

# The multiple mediating effects of perfectionism, social anxiety, and rumination on the relationship between narcissism and obsession

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## Keywords

obsession, narcissism, perfectionism, social anxiety, rumination

## Anahtar kelimeler

obsesyon, narsisizm, mükemmeliyetçilik, sosyal kaygı, ruminasyon

## Abstract

This study aimed to investigate the mediating role of perfectionism, social anxiety, and rumination on narcissism and obsessions. The study sample consisted of 398 participants between the ages of 18 and 65. The study assessed the participants' social anxiety, rumination, perfectionism, narcissism, and obsession levels using a Demographic Information Form, the Liebowitz Social Anxiety Scale (LSAS), the Obsessive Beliefs Questionnaire (OBQ), Frost Multidimensional Perfectionism Scale (FMPS), Ruminative Response Scale (RRS), and Narcissistic Personality Inventory (NPI). The Demographic Information Form includes questions about age, gender, education level, marital status, occupational status, and socioeconomic level, providing a comprehensive view of the participants' backgrounds. According to the results of the correlation analysis, significant relationships exist among most variables in the study. When additionally looking at the regression analysis results, it is noteworthy that social anxiety, rumination, perfectionism, and narcissism predicted 46% of the variance in the obsession score, underscoring the intricate interplay of these psychological factors. Finally, according to the serial multi-mediation analysis, perfectionism, social anxiety, and rumination were found to have a full mediating effect on the relationship between narcissism and obsessive features. The findings obtained in the study were evaluated by considering the information in the literature.

## Öz

### Narsisizm ve obsesyon arasındaki ilişkide mükemmeliyetçilik, sosyal anksiyete ve ruminasyonun çoklu aracılık etkileri

Bu çalışmanın amacı mükemmeliyetçilik, sosyal kaygı ve ruminasyonun narsisizm ve obsesyonlar üzerindeki aracılık rolünü araştırmaktır. Çalışmanın örneklemini 18-65 yaş aralığında 398 katılımcıdan oluşmaktadır. Çalışmada katılımcıların sosyal kaygı, ruminasyon, mükemmeliyetçilik, narsisizm ve obsesyon düzeyleri, Demografik Bilgi Formu, Liebowitz Sosyal Kaygı Ölçeği (LSKÖ), Obsesif İnançlar Ölçeği (OIÖ), Frost Çok Boyutlu Mükemmeliyetçilik Ölçeği (FÇBMÖ), Ruminatif Tepkiler Ölçeği (RTÖ) ve Narsistik Kişilik Envanteri (NKE) kullanılarak değerlendirilmiştir. Demografik Bilgi Formu yaş, cinsiyet, eğitim düzeyi, medeni durum, mesleki durum ve sosyoekonomik düzey ile ilgili sorular içermekte ve katılımcıların geçmişlerine dair kapsamlı bir bakış açısı sağlamaktadır. Korelasyon analizi sonuçlarına göre, çalışmadaki değişkenlerin çoğu arasında anlamlı ilişkiler bulunmaktadır. Regresyon analizi sonuçlarına ek olarak, sosyal kaygı, ruminasyon, mükemmeliyetçilik ve narsisizmin obsesyon puanındaki varyansın %46'sını yordaması dikkat çekicidir ve bu psikolojik faktörlerin karmaşık etkileşiminin altını çizmektedir. Son olarak, seri çoklu aracılık analizine göre, mükemmeliyetçilik, sosyal kaygı ve ruminasyonun narsisizm ve obsesif özellikler arasındaki ilişkide tam aracılık etkisine sahip olduğu bulunmuştur. Çalışmada elde edilen bulgular alanyazındaki bilgiler göz önünde bulundurularak değerlendirilmiştir.

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Existing literature pointed out that the prevalence of social anxiety is high in people diagnosed with obsessive-compulsive disorder (Assunção et al., 2012; Baldwin et al., 2008; Bartz & Hollander, 2006; Crino & Andrews, 1996; Ruscio et al., 2010). Previous studies have revealed that narcissism, perfectionism, and rumination were associated with both social anxiety and obsession (Antony et al., 1998; Asada et al., 2004; Freeston et al., 1995; Heimberg et al., 2010; Juster et al., 1996; Obsessive Compulsive Cognitions Working Group [OCCWG], 2005; Spano, 2001). Accordingly, the current study investigated the nature of the relationship between social anxiety and obsessions. We argued that the observed associations among narcissism, perfectionism, rumination, social anxiety, and obsession may be indicative of an underlying common mechanism. While these constructs have shown previous associations in various combinations within individuals, it is crucial to establish a theoretical framework that elucidates the potential shared mechanisms driving these relationships. To this end, we proposed that narcissism may feed the expectation of flawless performance. This perfectionist expectation, in turn, could lead to heightened anxiety before and after social situations. Subsequently, this heightened social anxiety may trigger ruminative thought patterns concerning social situations. Finally, such ruminative thinking may contribute to an escalation in obsessive tendencies.

