Investigation of the Relationship Between Borderline Personality Features and Metacognition and State-Trait Anxiety in a Non-Clinic Sample *

Klinik Olmayan Örneklemde Borderline Kişilik Özellikleri ile Üstbiliş ve Durumluk-Sürekli Kaygı Düzeyi Arasındaki İlişkinin İncelenmesi

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Abstract

The current study examined the relationship between borderline personality features, metacognition, state, and trait anxiety. The volunteers (N=442) were administered the Metacognition Questionnaire (MCQ-30), Borderline Personality Questionnaire (BPQ), Socio-demographic Data Form, and finally State-Trait Anxiety Inventory (STAI). The SPSS 25.0 program was preferred in the analysis of the research data. TAI (r=.645, p<0.01) and the SAI (r=.551, p<0.01) showed a substantial and positive connection with the BPQ. The Metacognition Questionnaire and the Borderline Personality Questionnaire were determined to have a significant correlation (r=.326, p<0.01). TAI (r=.472, p<0.01) and SAI (r=.356, p<0.01) both showed a substantial and positive connection with the Metacognition Questionnaire. It has been suggested that borderline personality features may cause anxiety in the person, the person may use dysfunctional metacognitions to cope with the current anxiety, and the maladaptive metacognitions used may be effective in the continuation of anxiety and borderline personality features. In light of these results, it is thought that it would be helpful to add therapeutic interventions on behalf of their dysfunctional metacognitions and complementary training and techniques to the therapy processes to help people with borderline personality features gain awareness and regulate their frequently experienced negative emotions such as anxiety.

Keywords: Borderline personality features, borderline personality disorder, trait anxiety, state anxiety, metacognition

Paper Type: Research

Öz

Bu çalışmanın amacı borderline kişilik özellikleri, üstbiliş, durumluk ve sürekli kaygı arasındaki ilişkiyi incelemektir. Katılımcılara (N=442) Üstbiliş Ölçeği (ÜBÖ-30), Borderline Kişilik Ölçeği (BKÖ), Sosyodemografik Bilgi Ölçeği ve son olarak Durumluk/Sürekli Kaygı Ölçeği (DSKÖ) uygulanmıştır. Araştırma verilerinin analizinde SPSS 25.0 programı kullanılmıştır. Sürekli Kaygı Ölçeği (r=.645, p<0.01) ve Durumluk Kaygı Ölçeğinin (r=.551, p0.01) her ikisi de Borderline Kişilik Ölçeği ile önemli ve pozitif bir ilişki göstermiştir. Üstbiliş Ölçeği ile Borderline Kişilik Ölçeği arasında anlamlı ve pozitif bir ilişki olduğu tespit edilmiştir (r=.326, p<0.01). Sürekli Kaygı Ölçeği (r=.472, p<0.01) ve Durumluk Kaygı Ölçeğinin (r=.356, p<0.01) her ikisinin de Üstbiliş Ölçeği ile anlamlı ve pozitif bir ilişkiye sahip olduğu saptanmıştır. Borderline kişilik özelliklerinin kişide kaygıya neden olabileceği, kişinin mevcut kaygıyla baş etmek için işlevsel olmayan üstbilişler kullanabileceği ve kullanılan uyumsuz üstbilişlerin kaygı ve

borderline kişilik özelliklerinin süreğen hale gelmesinde etkili olabileceği öne sürülmüştür. Bu sonuçlar ışığında, borderline kişilik özellikleri gösteren kişilerin terapilerine işlevsel olmayan üstbilişleri adına farkındalık kazanımını sağlayacak müdahelelerin, kaygı gibi sık deneyimledikleri olumsuz duygularını düzenlemeye yönelik tamamlayıcı eğitim ve tekniklerin eklenmesinin faydalı olacağı düşünülmektedir.

