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PERFECTIONISM AND INTOLERANCE OF UNCERTAINTY AS TRIGGERS OF DEPRESSION, ANXIETY AND OBSESSIVE- COMPULSIVE SYMPTOMS: A STRUCTURAL MODEL BASED ON TRANSDIAGNOSTIC APPROACH

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ABSTRACT

The relationship among perfectionism, intolerance of uncertainty (IoU), and psychopathology symptoms are well documented in literature. However, studies examining the relationship between perfectionism and IoU (which are transdiagnostic factors) and more than one psychopathology are scarce. In addition, research exploring the relationship between psychopathology symptoms and the big three perfectionism scale (BTPS), which bring a new breath to perfectionism measures, is also rare. This study investigated the relationships between perfectionism conceptualized as the big three factor (Self-critical, rigid, and narcissistic perfectionism as facets) and anxiety, depression, and obsessive–compulsive disorder (OCD) symptoms. In addition, a structural equation model for the indirect effect of perfectionism on the relationship between anxiety, depression, and OCD symptoms through IoU was tested. A sample of 377 adults (M_{age} = 25.29, *SD* = 7.81) completed the relevant scales. The results of the structural equation model demonstrated that perfectionism statistically predicted depression, anxiety, and OCD symptoms mediated by IoU. Perfectionism was positively associated with IoU, which in turn contributed to higher depression, anxiety, and OCD symptoms. This model yields important implications for understanding the comorbidity of these three disorders.

Key Words: Big three perfectionism, intolerance of uncertainty, transdiagnostic factors, depression, anxiety, obsessive–compulsive disorder symptoms

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DEPRESYON, KAYGI VE OBSESİF-KOMPULSİF BELİRTİLERİN TETİKLEYİCİLERİ OLARAK MÜKEMMELLİYETÇİLİK VE BELİRSİZLİĞE TAHAMMÜLSÜZLÜK: TANILAR ÜSTÜ YAKLAŞIM TEMELİNDE YAPISAL BİR MODEL

ÖZET

Mükemmeliyetçilik, belirsizliğe tahammülsüzlük ve ayrı ayrı psikopatoloji belirtileri arasındaki ilişkiler literatürde pek çok çalışmada incelenmiştir. Ancak, tanılar üstü faktörler olan mükemmeliyetçilik ve belirsizliğe tahammülsüzlük ile birden fazla psikopatoloji arasındaki ilişkiyi inceleyen çalışma azdır. Ayrıca mükemmeliyetçilik ölçümlerine yeni bir soluk getiren Büyük Üçlü Mükemmeliyetçilik Ölçeği (BÜMÖ) ile psikopatoloji belirtileri arasındaki ilişkiyi araştıran araştırmalar da nadirdir. Bu çalışma, üç büyük faktör ile kavramsallaştırılan mükemmeliyetçilik (öz-eleştirel, katı ve narsisistik mükemmeliyetçilik) ile kaygı, depresyon ve obsesif-kompulsif bozukluk (OKB) belirtileri arasındaki ilişkileri incelemeyi amaçlamaktadır. Ayrıca, belirsizliğe tahammülsüzlük aracılığıyla mükemmeliyetçiliğin kaygı, depresyon ve OKB belirtileri üzerindeki dolaylı etkisini incelemek amacıyla bir yapısal eşitlik modeli test edilmiştir. Araştırmanın örneklemini 377 yetişkin (Yaş Ort: 25.29, SS: 7.81) katılımcı oluşturmuş ve katılımcılar ilgili ölçüm araçlarını tamamlamışlardır. Yapısal modelin sonuçları, mükemmeliyetçiliğin belirsizliğe tahammülsüzlük üzerinden depresyon, kaygı ve OKB belirtilerini istatistiksel olarak yordadığını göstermiştir. Mükemmeliyetçilik, belirsizliğe tahammülsüzlük ile pozitif olarak ilişkilidir ve bu da daha yüksek düzeyde depresyon, kaygı ve OKB belirtilerinin ortaya çıkmasına katkı sağlamaktadır. Bu model, bu üç bozukluğun eş tanılanmasını anlamak için önemli çıkarımlar sunmaktadır.

Anahtar Kelimeler: büyük üçlü mükemmeliyetçilik, belirsizliğe tahammülsüzlük, tanılar üstü faktörler, depresyon, kaygı, obsesif-kompulsif bozukluk belirtileri

1.INTRODUCTION

Recent studies in the literature show that there is a move away from symptom-based, disorder-specific approaches that recommend different treatment programs for different disorders. In parallel, clinical psychology research has turned to hypotheses about cognitive-behavioral, interpersonal, and biological processes that are common to multiple disorders and causally contribute to disorder onset, maintenance, relapse, and recovery. In this context, the "transdiagnostic approach" can be stated as an approach that suggests that there are common factors that play a role in the etiologies of psychopathologies behind the effectiveness of comorbidities in psychiatric disorders and similar treatments in different diagnostic groups (Nolen-Hoeksema & Watkins, 2011). In literature, these common mechanisms are described as "transdiagnostic" mechanisms/factors (Harvey et al., 2004). Therefore, common psychological processes that play a role in the etiology and/or maintenance of different psychopathologies attract interest and attention, and research on these processes is increasing (e.g., Egan et al., 2011;

Ehring & Watkins, 2008). Perfectionism (Egan et al., 2011) and intolerance of uncertainty (Mahoney & McEvoy, 2012) are some of the transdiagnostic factors mentioned in literature.