Narcissism is a personality organization that includes grandiosity, the need to be appreciated, and a lack of empathy (American Psychiatric Association [APA], 2013). Narcissistic individuals tend to prioritize their own needs while ignoring the needs of others (Asada et al., 2004). They think deeply about their problems and others' interest in them. On the other hand, narcissists' self-esteem is often fragile. For this reason, they are sensitive to criticism and negative emotions resulting from failure. Criticism can offend these individuals and make them feel humiliated (APA, 2013). From this perspective, narcissism can be interpreted as a form of self-esteem regulation (Raskin et al., 1991a). The extreme emotional reactions narcissistic individuals express toward criticism may help them maintain their self-esteem (Asada et al., 2004). Such experiences can often lead to self-criticism, social withdrawal, or humility that masks grandiosity (APA, 2013).

Perfectionism is a tendency to set excessively high standards for oneself and engage in overly critical self-evaluation. This can be a defense mechanism used by narcissistic individuals to protect their fragile selves (Frost et al., 1990). When perfectionists fail to meet unrealistic expectations, especially in important areas, they may become self-critical (Shafran et al., 2002). This increases their sense of personal responsibility for negative events and may lead to more controlling behavior to prevent such events from occurring again (Bouchard et al., 1999).

Perfectionism can lead individuals with social anxiety to assume that social situations would result in adverse outcomes because of their inability to meet a perfect standard, thus causing these individuals to expect negative social interactions and to maintain social anxiety (Antony et al., 1998; Juster et al., 1996; Rukmini et al., 2014; Saboonchi et al., 1999). Social anxiety is marked by an intense fear of being criticized, judged, humiliated, or embarrassed in social situations where an individual may be evaluated by others (APA, 2013; Lipsitz & Schneier, 2000). Individuals with social anxiety often fear offending others, being rejected, and seeking positive evaluation from others (APA, 2013; Rapee & Heimberg, 1997). Social anxiety disorder involves a circle of anxiety experienced and avoidance of social situations (Lipsitz & Schneier, 2000). These individuals often exaggerate the negative consequences of their behavior in social situations (APA, 2013; Liebowitz, 1987).

The minds of individuals with social anxiety are preoccupied with reviewing past social situations, which results in rumination (Chen et al., 2013; Heimberg et al., 2010). Rumination is a type of response that involves repetitive and passive focusing on the symptoms of distress and the possible causes and consequences of these symptoms. Rumination does not involve active problem-solving to change distressing conditions. Instead, the individual repetitively focuses on distressing conditions and their feelings about those conditions (Nolen-Hoeksema et al., 2008). Individuals with social anxiety also tend to focus on negative aspects of a social encounter and compare the situation with unrealistically high standards (Abbott & Rapee, 2004; Brown & Kocovski, 2014; Rapee & Abbott, 2007; Rukmini et al., 2014).

Ruminative thoughts are repetitive, negative, and difficult to control. They are often self-focused, obsessed with subjective experiences, and associated with ineffective coping mechanisms (Holmes & Mathews, 2010; Mor & Winquist, 2002; Morrow & Nolen-Hoeksema, 1990; Nolen-Hoeksema et al., 2008; Watkins, 2008; Wisco & Nolen-Hoeksema, 2008). When considering these features, rumination appears to have similar characteristics to the repetitive thoughts that form the basis of obsessions (McEvoy et al., 2010; Raines et al., 2017; Wahl et al., 2011). Obsessive individuals are more likely to use ruminative strategies such as analyzing nature and effects of their obsessive thoughts as a way of coping with the distress brought on by unwanted thoughts (Freeston et al., 1995; Freeston & Ladouceur, 1997; Raines et al., 2017).

Obsessions are characterized by unwanted and intrusive thoughts, images, or impulses that are repetitive and persistent. These thoughts and impulses can be quite unpleasant and tend to recur frequently (APA, 2013; Purdon & Clark, 1994; Rachman, 1997; Rachman & de Silva, 1978; Salkovskis, 1985). These are generally alien to the individual's self and can create

negative emotions such as anxiety and guilt (Rachman & de Silva, 1978; Salkovskis, 1985). A pathological obsession emerges when intrusive thoughts are threatening, misinterpreted as crucial, morally objectionable, or predictive of future catastrophic consequences (Abramowitz et al., 2009; Calkins et al., 2013; Freeston et al., 1993; Rachman, 1997). Obsessive individuals give excessive importance to their intrusive thoughts, attach special meaning, and exhibit their behaviors according to their thoughts (Purdon & Clark, 1994; Rachman, 1993).

