

ORIGINAL ARTICLE

The Relationship Between Childhood Trauma with Defense Styles in Depression Patients

Depresyon Hastalarında Çocukluk Çağı Travması ile Savunma Biçimleri Arasındaki İlişki

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ABSTRACT

Objective: We aimed to investigate the relationship between childhood trauma with defense styles in depression patients.

Materials and Methods: Fifty-seven patients were diagnosed with a major depressive disorder for the first time, and 51 age-sex-matched healthy volunteers participated in this study. All participants completed the socio-demographic data form, Beck Depression Inventory (BDI), Defense Style Questionnaire-40 (DSQ-40), and Childhood Trauma Questionnaire (CTQ). We compared the defensive style and childhood trauma scores between the group diagnosed with major depressive disorder and the group of healthy volunteers. In addition, we divided the depression group into two groups (with and without childhood trauma) according to the CTQ and compared defensive styles and depression scores between these groups.

Results: The mean age of the patients was 30.93 ± 8.43 years, and the mean age of the control group was 30.94 ± 7.05 . Mature defense style scores were statistically significantly higher in the control group than in the depression group. Immature defense style scores and all sub-dimensions except dissociation scores were statistically significantly higher in the patient group. There was a significant positive correlation between BDI and CTQ ($r = 0.56$; $p < 0.001$), BDI and immature defense styles ($r = 0.52$; $p < 0.001$), and a negative significant correlation BDI with mature defense styles ($r = -0.38$; $p < 0.001$) in depression group. The BDI score ($p < 0.001$) and immature defense styles ($p = 0.03$) were statistically significantly higher, and the mature defense styles were substantially lower ($p = 0.009$) in the depression group with childhood trauma.

Conclusions: Our study results showed a positive relationship between childhood trauma and immature defense styles and a negative association with mature defense styles in patients with depression.

Keywords: Childhood trauma, Depression, Defense styles

ÖZ

Amaç: Bu çalışmada depresyon hastalarında çocukluk çağı travmaları ile savunma biçimleri arasındaki ilişkiyi araştırmayı amaçladık.

Materyal ve Metod: Bu çalışmaya yaşamları boyunca ilk kez majör depresif bozukluk tanısı konan 57 hasta ve benzer yaş-cinsiyetteki 51 sağlıklı gönüllü katılmıştır. Tüm katılımcılar sosyo-demografik veri formu, Beck Depresyon Envanteri (BDI), Savunma Tarzı Anketi-40 (DSQ-40) ve Çocukluk Çağı Ruhsal Travma Ölçeği'ni (ÇCRTÖ) doldurdu. Majör depresif bozukluk tanısı alan grup ile sağlıklı gönüllüler grubu arasında savunma tarzı ve çocukluk çağı travma skorlarını karşılaştırdık. Ayrıca, depresyon grubunu ÇCRTÖ'ne göre çocukluk çağı travması olan ve olmayan olmak üzere iki gruba ayırdık ve bu gruplar arasında savunma stillerini ve depresyon düzeylerini karşılaştırdık.

Bulgular: Hastaların yaş ortalaması 30.93 ± 8.43 , kontrol grubunun yaş ortalaması 30.94 ± 7.05 idi. Matür savunma biçimleri puanları, kontrol grubunda depresyon grubuna göre istatistiksel olarak anlamlı derecede yüksekti ($p < 0.001$). İmmatür savunma biçimleri puanları, dissosiyasyon dışındaki tüm alt boyutlarda hasta grubunda istatistiksel olarak anlamlı derecede yüksekti. Depresyon grubunda BDI ile ÇCRTÖ ($r = 0.56$; $p < 0.001$) ve BDI ile immatür savunma biçimleri ($r = 0.52$; $p < 0.001$) arasında anlamlı bir pozitif korelasyon varken BDI ile matür savunma biçimleri ($r = -0.38$; $p < 0.001$) arasında negatif anlamlı bir korelasyon vardı. Çocukluk çağı travması olan depresyon grubunda BDI puanı ($p < 0.001$) ve immatür savunma biçimleri ($p = 0.03$) istatistiksel olarak anlamlı derecede yüksek, matür savunma biçimleri ise önemli ölçüde daha düşüktü ($p = 0.009$).