Anahtar Kelimeler: Borderline kişilik özellikleri, borderline kişilik bozukluğu, sürekli kaygı, durumluk kaygı, üstbiliş

Makale Türü: Araştırma

Introduction

Borderline personality disorder (BPD) is a severe disorder characterized by lability in affect, instability in cognitive processes and behaviors, inconsistency in interpersonal relationships, self-destructive actions, and issues with self-image (Faraji, 2021). Borderline patients have a low threshold for anxiety, an unintegrated perception of who they are, and ego fragility (Rockland, 2016). On the other hand, when it comes to borderline personality features, these symptoms do not appear to be severe enough to impair the functionality of individuals' work and social life (Faraji & Güler, 2021). So borderline personality features can be seen as milder forms of borderline personality disorder symptoms that do not cause a significant impact on an individual's life but still impact adversely in lower degrees.

People with borderline personality features (BPF) may depend on others in close relationships, and they greatly influence their sense of self-worth. Moreover, borderline individuals are characterized by a weak ego; they may experience sudden disappointments and anxiety in situations such as a possible separation, rejection, or change of environment that they may experience in daily life. They also have difficulties coping with the anxiety they experience (Hepp et al., 2018).

Anxiety is a common emotion in people with BPF (Öztürk & Uluşahin, 2014), and BPD has high comorbidity with anxiety disorders (Shah & Zanarini, 2018). Andover et al. (2005) state that intense anxiety level has an important and central place for borderline patients. Individuals with borderline personality features generally describe anxiety as a continuing feeling of boredom, emptiness, and dissatisfaction (Gratz et al., 2007).

Difficulties in understanding and expressing mental states are the primary challenges faced by individuals with BPF (D'Abate et al., 2020). Dimaggio et al. (2009) state that borderline patients have difficulty understanding not only their minds but also the minds of others. Semerari et al. (2014) report that people with borderline personality features struggle with critically reflecting on their ideas about themselves and others. They also have difficulties recognizing the emotions of others (Levine et al., 1997; Faraji & Tezcan, 2022). They also show mentalizing problems, such as the inability to combine various mental states and the inability to clearly distinguish between what is happening in one's inner and outer world (Semerari et al., 2015).

The capacity to figure out and consider mental processes to manage daily activities, cognitive processes, and interpersonal interactions is known as metacognition (Semerari et al., 2007). Over time, emotional attributions have been added to this definition in addition to cognitive processes (Lysaker et al., 2018). It is stated that problems related to metacognition may be related to many psychopathologies and may be effective in the continuation of psychological symptoms (Cartwright-Hatton & Wells, 2004; Tosun & Irak, 2008). At this point, metacognitive functions related to BPF may be practical in terms of maladaptive emotions, dysfunctional thoughts, and maladaptive coping methods. It can be effective in maintaining symptoms such as difficulty in understanding and expressing mental states, emotional dysregulation, and relational issues (Fonagy et al., 2015).

It is stated that defective metacognitive beliefs are linked with persistent emotional pain as they direct maladaptive coping strategies in response to unpleasant experiences (Wells, 2009). In individuals with borderline personality features, dysfunctional beliefs are central and negatively affect the person's daily life (Bhar et al., 2008). Their thoughts are characterized by these three basic suppositions: "Dangers and evil intentions abound in the world." " I'm fragile and defenseless." and "I am an innately unacceptable person" (Türkçapar & Işık, 2000; Bhar et al., 2008). It is thought that these assumptions may cause anxiety in people with BPF and that the person may use some metacognitive strategies as dysfunctional coping methods in order to cope with this tension. Indeed, studies have shown that there is an association between metacognition problems and BPF (Outcalt et al., 2016; Maillard et al., 2017; Vega et al., 2020). Moreover, anxiety may have a major impact in determining how vulnerable cognitive processing is to emotional intervention in borderline individuals, according to Holtmann et al. (2013). In addition, it is seen that especially metacognitive traits are addressed in the treatment of anxiety problems (Wells, 2006). In light of this information, it is assumed that the metacognitive traits of people with BPF might be related to anxiety. The first hypothesis of the study is that metacognitions predict borderline personality features, and the second is that state and trait anxiety predict borderline personality features. This article's objective is to delve into the relationships between BPF, metacognition, state anxiety, and trait anxiety. This research is expected to advance the understanding of how borderline personality features, state-trait anxiety, and metacognition are related. More importantly, it is thought that examining this relationship will contribute to clinical practice in determining which therapy methods and complementary training may be beneficial in the psychotherapeutic interventions of individuals with borderline personality features.

