



## RESEARCH

# Relationship between obsessional dissociation and family adjustment and anxiety sensitivity in individuals with obsessive-compulsive disorder

Obsesif kompulsif bozukluk tanılı bireylerde obsesyonel dissosiyasyon ile aile uyumu ve anksiyete duyarlılığı ilişkisi

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### Abstract

**Purpose:** The aim of this study was to determine the relationship between obsessional dissociation, family accommodation, and anxiety sensitivity in individuals with obsessive-compulsive disorder (OCD).

**Materials and Methods:** The participants of this descriptive and relationship-seeking study were 62 individuals with OCD and 43 healthy controls. We collected data using a sociodemographic data form, the Yale-Brown Obsessive Compulsive Scale (YBOCS), the Family Accommodation Scale-Patient Version (FAS-PV), the Anxiety Sensitivity Index-3 (ASI-3), and the Van Obsessional Dissociation Questionnaire (VOD-Q).

**Results:** Both the ASI-3 and VOD-Q subscale and global scores of the patients participating in the study were higher than those of the healthy controls, and there was a statistically significant difference between the two groups. Sixty-two percent of the total score of VOD-Q was explained by the ASI-3 total and subscale scores, 16% by the YBOCS total and subscale scores, and 11% by the FAS-PV total and subscale scores (F:38.622; F:6.797; and F:2.941, respectively).

**Conclusion:** In our study, individuals diagnosed with OCD had higher levels of obsessional dissociation than healthy individuals and anxiety sensitivity, obsessive-compulsive symptoms, and family accommodation are effective in the development of obsessional dissociation in individuals diagnosed with OCD.

**Keywords:** Obsessive-compulsive disorder, anxiety sensitivity, family accommodation, disassociation

### Öz

**Amaç:** Bu çalışma obsesif kompulsif bozukluğu (OKB) olan bireylerde obsesyonel dissosiyasyon ile aile uyumu ve anksiyete duyarlılığı arasındaki ilişkiyi belirlemek amacıyla yapılmıştır.

**Gereç ve Yöntem:** Tanımlayıcı ve ilişki arayıcı tasarımda yapılan çalışma 62 OKB tanılı birey ve 43 sağlıklı kontrol grubu ile tamamlanmıştır. Sosyodemografik Veri Formu, Yale-Brown Obsesyon Kompulsiyon Ölçeği (YBOK), Aile Uyumu Ölçeği (AUÖ) (Hasta Formu), Anksiyete Duyarlılığı İndeksi-3 (ADİ-3) ve Van Obsesyonel Dissosiyasyon Ölçeği (VODÖ) kullanılmıştır.

**Bulgular:** Çalışmaya katılan OKB tanılı bireylerin hem ADİ-3 hem de Van-Dissosiyasyon Ölçeği alt boyutları ve toplam puanlarının sağlıklı kontrollere göre yüksek olduğu ve istatistiksel olarak anlamlı farklılık oluşturduğu saptanmıştır. VODÖ toplam puanının %62'sini ADİ-3 alt boyutları ve toplam puanı ile, %16'sunun YBOK alt boyutları ve toplam puanı ile % 11'inin ise AUÖ alt boyutları ve toplam puanı ile açıklandığı tespit edilmiştir (sırası ile F:38.622; F:6.797; F:2.941).

**Sonuç:** Çalışmamızda OKB tanılı bireylerin sağlıklı bireylere göre obsesyonel dissosiyasyon düzeylerinin yüksek olduğu ve OKB tanılı bireylerde anksiyete duyarlılığı, obsesif kompulsif belirtiler ve aile uyumunun Obsesyonel dissosiyasyon gelişiminde etkili olduğu bulunmuştur.

**Anahtar kelimeler:** Obsesif kompulsif bozukluk, anksiyete duyarlılığı, aile uyumu, disosiyasyon

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## INTRODUCTION

Obsessive-compulsive disorder (OCD) is a condition characterized by recurrent obsessions and/or compulsions that are usually chronic with periodic exacerbations and have a significant effect on an individual's daily functioning<sup>1</sup>. OCD negatively affects not only the patient but also the family members with whom the patient lives<sup>2</sup>. The families of those with OCD are often more involved in these patients' symptoms than those of other psychiatric patients<sup>3</sup>. This has led to the development of a phenomenological construct, called family accommodation. Family accommodation is increasingly acknowledged as having important implications for symptom persistence and resistance to treatment. It refers to the family members' participation in or facilitation of the patient's rituals and/or avoidance of OCD triggers, which may include a modification of daily routines. This can take the form of performing certain tasks for the patient, reassuring them to address their concerns, and helping them avoid anxiety-triggering situations that initiate symptoms. Due to the clinical characteristics of the condition, relatives of those with OCD may have to adapt to the patient's symptoms by changing their daily activities (work schedule, leisure time activities, and family relationships)<sup>4</sup>. Family members often engage in these behaviors with the hope of mitigating stress associated with the illness, reducing the time taken up by symptoms, and facilitating the daily functioning of the patient. Symptom accommodation is also associated with the continuation of symptomatology due to the protection of individuals with OCD from feared situations and reinforcement of fear and avoidance behaviors<sup>5</sup>.