Sonuç: Çalışma sonuçlarımız depresyon hastalarında, çocukluk çağı travması ile immatür savunma biçimleri arasında pozitif yönde, matür savunma biçimleriyle ise negatif yönde anlamlı bir ilişki olduğunu göstermektedir.

Anahtar Kelimeler: Çocukluk çağı travması, Depresyon, Savunma biçimleri

Introduction

Depression is a common disorder characterized by sadness, anhedonia, sleep disturbance or loss of appetite, feelings of tiredness, and decreased concentration (1). It limits psychosocial functioning and diminishes the quality of life. Globally, depression prevalence is 6% in adults, and World Health Organization (WHO) suggests that depression will rank first cause of burden of disease by 2030 (2,3). Major

depressive disorder is the result of bio-psycho-social interactions. Childhood trauma may trigger depression, as shown in many meta-analyses. In addition, depression patients with a history of childhood trauma also have worse treatment outcomes (4).

According to the WHO, child maltreatment includes various forms of neglect and abuse that can potentially

harm a child's health, development, and dignity. Physical, sexual, and emotional abuse and physical and emotional neglect are the most common forms of childhood trauma (5). Physical abuse is when a person is subjected to brute force by someone at least five years older than himself or by a family member two years old than himself before age 18 (6). Emotional abuse is being ridiculed, humiliated, making humiliating comments, or receiving severe verbal threats that may adversely affect the child's mental health (7). Sexual abuse is the use of a child who has not yet completed their psychosocial development by threatening, using force, or deceiving to meet his sexual desires and needs by someone who is at least six years older than him (8). Physical neglect includes the inability to provide the child's fundamental necessities such as adequate food, clothing, and a safe environment (9). Emotional neglect is not meeting the psychological and emotional needs of the child, not teaching the social rules, and not showing the supportive care that will ensure the child's social development (10).

Defense styles, a psychoanalytic concept, are involuntary cognitive processes that occur at an unconscious level to decrease sudden changes in environments by changing the conscious experience of thoughts and emotions (11-13). These styles indicate how the individual copes with conflict (14). There are four groups of different defense styles, psychotic, immature, mature, and neurotic (15). Studies have found a relationship between mature defense styles of adaptive coping strategies and immature defense styles of maladaptive coping strategies (16). In addition, the researchers have found that immature or maladaptive defense styles are associated with distress and psychological symptoms such as anxiety and depression among people with a history of childhood trauma (17-20). Immature defense styles mediate the relationship between childhood trauma and adult psychopathology (21,22). Therefore, some defense styles may have a crucial role in developing depression among individuals with a history of childhood trauma.

Our study aimed to explore the relationship between defense styles and childhood trauma in depression patients. We hypothesized that patients with depression have more childhood trauma than the control group, more immature and neurotic defense styles, and less mature defense styles. In addition, childhood trauma is associated with more immature defenses and less mature defenses.

Materials and Methods

Participants

We included 57 patients who applied to the psychiatry outpatient clinic and were diagnosed with a major depressive disorder for the first time in their lifetime according to DSM-5 and 51 healthy individuals with similar sociodemographic data in our study as the control group. The inclusion criteria for patients were

those aged 18-65 and who have been diagnosed with major depressive disorder first time. The exclusion criteria for patients were; diagnosed with anxiety disorders, personality disorders, alcohol-substance use disorders, dementia, and mental retardation. The inclusion criteria for the control group were; not having been diagnosed with major depressive disorder currently or in one's life. The exclusion criteria for the control group were have been diagnosed with anxiety disorders, personality disorders, alcohol-substance use disorders, dementia, and mental retardation.

This study obtained approval from the Non-Invasive Clinical Research Ethics Committee of Istanbul Medipol University Faculty of Medicine [E-10840098-772.02-5224/ 15.10.2021]. In addition, the participants were informed about the study and provided written consent. We conducted our study in the Istanbul Medipol University Psychiatry outpatient clinic between October 2021 and December 2021.