Perfectionism, which is defined as "a multidimensional personality disposition characterized by striving for flawlessness and setting exceedingly high standards of performance accompanied by overly critical evaluations of one's behavior" (Stoeber, 2017, p. 3), is a concept that has been frequently explored in recent years. Even though the multidimensional perfectionism construct is turning 30 years old, perfectionism remains a personality trait that is continually being researched and discussed. In recent years, it has gained particular popularity as a topic of study. This popularity stems from the different measures that arise due to the multidimensional nature of perfectionism, and its transdiagnostic role in the emergence, maintenance, and treatment of various psychological problems (*see* Egan et al., 2011; Flett & Hewitt, 2016; Kaçar-Başaran, 2022).

Over the past 10-15 years, there has been a growing interest in the transdiagnostic role of perfectionism. To date, strong evidence has been accumulated that demonstrates the association between perfectionism and various types of psychological problems including obsessive–compulsive disorder (OCD) (Wu & Cortesi, 2009), depression (Black & Reynolds, 2013; Dry et al., 2015), anxiety (Gnilka et al., 2012), and eating disorders (Bulik et al., 2003). These studies indicated that the level of perfectionism was significantly correlated with the levels of psychopathology symptoms such as depression (e.g., Black & Reynolds, 2013), anxiety (e.g., Karababa, 2020) and OCD (e.g., Williams & Levinson, 2021). Several studies have also found that individuals with mental disorders score higher on perfectionism measures than healthy controls (e.g., Buhlmann et al., 2008; Hartmann et al., 2014). Furthermore, perfectionism scores have also been shown to be associated with comorbidity rates (e.g., Wheeler et al., 2011). So, current findings have consistently reported that perfectionism is not a vulnerability factor specific to any psychological problem; on the contrary, it is a transdiagnostic factor that predisposes one to many psychopathologies (Egan et al., 2011; Kaçar-Başaran & Arkar, 2023; Limburg et al., 2017).

Despite the growing evidence on the role of perfectionism in the emergence of psychopathologies, research on the mechanisms through which it does this is relatively scarce. For this reason, mediator and moderator variables have been suggested to further examine the relationship between perfectionism and psychopathologies in more detail. Intolerance of uncertainty (IoU), which is defined as "a cognitive bias that affects how a person perceives, interprets, and responds to uncertain situations on a cognitive, emotional, and behavioral level" (Dugas et al., 2004, p.835), can be a mediator variable in understanding the role of perfectionism in the emergence of psychopathologies. It has been stated that people with high IoU are prone to see situations involving uncertainty as depressing and stressful,

to avoid uncertainty, and to experience difficulties in their functionality in situations involving uncertainty (Buhr & Dugas, 2002). In fact, previous studies have found that perfectionism and IoU are related concepts (e.g., Toroslu & Çırakoğlu, 2022; Williams & Levinson, 2021). In addition, it is found that IoU is associated with OCD symptoms (McEvoy & Mahoney, 2012), depressive symptoms (Berenbaum et al., 2008), and anxiety (Carleton et al., 2012); therefore, it is a transdiagnostic factor revealed by studies (Carleton, 2016; McEvoy et al., 2019; Shihata et al., 2017). In this context, individuals with high levels of perfectionism may have difficulty in tolerating a lack of information and uncertainty, as they may feel that they need to make perfect decisions in order to achieve perfect results (Buhr & Dugas, 2006; Reuther et al., 2013). This may increase depressive, anxiety, and OCD symptoms of individuals. Supportively, studies have found that IoU has a mediating role between perfectionism and OCD (Kaçar-Başaran & Arkar, 2023; Reuther et al., 2013) and depressive symptoms (Kawamoto & Furutani, 2018). However, Kaçar-Başaran and Arkar (2023) have not found a significant indirect effect of perfectionism on depressive symptoms through IoU. In their study, repetitive thinking was another potential mediator variable and the results indicated that repetitive thinking has a mediator role between perfectionism and depressive symptoms. As a result, the researchers suggested that it can not be concluded which cognitive factor is associated with which disorder and therefore more research that is investigating the role of IoU and psychological problems is needed.

On the other hand, attempts to measure perfectionism that conceptualized as a multidimensional concept continue to the present day since the 1990s.The two most widely used perfectionism scales are the multidimensional perfectionism scales developed by Frost et al. (1990) and Hewitt and Flett (1991). Generally, in the measurement of perfectionism, these two scales and two higher-order factors [perfectionistic concerns (PC) and perfectionistic strivings (PS); (Stoeber & Otto, 2006; Stoeber et al. 2020)] obtained from the combination of the sub-dimensions of these scales are used. However, the use of different combinations (*see* Limburg et al., 2017; Stoeber & Damian, 2016) can lead to uncertainty for researchers on the measurement of PC and PS, especially how to interpret the total perfectionism score (*see* Stoeber et al., 2020), moreover, overlapping between PC and PS makes it difficult to interpret the connections between PC, PS, and psychological adjustment/distress (Hill et al., 2010; Stoeber & Gaudreau, 2017). In this sense, Smith et al. (2016), who comprehensively reviewed perfectionism measures, developed the Big Three Perfectionism Scale (BTPS-45) by identifying the three higher-order global factors of perfectionism: Rigid perfectionism (RP), narcissistic perfectionism (NP), and self-critical perfectionism (SCP).