### Purpose of the Present Study

When considering the information in literature, perfectionism can be conceptualized as an interpersonal strategy narcissistic individuals use to protect, regulate, and maintain self-esteem (Morf & Rhodewalt, 2001; Ronningstam, 2010; Sorotzkin, 1985). Narcissists may present themselves as perfect to validate their grandiose fantasies (Sorotzkin, 1985). These grandiose fantasies may relate to other compensatory fantasies, such as success, recognition, and appreciation (Stoeber et al., 2015). In this context, perfectionism can protect the self by avoiding humiliation, shame, and loss of admiration (Sorotzkin, 1985).

In addition, narcissistic individuals need social feedback more than normal individuals to provide support for their fragile selves (Rhodewalt & Morf, 1995, 1998). Narcissistic individuals are not concerned with getting approval from others. Getting the approval of others is associated with a feeling of admiration. When they receive approval, their self-esteem increases (Raskin et al., 1991b). When they receive negative feedback from others or fail, they respond with intense anger, aggression, hostility, anxiety, and fluctuations in self-esteem (Asada et al., 2004; Emmons, 1987; Kernis & Sun, 1994; Rhodewalt & Morf, 1995, 1998; Stucke & Sporer, 2002).

In parallel with the information above, individuals with social anxiety are seen to score higher in perfectionism sub-dimensions of concern about mistakes, doubts about actions, and parental criticism (Antony et al., 1998; Juster et al., 1996; Kumari et al., 2012; Rosser et al., 2003; Saboonchi et al., 1999; Shafran et al., 2002). The concern about mistakes, and doubts about actions are associated with the severity of social anxiety (Juster et al., 1996), and parental criticism is associated with feelings such as shame and guilt in childhood (Kawamura et al., 2002; Rukmini et al., 2014).

The minds of individuals with social anxiety can be busy with reviewing negative social situations (Chen et al., 2013; Heimberg et al., 2010). However, post-event rumination is associated with less positive reappraisal, negative performance appraisal, and greater social anxiety (Abbott & Rapee, 2004; Brown & Kocovski, 2014; Rapee & Abbott, 2007; Rukmini et

al., 2014). As a result of rumination, individuals' negative beliefs are reinforced, and their fear of social situations continues (Abbott & Rapee, 2004; Edwards et al., 2003). Rumination is associated with concerns about mistakes and doubts about actions (Flett et al., 2011; Harris et al., 2008; Rukmini et al., 2014). On the other hand, perfectionism is an important predictor of post-event rumination (Brown & Kocovski, 2014; Rivière & Douilliez, 2017). Perfectionist individuals exhibit more rumination and avoidance behavior (van der Kaap-Deeder et al., 2016). Considering this information in literature, perfectionism and post-event rumination can be thought to play an important role in the emergence and maintenance of social anxiety.

On the other hand, obsessive individuals think too much about their mistakes, have high personal standards, and have higher self-perfectionism (Egan et al., 2011). In addition, perfectionism is associated with doubt obsessions (Julien et al., 2006; OCCWG, 2005). When considering how narcissism and obsessive thoughts are related, perfectionism can be thought to mediate this relationship (Asada et al., 2004; Spano, 2001). Obsessive individuals may believe that their experiences are not strictly correct and can be presented more perfectly (Julien et al., 2006). Therefore, they may feel the need for certainty to eliminate their doubt obsessions and may strive to minimize their mistakes (Julien et al., 2006; OCCWG, 2005). Also, obsessive individuals are more likely to use ruminative strategies as a way of coping with the distress of unwanted thoughts (Freeston et al., 1995; Freeston & Ladouceur, 1997; Raines et al., 2017). As the tendency to ruminate in the face of distress increases, the severity of the obsessions increases, after which more rumination is exhibited (Wahl et al., 2011).

In summary, these findings show the intricate connections among narcissism, perfectionism, rumination, social anxiety, and obsession. These complicated relationships underscore the need for comprehensive research targeting these intertwined constructs. As authors, we wanted to examine the nature of obsessions seen in narcissism. We aimed to provide an analysis to understand this relationship in light of social anxiety which is linked to our self-construction. In the model created within the scope of the study, narcissism was placed in the first step as it is fundamental to the conceptualization of the self (Di Pierro, & Fanti, 2021). It was thought that narcissistic features would lead to perfectionism, towards the self and others (Smith et al., 2016) and that this perfectionism would lead to a negative response in social relations which includes an element of performance anxiety (Ferber et al., 2024). Finally, it has been assumed that the anxiety about social interactions caused by perfectionism in question may also lead through rumination (Cox & Chen, 2015) to obsessive thoughts. In this respect, the study has an exploratory aspect and examines a model in which perfectionism, social anxiety, and rumination play a

mediating role in the relationship between narcissism and obsessive thoughts.