Measures

Sociodemographic Form

The researchers developed a semi-structured form for this study to record details such as age, gender, education, marital status, smoking habit, and suicide attempts.

Beck Depression Inventory (BDI)

The BDI is a self-report tool with 21-item in a 4-point Likert format, was created by Beck to measure the severity of depression (23). Responders scored items from 0 to 3, and the total score ranges from 0 to 63; higher scores indicate greater symptom severity. The BDI-II has high internal consistency ($\alpha = 0.93$) and test-retest reliability for a one-week interval (0.93) (23). In addition, Hisli et al. determined an excellent internal consistency coefficient in the Turkish adaptation study (24).

Defense Style Questionnaire-40 (DSQ-40)

The DSQ is a self-report instrument, 40-item in a 9-point Likert format that measures each of the 20 defense mechanisms with two items (25). The scale has three styles of defenses: Immature (projection, passive-aggression, acting-out, isolation, devaluation, autistic fantasy, denial, displacement, dissociation, splitting, rationalization, somatization), neurotic (undoing, pseudo-altruism, idealization, reaction formation), and mature (sublimation, humor, anticipation, suppression). Higher scores on a subdimension correspond to the more frequent endorsement of the relevant defense mechanisms. DSQ-40 showed moderate to high internal consistency (Cronbach's alpha ranging from 0.58 to 0.80) and high test-retest reliability (ranging from 0.75 to 0.85) for the three subscales (25). The internal consistency coefficient was found as 0.70, 0.61, and 0.83 for the mature, the neurotic, and the

immature defense style, respectively, by Yılmaz et al. in the Turkish adaptation study of the scale (26).

Childhood Trauma Questionnaire (CTQ)

The CTQ is a self-report questionnaire containing 28 items, a 5-point scale; ranging from 1 (never true) to 5 (very often true). The measure retrospectively evaluates five types of childhood trauma as emotional, physical, and sexual abuse and emotional and physical neglect. Each containing five items, the five sub-dimensions assess the five childhood trauma subtypes above. The remaining three items detect the participants' tendency to express their experiences at a minimum level or deny them. The total CTQ score is calculated by summing the scores from five sub-dimensions and varies between 25 and 125 (The total score does not include three items related to minimization or denial) (27). The scale also has shown robust psychometric properties (five-factor structure, Cronbach alpha 0.93, and Gutmann half-test coefficient 0.97) in the Turkish adaptation study, and 35 points and above for the total score was cut-off points (28). Therefore, in the present study, we used this cut-off score.

Statistical analysis

We displayed descriptive statistics like the mean \pm standard deviations for continuous variables and the number of cases and (%) for categorical variables. The Shapiro Wilk test was used for the normality of the distribution of the numeric variable. A chi-squared test was used to compare categorical variables between the two groups and the Independent sample Student's t-test for continuous data. Finally, we ran the Pearson correlation coefficient to investigate the relationship between psychological instruments. SPSS Statistics version 23.0 was used for all analyses, and the p-value < we accepted 0.05 as statistically significant.

Results

Characteristics of the Study Population

Our study included: 108 participants; 57 patients were diagnosed with a major depressive disorder for the first time, and 51 age-gender matched healthy controls. The mean age of all participants was 30.93 ± 7.77 years (min 20 - max 52). The mean age of the patients was 30.93 ± 8.43 years (min 20 - max 52), and the mean age of the control group was 30.94 ± 7.05 years (min 20 - max 48). There was no statistically significant difference between the two groups in age, gender, and marital status ($p > 0.05$). Educational level was statistically significantly lower in the depression group than in the control group ($p < 0.001$), and there were statistically significantly more smokers ($p = 0.03$) and more non-working individuals ($p < 0.001$). There was a history of suicide attempts in 7 (12.3%) patients in the depression group, and there was no history of suicide attempts in the control group. Table 1 shows the sociodemographic variables of the two groups.

A recent study on the psychiatric population found that the prevalence of childhood trauma was 55.1% in depressed patients and 20.5% in healthy individuals (29). Considering this study, we performed a power analysis with an alpha of 0.05 and a 95% power ratio, and we determined that each group should have 47 participants.