BTPS-45 is a relatively new assessment instrument, so few studies have examined its relationship with psychopathological symptoms. These studies (Casale et al., 2019; Feher et al. 2020; Kaçar-Başaran et al., 2022) have

reported that depression, anxiety, social anxiety, and stress are associated with BTPS-45. So, it is important to test the relationships between psychopathological symptoms and the higher-order global factors of BTPS-45, both in relation to various psychological problems (e.g., OCD) and across multiple psychopathological symptoms. However, to our knowledge, there is no research investigating the relationship between higher-order global factors of BTPS-45 and depression, anxiety and OCD symptoms all together. Furthermore, considering that perfectionism and IoU are transdiagnostic factors, IoU originating from perfectionism may be associated with multiple psychopathologies. To the best of our knowledge, there is no research examining the indirect effect of perfectionism on OCD, depression, and anxiety symptoms together through IoU. Current evidence shows that both perfectionism is positively associated with IoU and IoU is associated with OCD, depression, and anxiety symptoms. Because it is well-documented that the comorbidity rate of these three disorders is high (e.g., Tükel et al., 2002), it is important to determine the variables that play an important role in the simultaneous emergence of the three disorders. These results suggest a model in which perfectionism leads to depression, anxiety, and OCD symptoms together through the IoU mediator variable. So, perfectionism and IoU may account for the comorbidity observed across OCD, depression, and anxiety disorders together. This study measures perfectionism with a measurement tool that is relatively new and thought to be quite comprehensive. It is unique because it examines possible common factors that may be effective in the comorbidity of depression, anxiety and OCD within the framework of a transdiagnostic approach.

Taken all mentioned results together, the aims of the present study are: (a) to examine the relationships between the BTPS-45 and its higher-order global factors and anxiety, depression, and OCD symptoms, (b) to investigate the predictive power of the BTPS-45 higher-order global factors in predicting anxiety, depression, and OCD symptoms, (c) to examine the mediating effect of IoU between the perfectionism personality trait conceptualized as the big three factors and anxiety, depression, and OCD symptoms.

2. METHOD

2.1. Participants

The sample of the study consisted of 377 adult participants aged between 18 and 59 ($\bar{X}$ = 25.29, *SD* = 7.81). All participants lived in Turkey. The majority of the participants were single (78.2%) and female (78.8%), and almost half (47.2%) were university graduates (*see* Table 1).

2.2. Instruments

2.2.1.Big Three Perfectionism Scale **(BTPS-45, Smith et al., 2016):** This is a self-report scale consisting of 45 items graded between 1 (*strongly disagree*) and 5 (*strongly agree*). This scale was developed to measure multidimensional perfectionism. The scale consists of 3 higher-order global factors [(rigid

perfectionism (RP), narcissistic perfectionism (NP), and self-critical perfectionism (SCP)] and 10 lower-order facets (self-oriented perfectionism, self-worth contingencies, concern over mistakes, doubts about actions, self-criticism, socially prescribed perfectionism, hypercriticism, other-oriented perfectionism, entitlement, and grandiosity). The three higher-order global factors and ten lower-order facets of the scale were supported both in the original study and in the Turkish adaptation study (Kaçar-Başaran et al., 2022). In the original study, the Cronbach alpha reliability coefficient was good for the 10 lower-order facets (ranged between .79 and .89) and for the three higher-order dimensions (.92 and .93). In the Turkish version, Cronbach alpha coefficients were sufficient in three lower-order facets (ranged between .68 and .78). For the higher-order dimensions, internal consistency was at a perfect level (.89, .92, and .94).

***2.2.2. Intolerance of Uncertainty Scale-Short Form* (IUS-12; Carleton et al., 2007):** This is a 12-item scale rated from 1 (*not at all characteristic of me*) to 5 (*entirely characteristic of me*) that measures reactions to uncertainty, uncertain situations, and the future. It was stated that the scale supports a two-factor structure [prospective anxiety (PA) and inhibitory anxiety (IA)] in the original study and in the Turkish version (Sarıçam et al., 2014). In the original study, the Cronbach's alpha internal consistency (α = .91) of the scale was excellent, whereas in the Turkish version it was good (α = .88).

***2.2.3. Depression Anxiety Stress Scale-Short Form* (DASS-21; Lovibond & Lovibond, 1995):** This is a short measurement tool that evaluates depression, anxiety, and stress symptoms in adults. During the application, individuals are asked to rate the frequency of experiencing the listed symptoms in the last 1 week between 0 (*never*) and 3 (*always*). The Turkish version (Sarıçam, 2018) confirmed the three-factor structure. Internal consistency for the depression and anxiety subscales was good (α's > .80) in clinical and non-clinical samples. In the present study, DASS-21 was administered to participants as a whole, but depression and anxiety subscales were included in the model. Depression and anxiety subscales were used to measure depression and anxiety symptoms.

2.2.4. Padua Inventory - Washington State University Revision (*PI-WSUR; Burns et al., 1996*): This is a self-reported 5-point Likert-type scale consisting of 39 items (*0 = not at all, 4 = very muc*h) that evaluates obsessions and compulsions. In the original study, it was found that the scale had a 5-factor structure [contamination obsessions and washing compulsions (COWC), dressing/grooming compulsions (DRGRC), checking compulsions (CHKC), obsessional thoughts of harm to self/others (OTHASO), and obsessional impulses to harm self/others (OITHSO)] and excellent Cronbach's alpha internal consistency (α = .92). The 5-factor structure was confirmed in the Turkish version (Yorulmaz et al., 2007), and internal consistency was found to be excellent in both individuals with OCD (α = .95) and university students (α = .93).