## METHODS

### *Participants*

The sample of the study consisted of a total of 398 adults between the ages of 18-65 years, 248 (62.3%) of whom were female and 146 (36.7%) were male, with 4 (1%) not wanting to specify their gender. The participants' average age was 36.68 years ( $SD = 11.69$ ). Of the participants, two (0.5%) were literate but mostly unschooled, 12 (3%) were primary or secondary school graduates, 60 (15.1%) were high school graduates, 34 (8.5%) were college graduates, 46 (11.6%) were undergraduate students, 181 (45.5%) were undergraduates, 54 (13.6%) were graduates, and 9 (2.3%) were doctoral graduates.

### *Measures*

***Demographic Information Form*** The Demographic Information Form prepared by the researchers asks questions about the participants' age, gender, education level, marital status, occupational status, and socioeconomic level.

***Liebowitz Social Anxiety Scale (LSAS)*** The LSAS was developed by Liebowitz (1987) to measure individuals' anxiety and avoidance levels in situations that require performance. It was translated into Turkish by Soykan et al. (2003), and the validity and reliability study of the Turkish version was carried out by Güz and Dilbaz (2003). The test-retest reliability coefficient of the scale is 0.97 (Güz & Dilbaz, 2003). When evaluated based on the Beck Anxiety Inventory, the convergent validity of the scale is 0.25. The scale consists of two sub-dimensions, with 24 items for the anxiety sub-dimension and 24 items for the avoidance sub-dimension. The items are scored as 4-point Likert-type items. Obtaining a higher score on the scale indicates a higher level of social anxiety. The Cronbach's alpha value of the scale in the present study is 0.97.

***Obsessional Beliefs Questionnaire (OBQ)*** The OBQ was developed by OCCWG (1997, 2005) to measure the dysfunctional beliefs that cause the formation and maintenance of obsessions and compulsions. Its Turkish version and validity and reliability studies were performed by Boysan et al. (2010). The test-retest reliability coefficient of the scale is 0.79, and the internal consistency coefficient is 0.95. The OBQ correlates with the obsession sub-dimension of the Yale-Brown Obsessive Compulsive Scale at a level of 0.45. The scale consists of 44 questions and three sub-dimensions (i.e., responsibility/threat with 16 questions, perfectionism/certainty with 16 questions, and importance/control of thoughts with 12 questions). The

items are scored as 7-point Likert-type questions, with higher scores obtained from the scale indicating a higher severity of obsessive beliefs. The Cronbach's alpha value of the scale in the present study is 0.95.

***Frost Multidimensional Perfectionism Scale (FMPS)*** The FMPS was developed by Frost et al. (1990) to identify perfectionism tendencies. The scale examines perfectionism in 6 dimensions (i.e., concern over mistakes, personal standards, parental expectations, parental criticism, doubts about actions, and organization). The Turkish validity and reliability studies of the scale were carried out by Mısırlı-Taşdemir (2003) and Kağan (2011). The test-retest reliability coefficient of the scale is 0.82 (Kağan, 2011). The total score from the FMPS has been reported to correlate to the Penn State Worry Questionnaire score at a level of 0.44. The scale consists of 35 items. The items are scored as 5-point Likert-type items with higher scores revealing a higher level/severity of perfectionism. The Cronbach's alpha value of the scale in the present study is 0.93.

***Ruminative Responses Scale (RRS)*** The RRS was developed by Nolen-Hoeksema and Morrow (1991) and translated into Turkish by Neziroğlu (2010). The test-retest reliability coefficient of the scale is 0.72. The RRS scores have been reported to be correlated to Beck Depression Inventory scores at a level of 0.49 and to Penn State Worry Questionnaire scores at a level of 0.55. The scale consists of 22 items. The items are scored as 4-point Likert-type items with higher scores indicating a higher rumination level. The Cronbach's alpha value of the scale in the present study is 0.93.

***Narcissistic Personality Inventory (NPI)*** The NPI is a scale developed by Raskin and Hall (1979) to measure narcissistic personality tendencies. The 16-item short form used in this study was developed by Ames et al. (2006). The 16-item short version of the scale was adapted into Turkish by Atay (2009). The internal consistency reliability coefficient of the scale is 0.65. The scale consists of 16 items consisting of paired expressions, one of which reflects a narcissistic tendency. Higher scores are associated with higher narcissism levels and lower scores with lower narcissism levels. The Cronbach's alpha value of the scale in the present study is 0.73.

### *Procedure*

Ethics Committee of Istanbul Sabahattin Zaim University evaluated the present study's compliance with ethical rules on 10.11.2021, with approval number E.16577, which approved the study. Participants were found via social media and data for the study were collected online between November 2021 and January 2022. An Informed Consent Form was presented to the

**Table 1. Correlations Between Variables**

	1	2	3	4	5
1. Social Anxiety	1				
2. Perfectionism	0.418**	1			
3. Narcissism	-0.151**	0.158**	1		
4. Obsession	0.402**	0.641**	0.170**	1	
5. Rumination	0.420**	0.463**	0.044	0.460**	1

*Note.* \* $p < 0.05$ , \*\* $p < 0.01$ .