Table 1: Sociodemographic data of the depression and control groups

Sociodemographic characteristics	Depression group (n=57)	Control group (n=51)	Statistics values
Age	30.93 \pm 8.43	30.94 \pm 7.05	t = -0.08, p = 0.99
Sex			$\chi^2 = 0.10$, p = 0.74
Male	13 (22.8)	13 (25.5)	
Female	44 (77.2)	38 (74.5)	
Education			$\chi^2 = 38.90$, p < 0.001
Elementary	4 (7)	0 (0)	
High school	27 (47.4)	0 (0)	
University	26 (45.6)	51 (100)	
Marital status			$\chi^2 = 3.33$, p = 0.18
Married	28 (49.1)	32 (62.7)	
Single	27 (47.4)	19 (37.3)	
Widow	2 (3.5)	0 (0)	
Smoking			$\chi^2 = 4.65$, p = 0.03*
Yes	22 (38.6)	10 (19.6)	
No	35 (61.4)	41 (80.4)	
Working			$\chi^2 = 22.81$, p < 0.001
Yes	17 (29.8)	37 (72.5)	
No	24 (42.1)	4 (7.8)	
Student	16 (28.1)	10 (19.6)	
Suicide Attempt			$\chi^2 = 6.69$, p = 0.01
Yes	7 (12.3)	0 (0)	
No	50 (87.7)	51 (100)	

Comparison of BDI, CTQ, and DSQ-40 scores between depression patients and control groups

The CTQ total score was statistically significantly higher in the depression group than in the control group ($t = 11.265$; $p < 0.001$). The CTQ sub-scores (emotional, physical, sexual abuse, emotional and physical neglect) were also significantly higher in the depression group. Mature defense styles (suppression, humor, anticipation, sublimation) scores were statistically significantly higher in the control group than in the depression group ($p < 0.001$). Immature defense style scores and all sub-dimensions except dissociation scores were statistically significantly higher in the patient group. The scores of pseudo-altruism, one of the neurotic defense styles, were statistically significantly higher in the control group ($p = 0.03$). In addition, the reaction formation scores were statistically significantly higher in the patient group ($p = 0.028$). On the other

hand, there was no significant difference in other neurotic defense style scores between the depression and control groups. Table 2 provides details of the comparison of BDI, CTQ, and DSQ-40 scores between the two groups.

Table 2: Comparison of psychological instruments scores between the depression and control groups

	Depression group (n=57)	Control group (n=51)	P
BDI	28.86 ± 10.12	7.31 ± 6.21	<0.001
CTQ	39.65 ± 7.88	32.78 ± 2.85	<0.001
Emotional abuse	7.26 ± 1.58	6.43 ± 1.26	<0.001
Physical abuse	9.51 ± 2.23	6.78 ± 1.71	<0.001
Sexual abuse	8.14 ± 2.29	6.37 ± 1.17	<0.001
Emotional neglect	8.21 ± 2.19	6.37 ± 1.17	<0.001
Physical neglect	9.53 ± 3.21	6.82 ± 1.51	<0.001
DSQ-MD	4.71 ± 1.52	5.94 ± 1.16	<0.001
Suppression	3.96 ± 2.05	5.44 ± 1.81	<0.001
Humor	4.95 ± 2.23	5.84 ± 2.03	0.022
Anticipation	5.7 ± 2.25	6.92 ± 1.38	0.003
Sublimation	4.24 ± 2.34	5.55 ± 1.78	0.001
DSQ-ND	5.46 ± 1.57	5.01 ± 1.14	0.059
Undoing	5.82 ± 2.23	4.98 ± 2.18	0.052
Pseudo-Altruism	5.87 ± 1.8	6.62 ± 1.49	0.037
Idealization	5.15 ± 2.11	4.41 ± 2.16	0.073
Reaction Formation	5.01 ± 2.5	4.05 ± 1.71	0.028
DSQ-ID	4.89 ± 1.03	3.82 ± 0.92	<0.001
Projection	5.72 ± 2.49	3.67 ± 1.38	<0.001
Passive-Aggression	4.6 ± 1.96	3.35 ± 1.98	0.001
Acting-Out	5.36 ± 2.27	3.71 ± 2.08	<0.001
Isolation	5.06 ± 2.43	3.89 ± 2.29	0.019
Devaluation	4.47 ± 2.01	3.29 ± 1.47	0.004
Autistic Fantasy	5.19 ± 2.46	3.53 ± 1.93	<0.001
Denial	4.22 ± 1.87	3.35 ± 1.76	0.014
Displacement	4.1 ± 1.88	3.13 ± 1.37	0.007
Dissociation	3.34 ± 1.76	3.27 ± 1.64	0.836
Splitting	5.29 ± 2.13	3.46 ± 1.98	<0.001
Rationalization	5.17 ± 1.99	6.1 ± 1.65	0.016
Somatization	6.19 ± 2.11	5.03 ± 2.16	0.004