2.3. Procedure

Before the data collection, permission (date/number: 22.12.2021-E.144920) was obtained from XXX University Social and Human Sciences Scientific Research and Publication Ethics Committee. The data collection phase was carried out through an online survey platform (Qualtrics) between December 2021 and March 2022. The link for the research was announced on social media platforms (e.g., WhatsApp, Instagram, Twitter). The participants were informed about the research and their consent was obtained.

2.4. Preliminary Data Analysis

Prior to the analysis, the data set was examined in terms of univariate and multivariate outliers on the basis of variables. To detect univariate outliers, Z scores were used and scores greater than +3 or less than -3 was considered as univariate outlier (*see* Raykov & Marcoulides, 2008). Mahalanobis distance was also used for multivariate outlier detection (*see* Tabachnick & Fidell, 2006). It has also been conducted normality tests by showing that each variable was fairly normally distributed, as their skewness and kurtosis scores were between -2 and + 2 (George & Mallery, 2010); however, the multivariate normality was violated, as Mardia's coefficient was greater than 5.0 (Kline, 2015). The bootstrap procedure is recommended for structural models as an approachto dealing with multivariate nonnormal data (*see* Byrne, 2016). This procedure provides a mechanism for addressing situations where multivariate normality may not hold (Zhu, 1997). So, addressed this issue by relying upon Bias-corrected (BC) bootstrapping methods using 5,000 samples for the structural equation modeling was used.

2.5. Statistical Analysis

In the present study, the relationships between variables were investigated using Pearson's correlation coefficients; the predictive power of BTPS-45 higher-order global factors in predicting depression, anxiety, and OCD symptoms was investigated using linear regression; and the indirect effect of perfectionism on depression, anxiety, and OCD symptoms through the IoU was investigated by structural equation modeling. These analyses were conducted with SPSS-20 (Statistical Package for the Social Sciences) and AMOS-21 (Analysis of Moment Structures).

While conducting the structural model analysis, a full latent structural model was specified to test the proposed hypothesis. In the first step of the full latent structural model, measurement model was tested and in the second step structural model also. In the structural equation modeling, PI-WSUR, BTPS-45, and IUS-12 were multidimensional. Because of DASS depression and anxiety measurements are unidimensional, it has been used the *balanced item parceling* method (Weijters & Baumgartner, 2021). So, it has been created two parcels to determine depression and anxiety's latent construct. In the linear regressions, there was no indication of multicollinearity [tolerance > .2, VIF (variance influence factors) < 10] (*see* Bowerman & O'Connell, 1990).

The indices used to assess goodness of fit for the structural model were chi-square statistics and degrees of freedom (χ^2/df < 3 good, < 5 acceptable), the comparative fit index (CFI > .95 good, > .90 acceptable), the goodness of fit index (GFI >.95 good, > .90 acceptable), root mean square error of approximation (RMSEA < .05 good, < .10 acceptable), and the standardized root mean square residual (SRMR < .10 acceptable) (Browne & Cudeck, 1992; Schermelleh-Engel et al., 2003).

3. RESULTS

3.1. Correlations among variables

Correlations among the variables and alpha internal consistency coefficients of all the instruments are shown in Table 2. According to the results, BTPS total score was significantly correlated with DASS-Anxiety Parcels, DASS-Depression Parcels, and PI-WSUR's subscales. In terms of the higher-order global factors of BTPS-45; BTPS-SCP, BTPS-RP and BTPS-NP were significantly correlated with DASS-Anxiety Parcel 1 and DASS-Anxiety Parcel 2. BTPS-45 higher-order global factors were also significantly correlated with DASS-Depression Parcel 1 and DASS-Depression Parcel 2. When examined in terms of OCD symptoms, it was found that all subscales of PI-WSUR were significantly correlated with SCP and RP. However, NP was not significantly correlated with three PI-WSUR subscales: COWC, CHKC and DRGRC. The correlations with BTPS higher-order global factors and IUS-PA and IUS-IA were also significant. In terms of the higher-order global factors of BTPS-45, it is found that the correlation coefficients of the BTPS-SCP with other psychological constructs are higher than those of the BTPS-RP and BTPS-NP.

3.2. Regression analysis

A three-factor regression analysis was performed to investigate the prediction levels of the higher-order global factors of BTPS-45 on depression, anxiety, and OCD symptoms. BTPS-SCP, BTPS-NP, and BTPS-RP were entered into the model at the same time. The three-factor model was statistically significant, all *p's* < .001. The three higher-order perfectionism factors together explained 22%, 25%, and 16% of the variance in depression, anxiety, and OCD symptoms, respectively. The SCP was the only BTPS subscale that significantly predicted depression, anxiety, and OCD symptoms. It was found that NP did not predict all three types of psychological distress while RP predicted only depressive symptoms. The results of the regression analysis are displayed in Table 3.

3.3. Model Testing

The present study conducted with five latent variables measured as follows: (1) perfectionism (BTPS-45) is measured with rigid perfectionism (RP), narcissistic perfectionism (NP), and self-critical perfectionism (SCP), (2) IoU is measured with prospective anxiety (PA) and inhibitory anxiety (IA), (3)

OCD symptoms is measured with contamination obsessions and washing compulsions (COWC), dressing/grooming compulsions (DRGRC), checking compulsions (CHKC), obsessional thoughts of harm to self/others (OTHASO), and obsessional impulses to harm self/others (OITHSO), (4) depression is measured with depression parcel 1 and depression parcel 2, (5) anxiety is measured with anxiety parcel 1 and anxiety parcel 2.