Taylor initially defined anxiety sensitivity (AS) as a state of extreme fear that anxiety-related sensations and symptoms will have harmful consequences. These sensations and symptoms form the basis of avoiding any fearful situation or event<sup>6</sup>. Later, Mantar et al. proposed that AS was a state of fear that was found in the personality structure of an individual and showed continuity<sup>7</sup>. Although there are limited studies in the literature examining the relationship between AS and OCD, it has been reported that AS is among the factors considered to be associated with OCD<sup>8</sup>. AS comprises three dimensions: physical (fear of somatic symptoms, such as heart palpitations and shortness of breath), cognitive (fear of losing cognitive control), and social (fear of anxiety

symptoms, such as blushing and trembling, being noticed by others in social situations)<sup>9</sup>. Seçer suggested that the cognitive sub-dimension of AS was a risk factor in the emergence and maintenance of OCD<sup>10</sup>. In another study, individuals with high AS had a greater perception of being threatened and displayed more controlling and avoidance behaviors<sup>11</sup>. The data reported in the literature support the idea that individuals with high AS have a significant risk for OCD, and AS has a negative effect on the emergence and maintenance of OCD<sup>10</sup>. High AS is believed to contribute to an increase in the severity of OCD symptoms and cause a decrease in functionality<sup>12</sup>. Concerning the relationship between AS and family accommodation, distress and impaired functioning have been reported to be more common in individuals with high family adjustment among those with a diagnosis of OCD. Storch et al. argued that the relatives of individuals with OCD showed even greater capacity for family accommodation to mitigate these negative experiences<sup>5</sup>.

The dissociation level is also high in patients with high obsessive-compulsive symptom severity<sup>13</sup>. Prasko et al. showed that in 88% of patients with OCD, persistent obsessive complaints were accompanied by depersonalization. The authors noted that the level of dissociation was higher in individuals with OCD compared to healthy controls, and this dissociation was associated with particularly high anxiety levels; therefore, dissociative symptoms might be a reason for resistance to treatment<sup>13</sup>. When discussing the relationship between OCD and dissociative symptomatology, Boysan et al. defined 'obsessional dissociation' as severe impairment in the normal integration of consciousness, memory, identity, emotions, perception, motor control, and behaviors in response to intense mental attachment to unacceptable, intrusive thoughts<sup>14</sup>.

Studies have shown that family accommodation and AS are high in individuals diagnosed with OCD, and this adversely affects the course of OCD and the severity of symptoms. The relevant literature also suggests that individuals with severe obsessive-compulsive symptoms exhibit a high level of dissociation. However, our review of the literature revealed no publication examining the relationship between family accommodation, obsessional dissociation, and AS in OCD. Therefore, we conducted this study to determine the relationship between obsessional dissociation, family accommodation, and AS in individuals with OCD.

The first of the hypotheses of the study; there is a significant relationship between obsessional dissociation and anxiety sensitivity in individuals with OCD. The second hypothesis of the study is; anxiety sensitivity and family accommodation affect the development of obsessional dissociation in individuals with OCD.

## MATERIALS AND METHODS

### Sample

The population of this cross sectional study consisted of individuals that presented to the psychiatry outpatient clinic of a training and research hospital in the Eastern Anatolia region of Turkey between January and June 2021 and were diagnosed with OCD according to the Diagnostic and Statistical Manual (DSM)-5. The control group consisted of healthy individuals. According to the theoretical power analysis using the independent-samples t-test, we determined the minimum sample size required to be a total of 84 individuals, 42 in each group, to achieve a test power (1-beta) of 0.8, an effect size of 0.62, and a type 1 error (alpha) of 0.05<sup>15</sup>. We did not perform sample selection and interviewed all 76 individuals who presented to the hospital with a diagnosis of OCD between January and June 2021 and accepted to participate in the study. However, 14 patients withdrew from the study, stating that they did not want to complete the data collection form. Therefore, we completed the study with a total of 105 individuals (62 with a diagnosis of OCD and 43 healthy controls). The healthy control group consisted of hospital staff and their relatives.