**Table 2. Multiple Regression Analysis Results**

Predicted Variable: Obsession	$R$	$R^2$	$Adj. R^2$	$F$	$\beta$	$t$
Narcissism					0.107	2.786*
Perfectionism	0.682	0.465	0.460	85.388	0.485	10.911*
Social Anxiety					0.144	3.294*
Rumination					0.171	3.930*

*Note.* \* $p < 0.01$ .

participants before data collection. To reduce any sequence effect, the five scales used alongside the demographic information and consent forms were given to the participants in different orders.

### Data Analysis

IBM SPSS (v.26.0) was used to conduct statistical analysis of the data obtained in the current study. Pearson product-moment correlation analysis was performed to analyze the relationships among the variables. In addition, multiple linear hierarchical regression analysis, in which the predictor variables entered the model, was applied to determine the predictive levels of social anxiety, perfectionism, rumination, and narcissism. Lastly, a serial multiple mediation model analysis was conducted using Model 6 and the PROCESS v3.5 plug-in developed by Hayes (2018) for IBM SPSS to investigate the mediating roles of perfectionism, social anxiety, and rumination in the relationship between narcissism and obsessive thoughts. The analysis was conducted with 5,000 bootstrap samples at a 95% confidence interval.

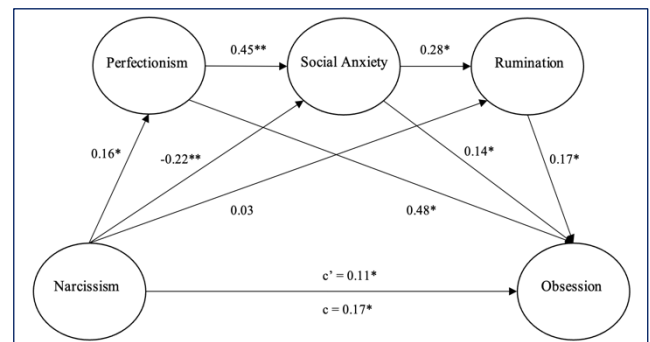
## RESULTS

The relationship between the study's variables was calculated using the Pearson product-moment correlation technique. All the study's correlation coefficients are given in Table 1.

Hierarchical regression analysis was performed to see the predictors of obsessive thoughts (Table 2). Accordingly, narcissism, which was entered into the equation in the first step ( $\beta = 0.170$ ,  $t = 3.424$ ,  $p = 0.001$ ), explained 3% of the total variance ( $Adj. R^2 = 0.026$ ,  $F_{(1, 396)} = 11.726$ ,  $p < 0.001$ ). The variable of perfectionism was entered into the equation in the second step ( $\beta = 0.630$ ,  $t = 16.159$ ,  $p < 0.001$ ) and together

with narcissism, explained 41% of the total variance ( $Adj. R^2 = 0.412$ ,  $F_{(2, 395)} = 140.278$ ,  $p < 0.001$ ). The variable of social anxiety was entered into the equation in the third step ( $\beta = 0.192$ ,  $t = 4.506$ ,  $p < 0.001$ ) and together with narcissism and perfectionism was found to explain 44% of the total variance ( $Adj. R^2 = 0.440$ ,  $F_{(3, 394)} = 104.856$ ,  $p < 0.001$ ). With the entry of rumination into the equation in the fourth step ( $\beta = 0.171$ ,  $t = 3.930$ ,  $p < 0.001$ ), these four variables together were seen to statistically predict the obsession scores and explained 46% of the variance in these scores ( $Adj. R^2 = 0.460$ ,  $F_{(4, 393)} = 85.388$ ,  $p < 0.001$ ).

To analyze the mediating roles of the other variables in the relationship between narcissism and obsessive thoughts, the PROCESS macro plugin (Hayes, 2018) was used, with a serial multiple mediation model analysis performed using Model 6. The data were analyzed using the bootstrap method, evaluating the 95% confidence interval outputs based on 5,000 new samples. The serial mediation models with three mediating variables tested one direct and six indirect effects. These models took perfectionism, social anxiety, and rumination as the mediating variables. The direct effect of narcissism on obsessive thoughts is expressed with  $c'$  (see Figure 1).