Before the structural model, the measurement model for BTPS-45, IUS-12, DASS-D, DASS-A and PI-WSUR was tested. The model presented acceptable fit to the data: $\chi^2(64) = 290.08$; $\chi^2/df = 4.53$; CFI = 0.92; GFI = 0.90; RMSEA = 0.09 (90% CI = 0.08–0.10); SRMR = 0.08. According to the CFA results, SCP, RP, and NP represented general perfectionism; PI and IA represented intolerance of uncertainty; COWC, DRGRC, CHKC, OTHASO and OITHSO represented OCD symptoms; depression parcels represented depressive symptoms, anxiety parcels represented anxiety symptoms. The factor loadings of these measurement models were between 0.42 and 0.97 (*see* Figure 1).

Secondly, the structural model was tested. The results confirmed that the model has acceptable fit statistics: $X^2(66, N = 377) = 303.74$; $X^2/df = 4.60$), CFI = .92; GFI = .90; RMSEA = .09 (90% CI = .08 - .10); and SRMR = .08. The results from the structural equation model analysis revealed that perfectionism was associated with IoU, $\beta = 0.65$, $p < .01$. IoU was also associated directly with depression, $\beta = 0.51$, $p < .001$, anxiety, $\beta = 0.52$, $p < .001$, and OCD symptoms, $\beta = 0.68$, $p < .001$. However, the direct effects from perfectionism to depression, $\beta = -0.03$, $p > .05$, anxiety, $\beta = 0.09$, $p > .05$, and OCD symptoms, $\beta = -0.07$, $p > .05$ were statistically insignificant. In addition, there were significant indirect effects from perfectionism to depression ($\beta = 0.33$, $p < .001$), anxiety ($\beta = 0.34$, $p < .001$), and OCD ($\beta = 0.44$, $p < .001$) symptoms through IoU. This model explained 24%, 34%, 41% of the variance of depression, anxiety, and OCD symptoms, respectively (*see* Table 4 & Figure 1).

4. DISCUSSION

The aims in this study were to examine (a) the relationships between BTPS higher-order global factors and total score with depression, anxiety, and OCD symptoms; (b) the predictive power of BTPS higher-order global factors to explain depression, anxiety, and OCD symptoms; and (c) the indirect effect of perfectionism conceptualized as the big three factors on depression, anxiety, and OCD symptoms through IoU.

In line with our first aim (a), the relationships between BTPS-45 and depression, anxiety, and OCD symptoms were tested. According to the results, BTPS-45 was correlated with depression, anxiety, and OCD symptoms. In terms of the higher-order global factors, SCP and RP was significantly correlated with depression, anxiety, and OCD symptoms. Only, NP was not correlated with a few subscale of the PI-WSUR. As was anticipated, these

results have supported the transdiagnostic nature of perfectionism conceptualized as the big three factor (*see* Egan et al., 2011). The correlational results also established that NP as assessed by the BTPS-45 was significantly correlated with depressive and anxiety symptoms. This result gives a clue that NP, whose relationship with externalizing symptoms is discussed more intensively (*see* Sherry et al., 2018), may also be associated with internalizing symptoms. However, it is also believed that a narcissistic individual feels small, weak and insignificant, and responds to these feelings through grandiosity (Kuchynka & Bosson, 2018). So, this negative perception and masking effort may provide clarity to the depressive and anxious state of narcissistic perfectionist individuals.

In order to test the other aim (b) of the study, the predictive power of SCP, NP, and RP on depression, anxiety, and OCD symptoms was examined. The regression results confirmed that SCP was the only subscale that contributed significantly to these three psychopathology symptoms. The RP, along with SCP, was significant in explaining only depression symptoms. On the other hand, NP did not have a significant predictive effect on these three psychopathology symptoms. Furthermore, these types of psychological distress were associated with all the big three perfectionism's higher-order global factors, but the most robust associations were found with SCP. Our findings were in line with studies (e.g., Casale et al., 2019; Feher et al., 2020; Kaçar-Başaran et al., 2022; Pereira et al., 2022) indicated that the relationship between SCP and psychopathologies was stronger than that of the other two higher-order global factors. This is an expected finding given that SCP is composed of perfectionism subscales (i.e., concern over mistakes, doubts about actions) that have been found to be maladaptive in studies (*see* Limburg et al., 2017), because maladaptive perfectionists may be more self-critical than adaptive perfectionists when their standards are not met (Ashby & Gnilka, 2017). Similarly, due to research indicating that SCP is associated with neuroticism and RP with conscientiousness (Smith et al., 2016), it is considered that SCP may be more maladaptive compared to RP (Kokkoris, 2019).