Both groups consisted of literate individuals aged 18 to 65 years without any additional mental illness. The inclusion criterion for the group of individuals with OCD was being diagnosed with OCD according to the DSM-5 diagnostic criteria, and the inclusion criterion for the control group was not having any psychiatric diagnosis. Prior to the study, both groups of participants underwent a psychiatric evaluation by psychiatrists, and those who did not meet the inclusion criteria were excluded.

The exclusion criteria were as follows: any neurological and psychiatric disease that could prevent participants from answering questions; comorbidities (psychotic disorders, bipolar disorder, affective disorders, substance abuse, etc.); organic and mental problems that could prevent understanding and completing scales; age outside the

18-65 range; and not providing consent to participate in the study.

### Procedure

The clinical research ethics committee of İnönü University approved the study (research protocol code: 2020/138; Date: 26.08.2020), and all relevant institutions provided the necessary permissions. The study followed the tenets of the Declaration of Helsinki. The researchers informed the participants that their identities and personal data collected during the study would be kept confidential, and they could withdraw from the study at any time.

The study was conducted at the psychiatry outpatient clinic of a training and research hospital in the Eastern Anatolia region of Turkey between January and June 2021. The data of the study were collected by two psychiatrists who worked at this institution and were involved in the research.

The researchers collected the data in approximately 20-25 minutes using the face-to-face interview method. Before the study, the researchers informed the participants about the purpose of the study and obtained their written and verbal consent.

### Data collection tools

The researchers collected the data using a sociodemographic data form they prepared, as well as the Yale-Brown Obsessive Compulsive Scale (YBOCS), the Family Accommodation Scale-Patient Version (FAS-PV), the Anxiety Sensitivity Index-3 (ASI-3), and the Van Obsessional Dissociation Questionnaire (VOD-Q).

### Sociodemographic data form

This form, created by the researchers, contained information about the sociodemographic attributes of the participants.

### YBOCS

This is a scale developed to rate the quality and severity of obsessive-compulsive symptoms<sup>16,17</sup>. The interviewer administered this scale. It consists of a total of 19 items, but only the first 10 items are used to determine the total score. The first five items evaluate obsessions, and items 6-10 evaluate compulsions. The score of each item varies between 0 and 4, with the total score ranging from 0 to 40. Karamustafaloğlu et al.<sup>18</sup> adapted the scale to Turkish and performed the validity and reliability

analyses of the adapted version. The original study reported the Cronbach's alpha value of the scale to be 0.98, and we determined it to be 0.90 in the current study.

### **FAS (Patient Version)**

Wu et al.<sup>19</sup> developed the FAS, and Çöldür<sup>20</sup> performed the validity and reliability analyses of the Turkish version of this scale. In this scale, the respondent is the individual with OCD. The scale provides information about patient symptoms and family members' accommodation of and involvement in symptoms. The first part of the FAS consists of an OCD symptom checklist, and the second part consists of 19 items evaluating the frequency of the accommodation behaviors of family members. In the second part, the frequency of such behaviors is also measured with a five-point Likert-type evaluation. The total score is calculated by adding up the scores of 19 items in the second part. FAS has four subscales: direct participation in and facilitation of OCD symptoms (items 1, 2, 4, 5, and 6); avoidance of OCD triggers (items 3, 7, 12, 13, 15, and 16); assuming patient's responsibilities (items 8, 9, 10, 11, and 14); and modifying personal responsibilities (items 17, 18, and 19)<sup>19,20</sup>. The Cronbach alpha value for the entire scale was 0.89 in the original study and 0.88 in the current study.

### **ASI-3**

Developed by Taylor et al.<sup>21</sup> and adapted to Turkish by Mantar et al.<sup>7</sup>, ASI-3 consists of a total of 18 items with six items in each of the three subscales: cognitive, social, and physical. The scale provides a five-point Likert-type measurement, with 0 representing 'very little' and '4' representing very much. The score ranges from 0 to 72. In the three subscales of ASI-3, six items are for the evaluation of physical concerns (items 3, 4, 7, 8, 12, and 15), seven items concern cognitive concerns (items 1, 2, 5, 10, 14, 16, and 18), and five items are on social concerns (items 6, 9, 11, 13, and 17). The Cronbach's alpha value of the Turkish form of the scale was 0.89 for physical symptoms, 0.88 for cognitive symptoms, and 0.82 for social symptoms<sup>7</sup>. In our study, the Cronbach alpha internal consistency coefficient was 0.83.