**Figure 1. Serial Multiple Mediation Model.** *Note.* \* $p < 0.05$ , \*\* $p < 0.01$ .

**Table 3. Serial Multiple Mediation Analysis Results**

	Model 1			Model 2			Model 3			Model 4		
	Predicted variable: Perfectionism			Predicted variable: Social Anxiety			Predicted variable: Rumination			Predicted variable: Obsession		
	$\beta$	SE	p	$\beta$	SE	p	$\beta$	SE	p	$\beta$	SE	p
Narcissism	1.29	0.40	0.016	-1.97	0.40	< 0.001	0.16	0.21	0.464	1.66	0.59	0.006
Perfectionism				0.49	0.05	< 0.001	0.20	0.03	< 0.001	0.92	0.08	< 0.001
Social Anxiety							0.15	0.26	< 0.001	0.25	0.08	0.001
Rumination										0.56	0.14	0.001
Total Effect (c Way)										2.62	0.77	0.007
		$R^2 = 0.25$			$R^2 = 0.22$			$R^2 = 0.28$			$R^2 = 0.47$	
Model Summary		$F_{(1, 396)} = 10.13$			$F_{(2, 395)} = 56.63$			$F_{(3, 394)} = 50.54$			$F_{(4, 393)} = 85.39$	
		$p = 0.016$			$p < 0.001$			$p < 0.001$			$p < 0.001$	

When looking at the direct effects, narcissism statistically predicts perfectionism ( $\beta = 0.16$ ,  $SE = 0.40$ ,  $t = 3.18$ ,  $p = 0.002$ , 95% CI [0.49, 2.09]) and social anxiety ( $\beta = -0.22$ ,  $SE = 0.40$ ,  $t = -4.96$ ,  $p < 0.001$ , 95% CI [-2.76, -1.19]) but not rumination ( $\beta = 0.03$ ,  $SE = 0.21$ ,  $t = 0.73$ ,  $p = 0.464$ , 95% CI [-0.26, 0.57]); perfectionism statistically predicts both social anxiety ( $\beta = 0.45$ ,  $SE = 0.05$ ,  $t = 10.08$ ,  $p < 0.001$ , 95% CI [0.40, 0.59]) and obsession ( $\beta = 0.48$ ,  $SE = 0.08$ ,  $t = 10.91$ ,  $p < 0.001$ , 95% CI [0.75, 1.08]); social anxiety predicts rumination ( $\beta = 0.28$ ,  $SE = 0.26$ ,  $t = 5.83$ ,  $p < 0.001$ , 95% CI [0.10, 0.20]) and obsession ( $\beta = 0.14$ ,  $SE = 0.08$ ,  $t = 3.29$ ,  $p = 0.001$ , 95% CI [0.10, 0.40]), and rumination statistically predicts obsession ( $\beta = 0.17$ ,  $SE = 0.14$ ,  $t = 3.93$ ,  $p = 0.001$ , 95% CI [0.28, 0.83]).

Lastly, when examining the total effect of narcissism on obsession ( $\beta = 0.17$ ,  $SE = 0.77$ ,  $t = 3.4244$ ,  $p = 0.007$ , 95% CI [1.12, 4.13]), this effect be statistically significant, but the direct effect of narcissism on obsession decreases when including the mediating variables of perfectionism, social anxiety, and rumination into the model ( $\beta = 0.11$ ,  $SE = 0.59$ ,  $t = 2.79$ ,  $p = 0.006$ , 95% CI [0.49, 2.83]). These findings showed that perfectionism, social anxiety, and rumination sequentially mediated the relationship between narcissism and obsession (Table 3).

When examining the indirect effects, the first one is the effect of narcissism on obsession through perfectionism (narcissism  $\rightarrow$  perfectionism  $\rightarrow$  obsession) [(0.25\*0.08) = 0.02]. This effect is statistically significant (CI [0.03, 0.13]) and shows perfectionism to have a mediating role in the relationship between narcissism and obsession.

The second one is the effect of narcissism on obsession through social anxiety. (narcissism  $\rightarrow$  social anxiety  $\rightarrow$  obsession), [(-0.22\*0.14) = -0.03]. This effect is statistically significant (CI [-0.06, -0.01]), with social anxiety alone having a mediating role in the relationship between narcissism and obsession.

The third one is the effect of narcissism on obses-

sion through rumination (narcissism  $\rightarrow$  rumination  $\rightarrow$  obsession), [(0.03\*0.17) = 0.01]. This effect is not statistically significant (CI [-0.01, 0.02]), and this finding indicates rumination on its own to have no mediating role in the relationship between narcissism and obsession.

The fourth one is the effect of narcissism on obsession through the serial mediation of perfectionism and social anxiety (narcissism  $\rightarrow$  perfectionism  $\rightarrow$  social anxiety  $\rightarrow$  obsession), [(0.16\*0.45\*0.14) = 0.01]. This effect is seen to be statistically significant (CI [0.002, 0.02]), with narcissism having a serial mediating effect on obsession through perfectionism and social anxiety.