Consistent with our third aim (c), the present study investigated the indirect effect of perfectionism on depression, anxiety, and OCD symptoms through IoU, revealing that perfectionism was linked with these symptoms through IoU. The level of explanation of psychological distress by the variables of perfectionism and IoU has been examined in various psychological problems (e.g., Shikatani et al., 2016; Williams & Levinson, 2021). There are also studies that deal with the indirect effect of perfectionism on psychological distress through IoU within the framework of a single diagnosis. However, this model implicates valuable results, because it is a transdiagnostic model that explains the comorbidity of three diagnoses. Therefore, individuals with high perfectionist tendencies have difficulty in having a desire for clarity and adapting to the unknown. This situation makes them more depressed, more anxious, and more obsessive. This network of

relationships is also important in understanding the comorbidity of anxiety, depression, and OCD symptoms. Because, despite the empirical support for the causal role of personality traits and cognitive factors in the development of psychopathologies (Kotov et al., 2010), only a few studies have scrutinized these factors together with more than one mental disorder within the framework of a transdiagnostic approach. However, investigating the relationships between personality traits, cognitive factors, and psychological problems is likely to improve our understanding of the etiology of such disorders and may lead to more effective treatments.

This study has clinical implications. The results confirm that the coexistence of perfectionism and IoU triggers depression, anxiety and OCD symptoms. These two psychological structures, which have a transdiagnostic nature, seem to be quite effective in the formation of comorbidity. For this reason, it is recommended that clinicians evaluate clients who exhibit any of the symptoms of depression, anxiety or OCD in terms of comorbidity and perfectionism and IoU level. Previous researches reported that comorbidities increase suicidal thoughts and risks in individuals (Viswanath et al., 2012; Tükel et al., 2006), so it is important to address perfectionism and intolerance of uncertainty in psychotherapy programs. It is recommended to apply psychotherapy programs that aim to change perfectionism and IoU, especially in clients with comorbidity. Current evidence showed that cognitive-behavioral therapy interventions (CBT) have provided a reduction in IoU and various psychological problems (e.g., Bomyea et al., 2015; Boswell et al., 2013; Mahoney & McEvoy, 2012). Besides, results suggested that CBT for perfectionism is efficacious in reducing perfectionism and symptoms of depression and anxiety disorders (*see* Galloway et al., 2022). So, change in perfectionism and IoU can be observed across various psychological problems in CBT based transdiagnostic treatment and this change could be a predictor of the treatment outcome.

4.1. Limitations

This study has several limitations. First, the sample consisted of non-clinical sample, further studies with clinical samples are required. Second, common method variance may be a limitation due to the use of only self-report measures. Third, the fact that the research was designed with a cross-sectional design is another limitation. It is recommended that future studies should test these relationships by utilizing longitudinal designs (e.g., Moroz & Dunkley, 2019). Such limitations should be considered alongside some notable strengths. The first strength is that the research was carried out in a large sample with diverse characteristics. Second, the model discussed in our study is comprehensive in that it includes three psychopathology symptoms together. Third, it presents a current model that addresses the relationship between big three perfectionism with its dimensions and psychopathologies.

In conclusion, the aims in this research were to examine the relationships between the big three perfectionism and symptoms of

depression, anxiety, and OCD and to test the indirect effect of perfectionism on the mentioned psychopathology symptoms through IoU. All big three dimensions are associated with depression, anxiety, and OCD symptoms, SCP is the only subscale to significantly predict these psychopathology symptoms, and perfectionism has a significant indirect effect on these psychopathology symptoms via IoU. So, as general vulnerability factors, perfectionism and IoU may account for the comorbidity observed across OCD, depression, and anxiety disorders.

CONFLICT OF INTEREST

None.

ETHICS COMMITTEE APPROVAL / PARTICIPANT CONSENT

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This research and all its stages were conducted by one author.

REFERENCES

Ashby, J. S., & Gnilka, P. B. (2017). Multidimensional perfectionism and perceived stress: Group differences and test of a coping mediation model. *Personality and Individual Differences*, *119*, 106-111. https://doi.org/10.1016/j.paid.2017.07.012

Berenbaum, H., Bredemeier, K., & Thompson, R. J. (2008). Intolerance of uncertainty: Exploring its dimensionality and associations with need for cognitive closure, psychopathology, and personality. *Journal of Anxiety Disorders*, *22*(1), 117-125. https://doi.org/10.1016/j.janxdis.2007.01.004

Black, J., & Reynolds, W. M. (2013). Examining the relationship of perfectionism, depression, and optimism: Testing for mediation and moderation. *Personality and Individual Differences*, *54*(3), 426-431. https://doi.org/10.1016/j.paid.2012.10.012

Bomyea, J., Ramsawh, H. J., Ball, T. M., Taylor, C. B., Paulus, M. P., Lang, A., & Stein, M. (2015). Intolerance of uncertainty as a mediator of reductions in worry in a cognitive behavioral treatment program for generalized anxiety disorder. *Journal of Anxiety Disorders*, *33*, 90-94. https://doi.org/10.1016/j.janxdis.2015.05.004

Boswell, J. F., Thompson-Hollands, J., Farchione, T. J., & Barlow, D. H. (2013). Intolerance of uncertainty: A common factor in the treatment of emotional disorders. *Journal of Clinical Psychology*, *69*(6), 630-645. https://doi.org/10.1002/jclp.21965

Bowerman, B. L., & O'Connell, R. T. (1990). *Linear statistical models: An applied approach*. Brooks/Cole.

Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research*, *21*(2), 230-258.https://doi.org/10.1177/0049124192021002005

Buhlmann, U., Etcoff, N. L., & Wilhelm, S. (2008). Facial attractiveness ratings and perfectionism in body dysmorphic disorder and obsessive-compulsive disorder. *Journal of Anxiety Disorders*, *22*(3), 540-547. https://doi.org/10.1016/j.janxdis.2007.05.004

Buhr, K., & Dugas, M. (2002). The intolerance of uncertainty scale: Psychometric properties of the English version. *Behaviour Research and Therapy*, *40*(8), 931-945. https://doi.org/10.1016/s0005-7967(01)00092-4

Buhr, K., & Dugas, M. J. (2006). Investigating the construct validity of intolerance of uncertainty and its unique relationship with worry. *Journal of Anxiety Disorders*, *20*(2), 222-236. https://doi.org/10.1016/j.janxdis.2004.12.004

Bulik, C. M., Tozzi, F., Anderson, C., Mazzeo, S. E., Aggen, S., & Sullivan, P. F. (2003). The relation between eating disorders and components of perfectionism. *American Journal of Psychiatry, 160*(2), 366-368. https://doi.org/10.1176/appi.ajp.160.2.366

Burns, G., Keortge, S. G., Formea, G. M., & Sternberger, L. G. (1996). Revision of the Padua Inventory of obsessive compulsive disorder symptoms: Distinctions between worry, obsessions, and compulsions. *Behaviour Research and Therapy*, *34*(2), 163-173. https://doi.org/10.1016/0005-7967(95)00035-6

Byrne, B. M. (2016). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. (3rd ed.). New York: Routledge.

Carleton, R. N., Norton, M. P. J., & Asmundson, G. J. (2007). Fearing the unknown: A short version of the Intolerance of Uncertainty Scale. *Journal of Anxiety Disorders*, *21*(1), 105-117. https://doi.org/10.1016/j.janxdis.2006.03.014

Carleton, R. N. (2016). Into the unknown: A review and synthesis of contemporary models involving uncertainty. *Journal of Anxiety Disorders, 39*, 30-43. https://doi.org/10.1016/j.janxdis.2016.02.007

Carleton, R. N., Mulvogue, M. K., Thibodeau, M. A., McCabe, R. E., Antony, M. M., & Asmundson, G. J. (2012). Increasingly certain about uncertainty: Intolerance of uncertainty across anxiety and depression. *Journal of Anxiety Disorders*, *26*(3), 468-479. https://doi.org/10.1016/j.janxdis.2012.01.011

Casale, S., Fioravanti, G., Rugai, L., Flett, G. L., & Hewitt, P. L. (2019). What lies beyond the superordinate trait perfectionism factors? The perfectionistic self-presentation and perfectionism cognitions inventory versus the big three perfectionism scale in predicting depression and social anxiety. *Journal of Personality Assessment*, *102*(3), 370-379. https://doi.org/10.1080/00223891.2019.1573429

Dry, S. M., Kane, R. T., & Rooney, R. M. (2015). An investigation into the role of coping in preventing depression associated with perfectionism in preadolescent children. *Frontiers in Public Health, 3*, 1-9. https://doi.org/10.3389/fpubh.2015.00190

Dugas, M. J., Schwartz, A., & Francis, K. (2004). Brief report: Intolerance of uncertainty, worry, and depression. *Cognitive Therapy and Research*, *28*(6), 835-842. https://doi.org/10.1007/s10608-004-0669-0

Egan, S. J., Wade, T. D., & Shafran, R. (2011). Perfectionism as a transdiagnostic process: A clinical review. *Clinical Psychology Review*, *31*(2), 203–212. https://doi.org/10.1016/j.cpr.2010.04.009

Egan, S. J., Wade, T. D., & Shafran, R. (2011). Perfectionism as a transdiagnostic process: A clinical review. *Clinical Psychology Review*, *31*(2), 203-212. https://doi.org/10.1016/j.cpr.2010.04.009

Ehring, T., & Watkins, E. (2008). Repetitive negative thinking as a transdiagnostic process. *International Journal of Cognitive Therapy*, *1*(3), 192–205. https://doi.org/10.1521/ijct.2008.1.3.192

Feher, A., Smith, M. M., Saklofske, D. H., Plouffe, R. A., Wilson, C. A., & Sherry, S. B. (2020). The big three perfectionism scale–short form (BTPS-SF): Development of a brief self-report measure of multidimensional perfectionism. *Journal of Psychoeducational Assessment*, *38*(1), 37-52. https://doi.org/10.1177/0734282919878553

Flett, G. L., & Hewitt, P. L. (2016). Still measuring perfectionism after all these years. *Journal of Psychoeducational Assessment*, *34*(7), 615-619. https://doi.org/10.1177/0734282916651540

Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, *14*(5), 449-468. https://doi.org/10.1007/bf01172967

Galloway, R., Watson, H., Greene, D., Shafran, R., & Egan, S. J. (2021). The efficacy of randomised controlled trials of cognitive behaviour therapy for perfectionism: A systematic review and meta-analysis. *Cognitive Behaviour Therapy*, *51*(2), 170-184. https://doi.org/10.1080/16506073.2021.1952302

George, D., & Mallery, P. (2010). *SPSS for Windows step by step: A simple guide and reference*, 17.0 update. Allyn & Bacon.