BDI: Beck Depression Inventory, CTQ: Childhood Trauma Questionnaire, DSQ-MD: Defense Style Questionnaire-Subscale of Matur Defense style, DSQ-ND: Defense Style Questionnaire-Subscale of Neurotic Defense style, DSQ-ID: Defense Style Questionnaire-Subscale of Immature Defense style.

Correlation of childhood trauma with BDI and defense styles in depression patients

In Pearson correlation test, there was a significant positive correlation between BDI with CTQ ($r = 0.56$; $p < 0.001$), and immature defense style ($r = 0.52$; $p < 0.001$). On the other hand we found a negative significant correlation BDI with matur defense style ($r = -0.38$; $p < 0.001$). The correlations between the scales in the depression group are shown in Table 3.

Table 3: Correlations between psychological instruments in depression patients

	1	2	3	4	5
1. BDI	-	0.56**	-0.38**	0.18	0.52**
2. CTQ		-	-0.36**	0.05	0.25**
3. DS-MD			-	0.09	-0.09
4. DS-ND				-	0.34
5. DS-ID					-

BDI: Beck Depression Inventory, CTQ: Childhood Trauma Questionnaire, DSQ-MD: Defense Style Questionnaire-Subscale of Matur Defense style, DSQ-ND: Defense Style Questionnaire-Subscale of Neurotic Defense style, DSQ-ID: Defense Style Questionnaire-Subscale of Immature Defense style. *Significant at 0.05 level, ** Significant at 0.01 level.

Comparison of BDI and DSQ-40 scores in depression group according to CTQ

As seen in Table 4, we divided depression patients into two groups; those with childhood trauma and those without childhood trauma, according to the CTQ cut-off value of 35. The BDI score ($p < 0.001$) and immature defense styles ($p = 0.03$) were statistically significantly higher, and the mature defense styles were substantially lower ($p = 0.009$) in the depression group with childhood trauma.

Table 4: Comparison of psychological instruments scores in depression group (non-trauma history - trauma history according to CTQ)

	CTQ ≥ 35 (n = 26)	CTQ < 35 (n = 31)	Statistics values
BDI	30.25 ± 5.92	27.04 ± 7.22	$t = 6.65$, $p < 0.001$
CTQ	42.21 ± 5.27	31.35 ± 4.89	$t = 8.84$, $p < 0.001$
Emotional abuse	7.83 ± 1.59	6.57 ± 1.30	$t = 3.23$, $p < 0.001$
Physical abuse	10.70 ± 1.93	8.07 ± 1.64	$t = 5.46$, $p < 0.001$
Sexual abuse	8.80 ± 2.27	7.34 ± 2.07	$t = 2.51$, $p = 0.01$
Emotional neglect	9.09 ± 2.10	7.15 ± 1.80	$t = 3.70$, $p < 0.001$
Physical neglect	10.29 ± 3.11	8.361 ± 3.15	$t = 2.01$, $p = 0.04$
DSQ-MD	4.24 ± 1.37	5.27 ± 1.51	$t = -2.69$, $p = 0.009$
DSQ-ND	5.50 ± 1.61	5.40 ± 1.55	$t = 0.24$, $p = 0.80$
DSQ-ID	4.27 ± 0.88	5.15 ± 1.14	$t = -1.78$, $p = 0.03$

BDI: Beck Depression Inventory, CTQ: Childhood Trauma Questionnaire, DSQ-MD: Defense Style Questionnaire-Subscale of Matur Defense style, DSQ-ND: Defense Style Questionnaire-Subscale of Neurotic Defense style, DSQ-ID: Defense Style Questionnaire-Subscale of Immature Defense style.