1. Method

1.1. Study Design and Participants

A relational screening method was used. Due to the population exceeding 100,000, a sample size of 384 is sufficient to represent the population with a 0.05 margin of error and a 95% confidence interval (Ural & Kılıç, 2013). The sample was selected through convenience sampling from individuals residing in Istanbul, Turkey. The universe of the study includes individuals over the age of 18 living in the province of Istanbul without a clinical diagnosis. The sample of the research comprises 442 adults, with a minimum age of 18, who voluntarily participated in the study. The mean age of the sample is 29 (SD = 8), and the gender distribution is 66.5% female (n = 294) and 33.5% male (n = 148). The mean age of the participants was 28.53 ± 8.22; the youngest participant was 18 years old, and the oldest was 50 years old.

1.2 Measures

1.2.1. Socio-demographic Data Form

The researchers prepared the form for collecting socio-demographic data. It contains items to ascertain details such as the participant's age, gender, profession, and monthly income.

1.2.2. Borderline Personality Questionnaire (BPQ)

The questionnaire, created by Poreh et al. (2006), comprises a total of 80 items to assess borderline personality features. In this scale, Poreh et al. (2006) created a separate subscale for each characteristic feature defining Borderline Personality Disorder based on DSM-IV and 5 (criteria has not changed with new manual) criteria Ceylan carried out Turkish adaptation of the questionnaire with university students (2017). The coefficient alpha value was determined to be 0.89 for the total scale (Ceylan, 2017). It has nine sub-dimensions. Cronbach's Alpha coefficients for this study were 0.61 for impulsivity, 0.70 for affective instability, 0.65 for abandonment, 0.68 for relationships, 0.69 for self-image, 0.60 for suicide/self-injurious behavior, 0.68 for emptiness, 0.84 for intense anger, 0.72 for quasi-psychotic states, and 0.91 for the total score. In this study,

the Borderline Personality Questionnaire was used to evaluate the borderline personality traits of the participants, rather than to diagnose individuals according to DSM-5 criteria.

1.2.3. Metacognition Questionnaire (MCQ-30)

MCQ-30 is a self-report inventory that measures individuals' metacognitive traits. It consists of 30 items and five subscales (Wells & Cartwright-Hatton, 2004). Scores on a 4-point Likert-type scale ranging from (4) "strongly disagree" to (3) "strongly agree" range from 30 to 120, with increasing scores indicating increased pathological metacognitive activity (Wells & Cartwright-Hatton, 2004). The cognitive confidence subscale measures one's self-trust in memory and concentration skills. The subscale for positive beliefs about worry includes optimistic ideas about worrying. Cognitive awareness is the frequent preoccupation with what is going on in one's mind. The uncontrollability and danger include the belief that 'one must control one's worries in order to function and stay safe.' Finally, the belief about the need to control thoughts implies frequent checking of ideas. The Cronbach's alpha score was .86 (Tosun & Irak, 2008). Cronbach Alpha (α) coefficients for this study were 0.84 for the positive beliefs about worry subscale, 0.75 for the uncontrollability/danger subscale, 0.86 for the cognitive confidence subscale, 0.85 for the need to control thoughts subscale, 0.79 for the cognitive awareness subscale, and 0.92 for the total score.

1.2.4. State-Trait Anxiety Inventory (STAI)

It is a self-report inventory designed to measure state and trait anxiety traits (Spielberger et al., 1971). STAI consists of 40 items in total and has two inventories: state anxiety and trait anxiety. The questions are 4-point Likert type (1: Rarely, 2: Sometimes, 3: Often, 4: Almost always). There are ten inverted statements in the state anxiety scale. These are items 1, 2, 5, 8, 10, 11, 15, 16, 19 and 20. In the trait anxiety scale, the number of inverted statements is seven, and these are items 21, 26, 27, 30, 33, 36, and 39. The scores obtained from both scales vary between 20 and 80. The higher the score, the higher the anxiety level. The alpha coefficient for the TA dimension of the inventory ranged between 0.83 and 0.87, and the alpha coefficient for the SA dimension ranged between 0.94 and 0.96. (Öner and Le Compte, 1983). The state anxiety sub-dimension had a coefficient alpha value of 0.90, whereas the trait anxiety sub-dimension had a coefficient alpha of 0.87 in this study.