### **VOD-Q**

This scale measures three dimensions of obsessional dissociation. Participants are asked to state to what extent the experience described in each item applies

to them. The 45 items of the VOD-Q are scored on an 11-point scale ranging from 0 (never) to 100 (always). Boysan et al.<sup>14</sup> developed VOD-Q and established its validity and reliability. The scale consists of three subscales: 'obsessional absorption', 'obsessional depersonalization/derealization', and 'obsessional amnesia'<sup>14</sup>. Obsessional absorption refers to a tendency to be highly involved in unacceptable intrusive thoughts, while obsessive depersonalization/derealization refers to altered states of consciousness characterized by a sense of self alienation as a result of cognitive overload and detachment from everyday experiences and external reality. The obsessive amnesia subscale measures the inability to recall key autobiographical information or whether something has actually occurred or is merely imagined due to excessive preoccupation with intrusive thoughts<sup>14</sup>. In the original scale study, the Cronbach alpha coefficient of the total and subscale scores varied between 0.90 and 0.97<sup>14</sup>. In our study, the Cronbach alpha internal consistency coefficient was 0.87.

### **Statistical analysis**

The Statistical Package for the Social Sciences for Windows, v. 25.0 was used for the statistical analysis of study data. The conformity of the data to the normal distribution was evaluated using the kurtosis-skewness values and the Kolmogorov-Smirnov test. Number, percentage and mean were used in the analysis of descriptive statistics. Chi-square and t-tests were used to determine the differences between groups in descriptive statistics. Mean and independent groups t test was used to compare the average scores of individuals with OCD and healthy individuals on ASI-3 and VOD-Q. Mean and minimum and maximum values were used in the analysis of the average scores of individuals with OCD on FAS-PV and YBOCS. Correlation analysis was used to show the relationship between YBOCS and its sub-dimensions VOD-Q, ASI-3 and FAS-PV. Correlation analysis was used to show the relationship between VOD-Q sub-dimensions and ASI-3 and FAS-PV. The relationship between VOD-Q subscales and ASI-3 FAS-PV and YBOCS was determined by correlation. In order to determine to what extent these significant relationships affected/predicted the scores obtained from VOD-Q, a regression model was established in which VOD-Q sub-dimensions were dependent and ASI-3 FAS-PV and YBOCS were independent variables.

The results were interpreted using a confidence interval of 95% and a significance level of  $p < 0.05$ .

## RESULTS

Table 1 presents the data on the sociodemographic attributes of the participants included in the study. There was a statistically significant difference between the individuals with OCD and the control group in terms of age, gender, employment status, and smoking status ( $p < 0.05$ ). Table 2 shows the comparison of the individuals with OCD and the control group in terms of the mean ASI-3 and VOD-Q scores. Both the ASI-3 and VOD-Q global and

subscale scores of the patients were statistically significantly higher than those of the healthy controls ( $p < 0.05$ ).

Table 3 presents the data on the mean FAS-PV and YBOCS scores of the group of individuals with OCD. The mean total score in the FAS-PV was  $26.50 \pm 18.26$ , and among the subscales, the highest mean score belonged to the trigger avoidance subscale ( $9.37 \pm 6.66$ ). In the same group, the total YBOCS score was  $23.11 \pm 7.19$ , the mean YBOCS-obsession subscale score was  $12.38 \pm 3.96$ , and the mean YBOCS-compulsion subscale score was  $10.72 \pm 4.41$  (Table 3).

**Table 1. Descriptive characteristics of the participants\***

Descriptive Characteristic	Group of Individuals with OCD		Healthy Group		Test and Significance
	Number (n)	Percentage (%)	Number (n)	Percentage (%)	
Gender					
Male	14	22.6	24	55.8	X <sup>2</sup> = 12.720 p < 0.05
Female	48	77.4	19	44.2	
Education level					
Primary school	8	12.9	2	4.7	X <sup>2</sup> = 2.104 p > 0.05
High school	22	35.5	18	41.9	
University	32	51.6	23	53.5	
Marital status					
Single	41	66.1	28	65.1	X <sup>2</sup> = 0.012 p > 0.05
Married	21	33.9	15	34.9	
Employment status					
Employed	15	24.2	31	72.1	X <sup>2</sup> = 23.665 p < 0.05
Unemployed	47	75.8	12	27.9	
Place of residence					
City center	56	90.3	41	95.3	X <sup>2</sup> = 3.570 p > 0.05
District or smaller area	6	9.7	2	4.7	
Mental disorder in family					
Present	11	17.7	2	4.7	X <sup>2</sup> = 4.011 p > 0.05
Absent	51	82.3	41	95.3	
Smoking status					
Smoker	8	12.9	14	32.6	X <sup>2</sup> = 5.922 p < 0.05
Non-smoker	54	87.1	29	67.4	
Alcohol consumption					
Present	0	0	2	4.7	X <sup>2</sup> = 2.940 p > 0.05
Absent	62	100	41	95.3	
History of admission to psychiatry ward					
Present	3	4.8	0	0	X <sup>2</sup> = 2.884 p > 0.05
Absent	59	95.2	43	100	
Ages	Mean ± SD 27.56 ± 8.92		Mean ± SD 31.53 ± 7.21		t = -2.41 p < 0.05

X<sup>2</sup>: Chi-square test, t: Independent-samples t-test statistic.