Discussion

This study explored the relationship between childhood trauma and defense styles in depression patients. One of the main findings of our research was that CTQ-total scores, sub-scores, and immature defense style scores were statistically higher, and

mature defense style scores were statistically lower in depressed patients compared to healthy individuals. However, there is no significant difference in scores for neurotic styles except for pseudo-altruism and reaction formation. While pseudo-altruism scores were statistically significantly higher in the control group, reaction formation scores were considerably higher in the depression group. These results partially have confirmed our hypothesis. Many studies have associated childhood traumatic experiences with an increased risk of psychopathology, especially with the onset of depression in adulthood. In addition, childhood traumas are more common in patients with depression. (30-35). In our study, we replicated these findings in a clinical sample of patients with major depression.

It is stated that immature defenses (rationalization, displacement, etc.) are most common in children and adolescents and patients with personality disorders and mood disorders. Immature defense styles were significantly more associated with depressed patients. On the other hand, mature defenses can facilitate coping with life events and positively affect relationships (36). Consistent with the literature, in our study, while immature defense styles were higher in depression patients, we found mature defense styles to be lower. Childhood traumas are more common in individuals with personality disorders, more use of immature defense mechanisms, and the fact that these individuals are more prone to depression may partly explain the relationship between childhood trauma-defense mechanisms-depression (37).

One of the main findings of our study includes the findings from the correlation analysis. Accordingly, we found a positive and significant relationship between childhood trauma and immature defense style and depression severity and a negative and significant relationship between mature defense style. Therefore, we can interpret that the higher the childhood trauma score, the higher the depression scores, the higher the immature and neurotic defense styles, and the lower the mature defense styles. These findings showed that childhood trauma increased the severity of depression and immature defense style scores but decreased the mature defense style scores.

The other main findings of our study were that BDI and CTQ sub-dimension scores were statistically significantly higher, and mature defense styles scores were lower in depression patients with childhood trauma according to CTQ. Childhood traumatic experiences increase the severity of depression and worsen its course (38). For example, among 174 depressed patients in a follow-up study, patients with a history of childhood trauma were less likely to recover from depression (39). A large population study found a strong association between childhood trauma and chronicity of depression (40). Childhood negative experiences are painfully traumatic, and their scars last throughout life. In this context, defense mechanisms aim to cope with

life's difficulties and protect oneself psychologically. Defense styles are used automatically against the dangers related to anxiety from inside or outside (41) and the stress and guilt experienced by the individual. The victims of traumatic events cannot use the mature defense styles used by healthy individuals (36). This situation raises the possibility that they may be more prone to depression or experience more severe depression.

There are some limitations of our study. First, the number of depression and control group participants could have been higher. Secondly, the low education level of the depression group may have affected their defense styles. However, such a difference was possible in depression patients since childhood trauma may negatively affect their academic lives. Thirdly, our study was a cross-sectional study based on self-report scales. Despite all these limitations, we have demonstrated the difference in defense styles in the relationship between childhood traumas and depression.

Conclusion

As a result, the depression group differs from the healthy volunteer group regarding childhood traumas and immature and mature defense styles. The depression group has more immature defense styles and more childhood trauma. Mature defense styles are lower in the depression group with childhood trauma than in those without childhood trauma. Our study suggests that structuring the defense styles of individuals with childhood traumatic experiences from immature defense styles to mature defense styles may prevent the development of depression.

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Concept: T.C.T, O.H., Ö.F.U.

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Design: T.C.T, Ö.F.U.

Data acquisition: T.C.T

Analysis and interpretation: Ö.F.U.

Writing manuscript: O.H., Ö.F.U.

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