1.3. Data analysis

Firstly, the normal distribution assumption was checked. To evaluate this assumption, kurtosis and skewness coefficients were examined, and the fact that these two coefficients fall within the value range of -2 to 2 indicates that the assumption of a normal distribution is fulfilled (George & Mallery, 2010).

Table 1. Kurtosis and skewness coefficients of BPQ, STAI, and MCQ-30 scores

	Kurtosis	Skewness
State Anxiety	0.26	0.71
Trait Anxiety	-0.37	0.27
BPQ	0.29	0.81
BPQ-Impulsivity	1.12	1.15
BPQ- Affective Instability	-0.11	0.68
BPQ-Abandonment	1.98	1.38
BPQ-Relationships	-0.17	0.77
BPQ- Self-image	1.97	1.60
BPQ-Suicide/self-mutilation Behavior	1.42	1.10
BPQ- Emptiness	0.78	1.01
BPQ- Intense Anger	-0.82	0.74
BPQ- Quasi-Psychotic States	-0.50	0.69
Metacognition Questionnaire (MQ)	-0.19	0.34
MQ- Positive Beliefs about Worry	-0.60	0.33
MQ- Uncontrollability and Danger	-0.54	0.41
MQ- Cognitive Confidence	-0.14	0.75

MQ- Need to Control Thoughts	-0.55	0.55
MQ Cognitive Awareness	-0.45	-0.14

The link between the variables was investigated using Pearson correlation analysis. The role of intermediaries was investigated using a stepwise regression analysis. The confidence interval referenced in the study was 95%, and the p-value was 0.05.

1.4. Procedure and Ethical Considerations

First, the required approvals were obtained from the individuals who conducted the investigations on the Turkish version of the scales, their reliability, and validity. Subsequently, approval from the ethics committee of İstanbul Aydın University, dated 10.03.2022 and numbered 2022/04, was obtained, and data collection for the research commenced. The scales, instructions, and information form were sent via a Google link to the individuals who voluntarily participated in the study through online platforms (WhatsApp, Instagram, and Facebook). No identification information was obtained from the participants. The collected data were coded and transferred to SPSS 25, making them ready for analysis.

2. Results

Table 2. Findings of the correlation between BPF, STA, and MC by Pearson correlation test

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1-State Anxiety(SA)	1																	
2-Trait Anxiety(TA)	,722**	1																
3-BPF	,551**	,645**	1															
4- BPF-Impulsivity	,199**	,102*	,349**	1														
5-BPF-Affective Instability	,398**	,520**	,809**	,143**	1													
6- BPF-Abandonment	,407**	,477**	,711**	,164**	,480**	1												
7- BPF-Relationships	,375**	,434**	,747**	,152**	,570**	,563**	1											
8- BPF- Self-image	,449**	,544**	,702**	,106*	,553**	,500**	,453**	1										
9- BPF-Suicide/self-mutilation Behavior	,195**	,209**	,328**	,097*	,165**	,266**	,246**	,108*	1									
10-BPF-Emptiness	,513**	,584**	,779**	,164**	,564**	,542**	,511**	,640**	,152**	1								
11- BPF- Intense Anger	,353**	,427**	,754**	,257**	,596**	,402**	,499**	,386**	,144**	,503**	1							
12- BPF- Quasi Psychotic States	,277**	,350**	,467**	,143**	,354**	,207**	,196**	,267**	,094*	,278**	,192**	1						
13-Metacognition (M)	,356**	,472**	,326**	0,007	,339**	,211**	,235**	,240**	0,002	,240**	,204**	,304**	1					
14- M- Positive Beliefs about Worry	,219**	,298**	,220**	-0,029	,183**	,182**	,163**	,125**	0,019	,132**	,151**	,284**	,735**	1				
15- M- Uncontrollability and Danger	,310**	,393**	,358**	,098*	,348**	,220**	,261**	,186**	0,048	,267**	,251**	,300**	,849**	,548**	1			
16- M- Cognitive Confidence	,288**	,309**	,182**	0,012	,188**	,122*	,170**	,168**	-0,023	,163**	,128**	0,046	,658**	,284**	,426**	1		
17- M- Need to Control Thoughts	,416**	,598**	,376**	-0,005	,364**	,264**	,250**	,366**	-0,020	,288**	,247**	,308**	,839**	,487**	,695**	,495**	1	

| 18- M Cognitive Awareness | ,118* | ,194** | ,112* | -0,043 | ,216** | 0,019 | 0,057 | 0,060 | -0,008 | 0,068 | 0,003 | ,239** | ,756** | ,528** | ,619** | ,268** | ,517** | 1 |