**Table 2. Comparison of the mean ASI-3 and VOD-Q scores of the groups**

Scale/subscale		Group of Individuals with OCD X ± SD	Healthy Group X ± SD	Statistical Test and Significance
ASI-3	Physical concerns	9.46 ± 7.00	6.13 ± 4.65	t: 2.926 p < 0.05
	Cognitive concerns	13.43 ± 7.09	6.72 ± 5.10	t: 5.639 p < 0.05
	Social concerns	8.53 ± 5.99	4.13 ± 3.96	t: 4.519 p < 0.05
	Total	31.43 ± 17.67	17.00 ± 11.56	t: 5.056 p < 0.05
VOD-Q	Global	3.67 ± 2.39	1.20 ± 1.61	t: 6.312 p < 0.05
	Absorption	4.88 ± 2.63	1.54 ± 1.77	t: 7.762 p < 0.05
	Depersonalization	2.97 ± 2.44	1.04 ± 1.63	t: 4.853 p < 0.05
	Amnesia	3.50 ± 2.73	1.08 ± 1.58	t: 5.721 p < 0.05

ASI-3: Anxiety Sensitivity Index-3; VOD-Q: Van Obsessional Dissociation Questionnaire; X ± SD: mean ± standard deviation

**Table 3. Mean FAS-PV and YBOCS scores of individuals diagnosed with OCD**

Scale/subscale		Min-max	X ± SD
FAS-PV	Total	0-65	26.50 ± 18.26
	Participation	0-20	7.48 ± 5.93
	Avoidance of triggers	0-22	9.37 ± 6.66
	Assuming patient's responsibilities	0-17	6.38 ± 5.62
	Modifying personal responsibilities	0-11	3.25 ± 3.23
YBOCS	Total	6-38	23.11 ± 7.19
	Obsession	4-20	12.38 ± 3.96
	Compulsion	0-20	10.72 ± 4.41

FAS-PV: Family Accommodation Scale-Patient Version; YBOCS: Yale-Brown Obsessive Compulsive Scale; OCD: obsessive-compulsive disorder

Table 4 shows the data on the relationship between the YBOCS scores and the FAS-PV, ASI-3, and VOD-Q scores of the group of individuals with OCD. The YBOCS-obsession subscale score had a moderately significant positive correlation with the FAS-PV total and VOD-Q global and subscale scores, and a weakly significant positive correlation with the ASI-3 total score. The YBOCS-compulsion subscale score had a moderately significant positive correlation with the VOD-Q obsessional

depersonalization/derealization and obsessional amnesia subscale scores. Lastly, the YBOCS total score had a moderately significant positive correlation with the FAS-PV total and VOD-Q global and subscale scores. Table 5 presents the data on the relationship between the VOD-Q scores and the FAS-PV and ASI-3 scores. There was a significant positive correlation between the VOD-Q global and subscale scores and the FAS-PV and ASI-3 total scores.

**Table 4. Correlation between the YBOCS scores and the remaining scale scores in OCD sample**

Scale/subscale		YBOCS					
		Obsession Subscale		Compulsion Subscale		Total	
		r	p	r	p	r	p
VOD-Q	Global	0.423**	0.001	0.280*	0.028	0.405**	0.001
	Obsessional Absorption	0.358**	0.004	0.187	0.146	0.312*	0.014
	Obsessional Depersonalization/derealization	0.402**	0.001	0.299*	0.018	0.404**	0.001
	Obsessional Amnesia	0.438**	0.00	0.292*	0.021	0.420**	0.001
ASI-3 total		0.297*	0.036	0.172	0.182	0.253*	0.048
FAS-PV total		0.306*	0.016	0.223	0.082	0.305*	0.016

\*\*Correlation is significant at the 0.01 level (two-tailed); \*Correlation is significant at the 0.05 level (two-tailed); OCD: obsessive-compulsive disorder; YBOCS: Yale-Brown Obsessive Compulsive Scale; VOD-Q: Van Obsessional Dissociation Questionnaire; ASI-3: Anxiety Sensitivity Index-3; FAS-PV: Family Accommodation Scale-Patient Version

**Table 5. Correlation between the VOD-Q Subscale Scores and the Mean ASI-3 and FAS-PV Total Scores in OCD sample**

Scale/subscale		ASI-3 Total		FAS-PV Total	
		r	p	r	p
VOD-Q	Obsessional Global	0.680**	0.000	0.318*	0.012
	Obsessional Absorption	0.650**	0.000	0.258*	0.43
	Obsessional Depersonalization/derealization	0.645**	0.000	0.289*	0.035
	Obsessional Amnesia	0.593**	0.00	0.416**	0.001

