatient violence? *International Journal of Law and Psychiatry*, *66*, 101448. https://doi.org/10.1016/j.ijlp.2019.05.002

Sert-Ağır, M., & Yavuzer, H. (2018). Bilişsel Çarpıtma Ölçeğinin Türkçe formunun geçerlilik ve güvenirlik çalışması. *Mediterranean Journal of Educational Research*, *12*(26), 175–198. https://doi.org/10.29329/mjer.2018.172.10 (In Turkish).

Smeijers, D., Brazil, I. A., Bulten, E. B. H., & Verkes, R.-J. (2018). Retrospective parental rejection is associated with aggressive behavior as well as cognitive distortions in forensic psychiatric outpatients. *Psychology of Violence*, *8*(4), 495–504. https://doi.org/10.1037/vio0000134

Smeijers, D., Bulten, E., Buitelaar, J., & Verkes, R. J. (2018). Associations between neurocognitive characteristics, treatment outcome, and dropout among aggressive forensic psychiatric outpatients. *International Journal of Offender Therapy and Comparative Criminology*, *62*(12), 3853–3872. https://doi.org/10.1177/0306624X17750340

Şar, V., Öztürk, P. E., & İkikardeş, E. (2012). Çocukluk çağı ruhsal travma ölçeğinin Türkçe uyarlamasının geçerlilik ve güvenilirliği. *Turkiye Klinikleri Journal of Medical Sciences*, *32*(4), 1054–1063. https://doi.org/10.5336/MEDSCI.2011-26947 (In Turkish).

Tolisano, P., Sondik, T. M., & Dike, C. C. (2017). A positive behavioral approach for aggression in forensic psychiatric settings. *The Journal of the American Academy of Psychiatry and the Law*, *45*(1), 31–39. PMID: 28270460.

Tuente, S. K., Bogaerts, S., & Veling, W. (2021). Mapping aggressive behavior of forensic psychiatric inpatients with self-report and structured staff-monitoring. *Psychiatry Research*, *301*, 113983. https://doi.org/10.1016/j.psychres.2021.113983

Weltens, I., Bak, M., Verhagen, S., Vandenberk, E., Domen, P., van Amelsvoort, T., & Drukker, M. (2021, October 8). Aggression on the psychiatric ward: Prevalence and risk factors. A systematic review of the literature. *PLOS ONE*, *16*(10), e0258346. https://doi.org/10.1371/journal.pone.0258346

Yiğit, İ., & Erden, G. (2015). Çocukluk çağı istismar yaşantıları ile genel psikolojik sağlık arasındaki ilişkide erken dönem uyum bozucu şemaların aracı rolü. *Türk Psikoloji Dergisi*, *30*(75), 47–59 (In Turkish).

Yıldız, S., Kazgan, A., Kurt, O., & Emir, B. S. (2021). Childhood trauma and dissociative symptoms in patients treated in the forensic psychiatry Service/Adli psikiyatri servisinde tedavi gören hastalarda Çocukluk Çagi travmasi ve Dissosiyatif Belirtiler. *Current Approaches to Psychiatry*, *13*(S1), 216–227. https://doi.org/10.18863/pgy.963565 (In Turkish).