**p<0.01, *p<0.05

The correlation analysis revealed a weak and positive relationship between the SA and the following variables: BPF-impulsivity *(r=.199, p<0.01)*, suicide/self-mutilation behavior *(r=.195, p<0.01)*, quasi psychotic states *(r=.277, p<0.01)*, mdimentions positive beliefs about worry *(r=.219, p<0.01)*, cognitive confidence *(r=.288, p<0.01)* and cognitive awareness *(r=.118, p<0.01)*. A moderate and positive correlation was found between the SA and the following variables: BPF affective instability *(r=.398, p<0.01)*, abandonment *(r=.407, p<0.01)*, relationships *(r=.375, p<0.01)*, self-image *(r=.449, p<0.01)*, emptiness *(r=.513, p<0.01)*, ıntense anger *(r=.353, p<0.01)*, total score of metacognition *(r=.356, p<0.01)*, and it's dimentions uncontrollability and danger *(r=.310, p<0.01)* and need to control thoughts *(r=.416, p<0.01*, see Table 1.)

The correlation analysis revealed a weak and positive relationship between the TA and the following variables which are BPF dimensions: Impulsivity (r=.102, p<0.01), Suicide/self-mutilation behavior (r=.209, p<0.01), positive beliefs about worry (r=.298, p<0.01) and cognitive awareness (r=.194, p<0.01).

A moderate and positive correlation was determined between the TA and Borderline Personality (r=.645, *p<0.01). A*lso there is a moderate and positive correlation between TA and BPF's dimensions of affective ınstability (r=.520, p<0.01), abandonment (r=.477, p<0.01), relationships (r=.434, p<0.01), self-image (r=.544, p<0.01), emptiness (r=.584, p<0.01), intense anger (r=.427, p<0.01), quasi psychotic states (r=.350, p<0.01),

A moderate and positive correlation was found between TA Metacognition (r = .472, p < 0.01) and its dimensions: Uncontrollability and danger (r = .393, p < 0.01), cognitive confidence (r = .309, p < 0.01), and needs to control thoughts (r = .598, p < 0.01; see Table 1).

The correlation analysis revealed a moderate and positive relationship between the Borderline Personality Features and the following variables: SAI *(r=.551, p<0.01)*, Metacognition *(r=.326, p<0.01)*, and also between the uncontrollability and danger *(r=.358, p<0.01)* and need to control thoughts *(r=.376, p<0.01)* which are dimensions of M.

A weak and positive correlation was detected between the Borderline Personality and the M.'s dimensions of positive beliefs about worry *(r=.220, p<0.01)*, m- cognitive confidence *(r=.182, p<0.01)* and cognitive awareness *(r=.112, p<0.01*, see Table 2).

The correlation analysis revealed a weak and negative relationship between the BPF-Impulsivity and the dimensions of M-positive beliefs about worry *(r=.-0,029, p<0.01)*, need to control thoughts *(r=.-0,005, p<0.01)* and cognitive awareness *(r=.-0,043, p<0.01*, see Table 2).

A moderate correlation was detected between the BPQ- Affective Instability and the Metacognition Questionnaire *(r=.339, p<0.01)* and its dimensions uncontrollability and danger *(r=.348, p<0.01)*, need to control thoughts *(r=.364, p<0.01)*. a weak but positive correlation was found between the BPF-Affective Instability and the Positive Beliefs about Worry *(r = .183, p < 0.01)*, Cognitive Confidence *(r = .188, p < 0.01)*, and Cognitive Awareness *(r = .216*, p < 0.01; see Table 2), which are dimensions of M.