\*\*Correlation is significant at the 0.01 level (two-tailed); \*Correlation is significant at the 0.05 level (two-tailed)  
 OCD: obsessive-compulsive disorder; VOD-Q: Van Obsessional Dissociation Questionnaire; ASI-3: Anxiety Sensitivity Index-3; FAS-PV: Family Accommodation Scale-Patient Version

**Table 6. Regression analysis of the effects of the VOD-Q and its subscales on family accommodation and obsessive-compulsive behaviors**

Dependent variable	Independent variable	B	SD	β	t	R	R <sup>2</sup>	Adjusted R square	F	p
VOD-Q absorption	ASI-3 physical concerns	-0.063	0.043	-0.141	-1.458	0.784	0.615	0.604	53.869	0.00
	ASI-3 social concerns	0.129	0.045	0.258	2.887					
	ASI-3 cognitive concerns	0.277	0.036	0.697	7.700					
	ASI-3 total	0.121	0.011	0.720	10.544					
	YBOCS obsession	0.231	0.092	0.348	2.521	0.359	0.129	0.099	4.357	0.01
	YBOCS compulsion	0.013	0.083	0.022	0.157					
	YBOCS total	0.114	0.045	0.312	2.542					
	FAS-PV avoidance of triggers	0.091	0.075	0.230	1.221	0.405	0.164	0.105	2.795	0.03
	FAS-PV participation	-0.171	0.087	-0.384	-1.958					
	FAS-PV assuming patient's responsibilities	0.171	0.081	0.366	2.126					
	FAS-PV modifying personal responsibilities	0.100	0.123	0.123	0.817					
	FAS-PV total	0.037	0.018	0.258	2.067					
VOD-Q depersonalization	ASI-3 physical concerns	-0.281	0.059	-0.760	-4.773	0.759	0.576	0.564	45.757	0.00
	ASI-3 social concerns	-0.116	0.057	-0.280	-2.048					
	ASI-3 cognitive concerns	0.242	0.022	0.737	11.075					
	ASI-3 total	0.223	0.031	1.617	7.157					
	YBOCS obsession	0.129	0.135	0.210	0.960	0.420	0.176	0.149	6.320	0.00
	YBOCS compulsion	0.165	0.068	0.299	2.423					
	YBOCS total	0.077	0.074	0.228	1.040					
	FAS-PV avoidance of triggers	0.079	0.046	0.215	1.706	0.341	0.116	0.054	1.878	0.127
	FAS-PV participation	-0.097	0.133	-0.237	-0.733					
	FAS-PV assuming patient's responsibilities	0.091	0.117	0.210	0.781					
	FAS-PV modifying personal responsibilities	0.110	0.147	0.146	0.748					
	FAS-PV total	0.027	0.071	0.200	0.377					
VOD-Q amnesia	ASI-3 physical concerns	-0.275	0.069	-0.668	-4.002	0.731	0.534	0.520	38.622	0.00
	ASI-3 social concerns	-0.025	0.066	-0.054	-0.379					
	ASI-3 cognitive concerns	0.249	0.026	0.680	9.425					
	ASI-3 total	0.203	0.036	1.320	5.576					
	YBOCS obsession	0.199	0.149	0.288	1.336	0.448	0.201	0.174	7.410	0.01
	YBOCS compulsion	0.181	0.077	0.292	2.364					
	YBOCS total	0.068	0.082	0.178	0.824					
	FAS-PV avoidance of triggers	-0.165	0.138	-0.357	-1.195	0.494	0.244	0.191	4.603	0.00
	FAS-PV participation	0.125	0.057	0.271	2.183					
	FAS-PV assuming patient's responsibilities	0.146	0.121	0.301	1.213					
	FAS-PV modifying personal responsibilities	0.009	0.153	0.010	0.058					
	FAS-PV total	0.071	0.074	0.473	0.962					
VOD-Q global	ASI-3 physical concerns	-0.298	0.056	-0.778	-5.304	0.800	0.639	0.629	59.708	0.00
	ASI-3 social concerns	-0.108	0.054	-0.251	-1.991					
	ASI-3 cognitive concerns	0.262	0.021	0.772	12.340					

ASI-3 total	0.236	0.030	1.650	7.920					
YBOCS obsession	0.171	0.131	0.283	1.303					
YBOCS compulsion	0.152	0.067	0.280	2.257	0.433	0.187	0.160	6.797	0.00
YBOCS total	0.055	0.072	0.166	0.765					
FAS-PV avoidance of triggers	0.098	0.045	0.273	2.196					
FAS-PV participation	-0.162	0.126	-0.402	-1.284	0.414	0.171	0.113	2.941	0.02
FAS-PV assuming patient's responsibilities	0.099	0.111	0.232	0.893					
FAS-PV modifying personal responsibilities	0.056	0.067	0.425	0.825					
FAS-PV total									