The fifth one is the effect of narcissism on obsession through the serial mediation of social anxiety and rumination (narcissism  $\rightarrow$  social anxiety  $\rightarrow$  rumination  $\rightarrow$  obsession), [(-0.22\*0.28\*0.17) = 0.01]. This effect is seen to be statistically significant (CI [-0.02, -0.003]), with narcissism having a serial mediating effect on obsessions through social anxiety and rumination.

The sixth and final one is the effect of narcissism on obsession through the serial mediation of perfectionism, social anxiety, and rumination (narcissism  $\rightarrow$  perfectionism  $\rightarrow$  social anxiety  $\rightarrow$  rumination  $\rightarrow$  obsession), [(0.16\*0.45\*0.28\*0.17) = 0.003]. This effect is statistically significant (CI [0.001, 0.007]), and narcissism has a serial mediating effect on obsessions through perfectionism, social anxiety, and rumination ( $F_{(4, 393)} = 85.39$ ,  $p < 0.001$ ,  $R^2 = 0.47$ ).

## DISCUSSION

This study investigated the relationships that social anxiety, perfectionism, rumination, and narcissism have with obsessive thoughts. Upon evaluating the findings, significant relationships exist among the variables. First, obsessive thoughts appear to be positively related to narcissism. The grandiose self in

narcissism may play a role in the emergence of obsessive thoughts (Asada et al., 2004). We think that children who receive conditional rewards and approval from their parents may develop more self-criticism, thinking that they are not meeting their parents' expectations. Children may believe they need to be flawless to earn their parents' love and acceptance (Gelfman, 1968; Salzman, 1966). At this point, the critical parenting style may play a role in the emergence and maintenance of perfectionist thoughts. Thus, perfectionism may be an ideal strategy for protecting and regulating fragile self-esteem. As long as individuals exhibit every behavior perfectly, they can protect their fragile selves from humiliation and criticism while at the same time increasing their self-esteem by receiving rewards and approval from others. Consistent with this information, our study indicated that perfectionism was the variable that most strongly predicted obsessive thoughts. In addition, perfectionism alone played a mediating role in the relationship between narcissism and obsession. Meanwhile, perfectionism shows the strongest relationship with obsession and all the other variables of the study.

Perfectionist individuals may set high standards for themselves due to their excessive self-criticism (Frost et al., 1990). They may also feel that they must behave perfectly during social situations. Based on these thoughts, individuals with high standards who are worried about making mistakes and who are suspicious of their behaviors are likely to experience anxiety during social situations (Antony et al., 1998; Juster et al., 1996; Kumari et al., 2012; Rosser et al., 2003; Shumaker & Rodebaugh, 2009). Consistent with the literature, our study found social anxiety to be positively associated with perfectionism (Antony et al., 1998; Flett et al., 1989; Juster et al., 1996; Kumari et al., 2012; Rosser et al., 2003; Shumaker & Rodebaugh, 2009). Excellent performance may enable individuals to both avoid humiliation and criticism from others as well as to gain the admiration of others. However, when individuals don't meet their high standards, they may assume that they're making mistakes and may become more self-critical.

Our research shows the relationship between social anxiety and perfectionism to emphasize the importance of childhood experiences (Rukmini et al., 2014). Here, perfectionism may be associated with parents' critical attitudes and feelings of shame and guilt during childhood (Kawamura et al., 2002). Indeed, individuals with social anxiety see their parents as overprotective, lacking in warmth, rejecting, less caring, and more prone to use shame tactics for discipline (Bruch & Heimberg, 1994). Individuals with social anxiety may set high standards for themselves to not be embarrassed by their parents or to get approval from their parents. In this case, high performance in social situations may be a strategy for protecting the fragile self. This can also cause individuals with social

anxiety to think more about their performance, to doubt their behavior, and to have intrusive thoughts about their behavior. In this regard, perfectionism can be a strong link between social anxiety and obsessive thoughts. Consistent with this, our study has observed social anxiety to also predict obsessions and to play a mediating role on its own in the relationship between narcissism and obsessions.