The correlation analysis revealed a weak and positive relationship between the BPF-Relationships and the following variables: Metacognition *(r=.235, p<0.01)*, and its dimensions positive beliefs about worry *(r=.163, p<0.01)*, uncontrollability and danger *(r=.261, p<0.01)*, cognitive confidence *(r=.170, p<0.01*, see Table 2).

The correlation analysis revealed a weak and positive relationship between the BPF- Self-image and the following variables: Metacognition *(r=.240, p<0.01)* and it's dimensions positive beliefs about worry *(r=.125, p<0.01)*, uncontrollability and danger *(r=.186, p<0.01)*, cognitive confidence *(r=.168, p<0.01.* A modarate and positive correlation was found between the BPF-Self-image and the M- need to control thoughts *(r=.366, p<0.01,* see Table 2).

The correlation analysis revealed a weak and negative relationship between the BPF-suicide/self-mutilation behavior and the cognitive confidence *(r=.-0,023, p<0.01)*, need to control thoughts *(r=.-0,020, p<0.01,* see Table 2) which are subscales of M.

The correlation analysis revealed a weak and positive relationship between the BPF-Emptiness and the following variables: Metacognition *(r=.240, p<0.01)* and its subscales; positive beliefs about worry *(r=.132, p<0.01)*, uncontrollability and danger *(r=.267, p<0.01)*, cognitive confidence *(r=.163, p<0.01,* see Table 2)*.

The correlation analysis revealed a weak and positive relationship between the BPF-intense anger and the following variables: Metacognition *(r=.204, p<0.01)*, and it's dimesions; positive beliefs about worry *(r=.151, p<0.01)*, uncontrollability and danger *(r=.251, p<0.01)*, cognitive confidence *(r=.128, p<0.01)*, need to control thoughts *(r=.247, p<0.01,* see Table 2)*.

A moderate and positive correlation was found between the BPF-quasi psychotic states and metacognition (r = *.304, p < 0.01)*, uncontrollability and danger *(r = .300, p < 0.01)*, and need to control thoughts *(r = .308, p < 0.01)*, which are subscales of M.

A weak and positive correlation was detected between the BPF- quasi psychotic states and the positive beliefs about worry *(r=.284, p<0.01)*, cognitive confidence *(r=.0,046, p<0.01)* and cognitive awareness *(r=.239, p<0.01,* see Table 2) which are subscales of M.

Table 3. Findings on the prediction of SA and TA on borderline personality

	B	Sh	β	t	p
(Constant)	-14.87	1.93		-7.70	0.000*
SA	0.23	0.07	0.18	3.46	0.001*
TA	0.66	0.07	0.51	9.89	0.000*

R=.66   R²=.43
*F=166.23   p=0.000**

*p<0.05 Multiple Linear Regression: Stepwise Regression

When the table of findings was evaluated, it was detected that state anxiety and trait anxiety independent variables were significant predictors for borderline personality dependent variable (R=66, R2=.43, p<0.05). It was determined that the independent variables in the regression model explained 43% of the change in borderline personality score. When sorted according to beta, trait anxiety (β=.51) and state anxiety (β=.18). State anxiety and trait anxiety independent variables were detected to have a positive effect. According to the findings, it was determined that the variable that explained the change in Borderline personality features score the most was trait anxiety (see Table 3).

Table 4. Findings on the prediction of metacognitions on borderline personality

	B	Sh	β	t	p
(Constant)	4.96	1.72		2.89	0.004*
Need to Control Thoughts	0.64	0.16	0.25	4.05	0.000*
Uncontrollability and Danger	0.57	0.18	0.19	3.07	0.002*

R=.40   R²=.16
*F=41.70   p=0.000**

*p<0.05 Multiple Linear Regression: Stepwise Regression

The independent variables of the need to control thoughts, uncontrollability and danger were found to be significant predictors for the dependent variable of borderline personality (R=40, R2=.16, p<0.05). But other dimensions of metacognition weren't predicting borderline personality. It was determined that the independent variables in the regression model explained 16% of the change in borderline personality score. When ranked according to beta, the need to control thoughts (β = .25), uncontrollability, and danger (β = .19) were found to be significant. The independent variables of the need to control thoughts, uncontrollability, and danger were found to have a positive effect. According to the findings, it was determined that the variable explaining the change in Borderline Personality Disorder score the most was the need to control thoughts (see Table 4).