VOD-Q: Van Obsessional Dissociation Questionnaire; SD: standard deviation; ASI-3: Anxiety Sensitivity Index-3; YBOCS: Yale-Brown Obsessive Compulsive Scale; FAS-PV: Family Accommodation Scale-Patient Version

In the multiple linear regression (stepwise) analysis performed to examine factors affecting the VOD-Q total and subscale scores in the group of individuals with OCD (Table 6), the independent variables were determined as the ASI-3 total and subscale scores, YBOCS total and subscale scores, and FAS-PV total and subscale scores, while the dependent variable was the VOD-Q total and subscale scores. According to the results, the model was significant. Sixty percent of the VOD-Q absorption subscale scores were explained by the ASI-3 total and subscale scores, 9% by the YBOCS total and subscale scores, and 10% by the FAS-PV total and subscale scores ( $F: 53.869, p < 0.05$ ;  $F: 4.357, p < 0.05$ ; and  $F: 2.795, p < 0.05$ , respectively). For the VOD-Q depersonalization subscale, 56% of the scores were explained by the ASI-3 total and subscale scores and 14% by the YBOCS total and subscale scores ( $F: 45.757, p < 0.05$  and  $F: 6.320, p < 0.05$ , respectively). The FAS-PV total and subscale scores did not have an effect on the VOD-Q depersonalization subscale scores ( $F: 1.878, p > 0.05$ ). For the VOD-Q amnesia subscale, 52% of the scores were explained by the ASI-3 total and subscale scores, 17% by the YBOCS total and subscale scores, and 19% by the FAS-PV total and subscale scores ( $F: 38.622, p < 0.05$ ;  $F: 7.410, p < 0.05$ , and  $F: 4.603, p < 0.05$ , respectively). Lastly, 62% of the VOD-Q global score was explained by the ASI-3 total and subscale scores, 16% by the YBOCS total and subscale scores, and 11% by the FAS-PV total and subscale scores ( $F: 38.622, p < 0.05$ ;  $F: 6.797, p < 0.05$ ; and  $F: 2.941, p < 0.05$ , respectively).

## DISCUSSION

In this study, the sociodemographic characteristics of healthy controls and individuals with OCD significantly differed according to gender, with female individuals being more common in the group diagnosed with OCD. Consistent with our findings,

studies in the literature indicate that women are more likely than men to develop OCD during their lifetime<sup>22,23</sup>.

In the current study, when compared to the healthy controls, the obsession-dissociation levels of individuals with OCD were significantly higher. There was also a moderate, positive correlation between obsessive-compulsive symptoms and obsession-dissociation levels in this group. Similar to our study, previous studies suggest that individuals with OCD experience higher dissociation compared to healthy volunteers<sup>13</sup>. Prasko et al.<sup>24</sup> reported that high dissociation levels might be a reason for resistance to treatment in individuals with OCD. Another study conducted in Turkey evaluated the relationships between obsessive-compulsive symptoms and dissociative symptomatology and reported that low dissociation levels acted as a buffer in coping with obsessive-compulsive symptoms, while high dissociation was associated with increased obsessive-compulsive symptoms<sup>25</sup>. Some studies emphasizing the relationship between OCD and dissociation have shown that dissociation severity is higher, especially in those with severe obsessive-compulsive symptoms<sup>26</sup>. A greater severity of the disease means that there is a new and difficult-to-intervene balance in the interaction between the psychological integrity of the person and their environment. In this new balance state, the severity, function, and meaning of symptoms may also change<sup>27</sup>. In addition, dissociation is a negative indicator of treatment outcomes in individuals with OCD<sup>28</sup>. Therefore, determining the level of obsessional-dissociation in individuals with OCD is important in terms of facilitating the planning of treatment and necessary interventions for care.

In this study, the mean FAS-PV score of the individuals with OCD was  $26.50 \pm 18.26$ . This score also had a moderate level of obsessive-compulsive



symptom severity, and there was a moderately significant positive correlation between obsessive-compulsive symptom levels and family accommodation. Previous studies conducted in Turkey and across the world have generally reported a lower mean FAS total score than in our study<sup>20,29,30</sup>. In Turkey, the prevalent social value favors a 'communal' culture that supports extended family and close family ties. This form of traditionalism reflects a dependent relationship between family members and can facilitate the development of family accommodation<sup>20</sup>. We conducted the current study in the Eastern Anatolia region of Turkey, where traditionalism is higher. Therefore, it is expected that family accommodation was relatively higher in our cohort. Significant improvement in OCD symptoms with treatment is associated with reduced family accommodation<sup>31</sup>. Interventions for OCD are increasingly focusing on reducing family accommodation as a therapeutic goal and a possible means of treatment outcomes. Thus, it is very important to determine the family accommodation levels of individuals with OCD.