Individuals who think they didn't perform perfectly during a social situation may ruminatively review the event and reflect on their mistakes (Brown & Kocovski, 2014). Rumination is seen to be common in both social anxiety and obsessions (Egan et al., 2014). However, although rumination is seen to explain the total variance in our study, it does not play a mediating role by itself in the relationship between narcissism and obsession. From this point of view, rumination can be concluded to affect obsessive thoughts not on its own but together with perfectionism and social anxiety. Perfectionism is an important predictor of post-event rumination and may increase social anxiety and obsessions (Brown & Kocovski, 2014; Rivière & Douilliez, 2017). Our study has found social anxiety and obsession to be associated with both perfectionism and rumination. Accordingly, individuals may think about their unsuccessful performance intrusively and repetitively. In this regard, rumination may mediate the relationship between perfectionism through pathological problems and negative affect (Flett et al., 2016; Harris et al., 2008; Rukmini et al., 2014). Our study also found a relationship to exist between obsession and perfectionism, just as in social anxiety. Accordingly, the fact that perfectionism is common in both social anxiety and obsession may play a role in how individuals develop doubt and control obsessions regarding their performance during social situations (Carpita et al., 2020). Moreover, individuals can use more ruminative strategies to reduce the anxiety caused by obsessive thoughts (Freeston et al., 1995; Freeston & Ladouceur, 1997; Raines et al., 2017). Indeed, both social anxiety and obsession have been found to be associated with rumination. However, instead of reducing anxiety, rumination will enable individuals to focus more on their mistakes and intrusive thoughts, reinforce their negative beliefs, and cause their anxiety to persist (Abbott & Rapee, 2004; Edwards et al., 2003). In this sense, rumination may play a role in the emergence and maintenance of obsessions in individuals with social anxiety.

In summary, individuals who set high standards for themselves to protect their fragile self may focus on their performance during social situations. When they do not reach their high standards, they may become more socially anxious and ruminatively reflect on their mistakes. Moreover, they may develop obsessions about their high standards. They may also use ruminative strategies to deal with their obsessive thoughts. Indeed, when serial mediation analysis was taken into

account in our study, perfectionism, social anxiety, and rumination were seen to have mediating effects on the relationship between narcissism and obsession.

### Limitations

The first limitation addressed in this study is related to the measurement of the narcissism variable. The reason for the low correlation for narcissism with social anxiety, perfectionism, and obsession may be that the Narcissistic Personality Inventory focuses more on the grandiose dimension of narcissism. On the other hand, narcissistic individuals may try to look perfect to hide their inadequacies (Ronningstam, 2010) and thus fail the test, because individuals with grandiose selves may appear perfect. The use of more sensitive narcissism scales in future studies may provide healthier results for narcissism.

Similarly, the fact that the rumination scale is depression-related may affect the measurement of rumination's relationship with other variables. Therefore, we recommend the use of a different rumination scale in future studies.

In addition, the mediation analysis used in this research is preferred for causal models. However, the cross-sectional design of the study creates a limitation. For the same reason, findings regarding the causality of the relationship between the variables in this study are limited.

Finally, the data in this study were collected from a general sample. As such, the results are consistent with the literature. However, repeating this study with individuals who've been diagnosed with social anxiety disorder and obsessive-compulsive disorder will be important for finding stronger relationships among these variables and for investigating new findings.

### Conclusions

This study has investigated the relationships social anxiety, perfectionism, rumination, and narcissism have with obsessive features. When evaluating the findings, all variables were observed to be related and to predict obsessive features. The study's findings may also point to childhood experiences mentioned in the literature. Considering the information in literature, parenting styles in childhood may strengthen the relationship between social anxiety and obsessions by leading to the development of structures such as narcissism and perfectionism. In addition, a ruminative thinking style seems to be an important factor in the maintenance of existing pathologies. Upon considering the study's findings, perfectionism can be thought to be an effective factor in the emergence of pathologies such as social anxiety and obsessions. Moreover, perfectionism has also been associated with all the research variables.

The most important contribution the research makes to literature is that this model can also be

applied during therapy. For example, when therapists work with clients with complaints of social anxiety and obsession, importance can be given to not ignoring their perfectionist features, as these features may be part of a strategy the client has developed to defend their fragile self. In addition, the therapist can focus on developing more effective strategies for the client to maintain their self-esteem. At the same time, the client's needs for love, approval, and admiration associated with critical parenting can also be addressed in therapy. The role the client's emotional and mental processes play in their social anxiety and obsessions, such as concern about making mistakes and doubting their behavior, can also be taken into account. The client can also be taught strategies to prevent ruminative processes related to social situations. As a result, adding techniques for these variables would be beneficial in therapies for individuals that have both social anxiety and obsessions. However, it should not be forgotten that this study is a cross-sectional design and was conducted with a general sample. For these recommendations to be taken into scientific consideration, the variables mentioned in this study need to be re-investigated in a causal study with a pathological sample.

### DECLARATIONS

**Ethics Committee Approval** This study was approved by Ethics Committee of Istanbul Sabahattin Zaim University (Date: 10.11.2021; Approval Number: E.16577).

**Conflict of Interest** Authors declare that they have no conflicts of interest in the publication of this work.

**Informed Consent** Before participation in the study, all participants provided informed consent.

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**Data Sharing/Availability** Data is available upon reasonable request.

**Authors' Contributions** BAÇ and VK contributed to the conceptualization and design of the study. BAÇ gathered data and conducted data analysis. He also contributed to the writing of the introduction section. All authors contributed to the writing of the methods, results and discussion sections of the study. All authors also reviewed and approved the final version of the manuscript.

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