Discussion

This study aimed to examine the relationship between BPF, metacognition, and state-trait anxiety. The findings from this research showed that borderline personality features, metacognition, trait anxiety, and state anxiety are related. Although the relationship between metacognition, borderline personality features, and state-trait anxiety has not yet been evaluated in the literature, the link between borderline personality features and metacognition is known (Lysaker et al., 2018; Karaarslan, 2021). Moreover, scholars demonstrated that metacognition and anxiety are related (Sun et al., 2017; Nordahl et al., 2022); studies additionally revealed that borderline personality features and trait anxiety are related (Kot et al., 2022; Kuru et al., 2022).

Analysis of the study's findings reveals a significant and positive relationship between BPF and metacognition. According to studies (Maillard et al., 2017; Jaczak et al., 2022), borderline patients have a low rate of metacognition and have more limited metacognitive skills than people with other personality disorders. Per the research by Outcalt et al. (2016), higher levels of anxious attachment, impairments in mentalizing and metacognition, and the onset of borderline personality features are all related to one another. It is stated that there are more specific metacognitive difficulties in borderline personality disorder compared to other pathologies (Lysaker et al., 2017; D'Abate, 2020). It is suggested that deficiencies in metacognition and mentalization lead to problems in resolving interpersonal disputes, regulating emotional reactions to tension, and recognizing cognitive distortions, which are related to BPF (Fonagy, 1991). A lack of metacognitive ability may lead to emotional instability and impulsive behaviors. The higher metacognitive capacity allows people to respond to stressful and insecure situations in healthier ways (Outcalt et al., 2016). When the results of this research have been analyzed, borderline personality features such as affective instability, abandonment, and self-image are observed to have a substantial and positive association with the following variables: trait anxiety and metacognition. In line with this information, it is thought that people with BPF may use dysfunctional metacognition features to cope with the anxiety that may arise with affective instability, abandonment, or problems related to the self, and this may be effective in the continuation of existing borderline symptoms.

In the findings obtained from this study, it is evident that there is a significant and positive relationship between BPF, such as affective instability, abandonment, relationships, self-image, suicide/self-mutilation behavior, and the following variables: trait and state anxiety. According to the study of Bassi et al. (2021), borderline personality features such as injuring oneself, emotional instability, identity issues, and unfavorable relationships was associated with state and trait anxiety. This result aligns with the existing research findings. It is stated that cognitive disorders of borderline patients become evident in stressful situations (Faraji & Tezcan, 2022). It is noted that BPF and trait anxiety are related, the symptoms of trait anxiety are exacerbated by BPF (Loas et al., 2012; Kot et al., 2022), and borderline patients have difficulty suppressing disturbing information (Domes et al., 2006).

An individual's skill to modulate negative feelings influences their capacity to respond adaptively in challenging circumstances. Borderline patients are known to show significant

deficits in processing emotions that arise from adverse events such as felt rejection, abandonment, and critique, especially in close relationships (Holtmann et al., 2013; Faraji, Uçtum Muhtar & Tezcan, 2023). In the present study, it is seen that there is a positive and significant relationship between affective instability, abandonment, relationships, and self-image with metacognition and state and trait anxiety. Based on the available information, it is thought that the problems experienced in interpersonal relationships, possible abandonment, problems related to the self, and affective instability may cause anxiety in people with borderline personality features. Since their anxiety tolerance is low, it is hypothesized that they may resort to dysfunctional metacognitive features to cope with the momentary tension that occurs in these situations. Indeed, people with BPF are reported to have difficulty using strategies that require more mental effort (D'Abate, 2020). However, dysfunctional metacognition can sustain borderline symptoms such as impulsivity, emotional dysregulation, and self-harming behavior (Fonagy & Luyten, 2009; Semerari et al., 2014). Borderline personality features that become persistent may result in the continuation of momentary tensions, and the person may experience trait anxiety. Furthermore, actively trying not to think specific thoughts, such as thought control, often has a paradoxical effect (Gallagher et al., 2008). This paradoxical situation may lead the individual to inextricable indecision. It is thought that this effect of dysfunctional metacognition on thought control may result in the increase and continuation of anxiety.