In this study, we found a correlation between the levels of family accommodation and obsessional dissociation, including its domains, in individuals with OCD. The family members of an individual with OCD often participate in his/her symptoms by aiding or preventing the individual from engaging in repetitive behaviors. The negative effects of the disease on family life and social functionality discourage individuals with OCD from seeking assistance and reduce their adherence to treatment<sup>32,33</sup>. Dissociation serves as a defense mechanism to protect mental integrity<sup>34</sup>. In our study, the high levels of obsessional dissociation and its domains among individuals with OCD can be attributed to the self-defenses they had developed, including treatment avoidance behavior supported by increased family accommodation.

We determined that the AS levels of the individuals with OCD were higher than those of the healthy controls. Additionally, there was a moderate, positive correlation between obsessive-compulsive symptoms and AS levels. People with high AS levels are prone to misinterpreting sudden-onset, relatively severe, and unexplained physical anxiety symptoms as dangerous, and therefore they often try to avoid them<sup>7</sup>. In terms of mental health, metacognition may be a fundamental factor in the development and maintenance of various psychological disorders<sup>35</sup>.

The literature also suggests that AS is a cognitive risk factor for the emergence and maintenance of OCD<sup>10</sup>. In light of this information, it is expected that the AS levels of the individuals diagnosed with OCD in our study were high, and this supports the literature. Most studies on OCD symptoms and AS have been conducted in the general population<sup>10,11,35-37</sup>. In contrast, we included individuals with a diagnosis of OCD in our study. Therefore, we consider that our study contributes to the literature in terms of providing a better understanding of OCD and its treatment.

In this study, there was also a moderate, positive correlation between obsessional dissociation and AS in individuals with OCD. This result confirms the first hypothesis of the study, i.e., 'There is a significant relationship between obsessional dissociation and anxiety sensitivity in individuals with OCD'. In our study, there was a positive relationship between all domains of obsessional dissociation and AS. In other words, as the AS levels of individuals with OCD increase, their attention and conscious awareness of the self and surroundings decrease (obsessional absorption). In addition, they tend to detach from daily experiences and external reality and feel alienated from the self due to cognitive overload (obsessional depersonalization/derealization) and have difficulty remembering important information (obsessional amnesia). Similarly, in previous studies conducted with different psychiatric patient groups, there was a positive relationship between dissociative experiences and AS<sup>38,39</sup>. However, to the best of our knowledge, the literature contains no study examining the relationship between dissociative experience, obsessional dissociation, and AS in individuals with OCD. Our results will help increase the efficacy of psychotherapeutic methods through necessary interventions to reduce AS in individuals with OCD.

According to the results of our regression analysis, AS, obsessive-compulsive symptoms, and family accommodation were associated with obsessional dissociation in individuals with OCD. This finding supports the second hypothesis of the study, 'Anxiety sensitivity and family accommodation affect the development of obsessional dissociation in individuals with OCD'. Among the investigated variables, AS had the highest effect on obsessional dissociation. An increase in anxiety at the instant when obsessional thinking occurs in an individual with OCD can explain the causal effect of

obsessional dissociation in those with high AS levels. This can be considered a structural characteristic. This also implies that an increase in AS may be a strong causal determinant for the development of obsessional dissociation in individuals with OCD. This will be even more prominent in those presenting with higher levels of family accommodation and obsessive-compulsive symptoms.

The main limitation of this study concerns its single-center design. In addition, the study had a cross-sectional design, and the sample only consisted of individuals diagnosed with OCD according to the DSM-5 diagnosis and classification system, who presented to the psychiatry outpatient clinic of a training and research hospital. Furthermore, the possible effect of the traditional structure of society on the results was not examined, and the obsessional dissociation levels of the individuals were assessed in terms of only acute anxiety. Lastly, evaluation of family accommodation based solely on self-reported measures increases the possibility of biased responses due to factors such as the effect of OCD.

This study revealed that individuals with OCD had higher levels of both obsessional dissociation and AS compared to the healthy controls. Additionally, AS, obsessive-compulsive symptoms, and family accommodation were important predictors of the development of obsessional dissociation in individuals with OCD. We consider that determining the relationship between AS, family accommodation, and obsessive dissociative symptoms in individuals with OCD will contribute to the development of therapeutic interventions that can affect improvement in the treatment process of the disorder.

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