In the current research, a significant and positive relationship was determined between impulsivity, one of the borderline personality features, and uncontrollability and danger, one of the metacognitive traits, and state anxiety. Impulsive behaviors in borderline personality usually occur in situations that cause emotional stress. At this point, impulsivity in borderline personality is explained by deficiencies in emotion regulation (Faraji & Tezcan, 2022; Faraji, Uçtum Muhtar & Tezcan, 2023). It can be assumed that people with BPF use a dysfunctional emotion regulation strategy, such as showing impulsive behaviors in order to cope with the anxiety that develops due to the situation they experience. It is stated that borderline patients may self-harm to cope with uncontrollable anxiety (Faraji & Tezcan, 2022). In the findings of the current study, it is seen that there is a positive and significant relationship between suicide/self-mutilation behavior and state and trait anxiety. The person with borderline personality features may also develop the belief that they need to control their thoughts as a protective factor against these dangerous behaviors that may occur with impulsivity.

The results of this study demonstrate a positive and substantial relationship between BPF and aspects of metacognition, including cognitive confidence, uncontrollability and danger, cognitive awareness, and the need to control thoughts. Similar to the results of this research, Karaarslan (2021) stated that borderline personality features, cognitive confidence, uncontrollability and danger, cognitive awareness, and the need to control thoughts are related. Moreover, in the present study, a substantial relationship was found between SA and TA and the metacognition dimensions, including positive beliefs about worry, uncontrollability and danger, cognitive confidence, and the need to control thoughts. The need to control thoughts, uncontrollability, danger, and cognitive confidence all have positive relationships with state anxiety, according to research by Spada et al. (2009). Rumination and anxiety are related to borderline personality traits, according to DeShong and Kelley (2022). Persons with borderline personality features may develop the belief that the thoughts are destructive and need to be managed with the anxiety they experience, the people may be constantly preoccupied with their thoughts with this belief, or they may develop the belief that having anxiety is a positive thing. In addition, it is thought that the fact that people with borderline personality features do not have a consistent perception about themselves and others and that their affectivity shows variability may also be effective in the development of uncertainties and cognitive insecurity about their memory, along with the anxiety they experience. According to borderline patients reports, borderline patients struggle to think critically about both themselves and other people and find it difficult to reconcile somewhat dissimilar concepts (Semerari et al., 2014). Likewise, in the results of the

current research, it was noted that BPF, such as affective instability, self-image, and relationships, were associated with state and trait anxiety and cognitive confidence.

Conclusion and Suggestions

The present study aimed to investigate the relationship between BPF, metacognition, and state-trait anxiety. It was determined that borderline personality features, metacognition, and trait and state anxiety are related. It has been suggested that certain BPF may cause anxiety in the person, may affect the person's use of dysfunctional metacognitions to cope with the current anxiety, and that the maladaptive metacognitions used may maintain anxiety and borderline personality features. Given these results, it is thought that it would be beneficial to add complementary training and techniques for regulating and awareness of negative emotions such as anxiety on behalf of dysfunctional metacognitions to the therapies of people with borderline personality features. Metacognitive training for borderline patients teaches patients to make informed decisions and avoid potentially hazardous choices by gathering additional information (Schilling et al., 2018). It is thought that people with BPF can develop more compatible and healthy coping methods with anxiety as they become aware of their positive beliefs about anxiety, increase their confidence in their cognitive memory, and gain awareness of the dysfunctionality of coping methods they use, such as constantly controlling their thoughts or being constantly busy with what is going through their minds. Moreover, regulation of anxiety, a common emotion in individuals with BPF, with functional coping methods may help to reduce the intensity of BPF, such as emotional instability, intense anger, and interpersonal conflicts. In support of this idea, a study examining the efficacy of metacognition training in individuals with borderline personality disorder (BPD) found that, after six months, the group that received metacognition training showed a considerable decrease in borderline symptoms (Schilling et al., 2018).

Since the present research was limited to correlational analyses, it is thought that the inclusion of mediator role studies in the future will ensure a more comprehensive evaluation of the relationship between BPF, metacognition, and trait anxiety. Furthermore, the inclusion of people diagnosed with borderline personality disorder in future studies is advised in order to generalize the research's outcomes to the clinical population.

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