Gnilka, P. B., Ashby, J. S., & Noble, C. M. (2012). Multidimensional perfectionism and anxiety: Differences among individuals with perfectionism and tests of a coping-mediation model. *Journal of Counseling & Development*, *90*(4), 427-436. https://doi.org/10.1002/j.1556-6676.2012.00054.x

Hartmann, A. S., Thomas, J. J., Greenberg, J. L., Matheny, N. L., & Wilhelm, S. (2014). A comparison of self-esteem and perfectionism in anorexia nervosa and body dysmorphic disorder. *Journal of Nervous & Mental Disease*, *202*, 883-888. https://doi.org/10.1097/nmd.0000000000000307

Harvey, A. G., Watkins, E., Mansell, W., & Shafran, R. (2004). *Cognitive Behavioural Processes across Psychological Disorders: A Transdiagnostic Approach to Research and*

Treatment. https://oxfordclinicalpsych.com/view/10.1093/med:psych/9780198528883.001.0001/med-978019852888

Hewitt, P. L., & Flett, G. L. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology, 60*(3), 456-470. https://doi.org/10.1037/0022-3514.60.3.456

Hill, R. W., Huelsman, T. J., & Araujo, G. (2010). Perfectionistic concerns suppress associations between perfectionistic strivings and positive life outcomes. *Personality and Individual Differences, 48*(5), 584-589. https://doi.org/10.1016/j.paid.2009.12.011

Kaçar-Başaran, S. (2022). Perfectionism: Its structure, transdiagnostic nature, and cognitive behavioral therapy. *Current Approaches in Psychiatry 14*(4), 518-525. https://doi.org/10.18863/pgy.1082001

Kaçar-Başaran, S., Gökdağ, C., Erdoğan-Yıldırım, Z., & Yorulmaz, O. (2022). A different view to perfectionism: An investigation of the psychometric properties of the big three perfectionism scale in a Turkish community sample. *Current Psychology, 41*(9), 6511-6521. https://doi.org/10.1007/s12144-020-01131-2

Kaçar-Başaran, S., & Arkar, H. (2023). Common vulnerability factors in obsessive-compulsive and major depressive disorders: a transdiagnostic hierarchical model. *Current Psychology, 42 (*10), 8414-8424, https://doi.org/10.1007/s12144-021-02599-2.

Karababa, A. (2020). The moderating role of hope in the relationship between maladaptive perfectionism and anxiety among early adolescents. *The Journal of Genetic Psychology, 181*(2-3), 159-170. https://doi.org/10.1080/00221325.2020.1745745

Kawamoto, T., & Furutani, K. (2018). The mediating role of intolerance of uncertainty on the relationships between perfectionism dimensions and psychological adjustment/maladjustment among mothers. *Personality and Individual Differences, 122*, 62-67. https://doi.org/10.1016/j.paid.2017.10.008

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.

Kokkoris, M. D. (2019). New insights into the association of maximizing with facets of perfectionism. *Personality and Individual Differences, 142*, 100-102. https://doi.org/10.1016/j.paid.2019.01.040

Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking "big" personality traits to anxiety, depressive, and substance use disorders:

A meta-analysis. *Psychological Bulletin, 136*(5), 768-821. https://doi.org/10.1037/a0020327

Kuchynka, S. L., & Bosson, J. K. (2018). The psychodynamic mask model of narcissism: Where is it now?. In *Handbook of trait narcissism* (pp. 89-95). Springer, Cham.

Limburg, K., Watson, H. J., Hagger, M. S., & Egan, S. J. (2017). The relationship between perfectionism and psychopathology: A meta-analysis. *Journal of Clinical Psychology, 73*(10), 1301-1326. https://doi.org/10.1002/jclp.22435

Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales.* Sydney: Psychology Foundation.

Mahoney, A. E., & McEvoy, P. M. (2012). Changes in intolerance of uncertainty during cognitive behavior group therapy for social phobia. *Journal of Behavior Therapy and Experimental Psychiatry, 43*(2), 849-854. https://doi.org/10.1016/j.jbtep.2011.12.004

Mahoney, A., & McEvoy, P. M. (2012). A transdiagnostic examination of intolerance of uncertainty across anxiety and depressive disorders. *Cognitive Behaviour Therapy, 41*(3), 212–222. https://doi.org/10.1080/16506073.2011.622130

McEvoy, P. M., Hyett, M. P., Shihata, S., Price, J. E., & Strachan, L. (2019). The impact of methodological and measurement factors on transdiagnostic associations with intolerance of uncertainty: A meta-analysis. *Clinical Psychology Review, 73*, 101778. https://doi.org/10.1016/j.cpr.2019.101778

McEvoy, P. M., & Mahoney, A. E. (2012). To be sure, to be sure: Intolerance of uncertainty mediates symptoms of various anxiety disorders and depression. *Behavior Therapy, 43*(3), 533-545. https://doi.org/10.1016/j.beth.2011.02.007

Moroz, M., & Dunkley, D. M. (2019). Self-critical perfectionism, experiential avoidance, and depressive and anxious symptoms over two years: A three-wave longitudinal study. *Behaviour Research and Therapy, 112*, 18-27. https://doi.org/10.1016/j.brat.2018.11.006

Nolen-Hoeksema, S., & Watkins, E. (2011). A heuristic for developing transdiagnostic models of psychopathology. *Perspectives on Psychological Science, 6*(6), 589–609. https://doi.org/10.1177/1745691611419672

Pereira, A. T., Cabaços, C., Araújo, A., Amaral, A. P., Carvalho, F., & Macedo, A. (2022). COVID-19 psychological impact: The role of perfectionism. *Personality and Individual Differences, 184*, 111160. https://doi.org/10.1016/j.paid.2021.111160

Raykov, T. & Marcoulides, G. A. (2008). *An introduction to applied multivariate analysis (first edition)*. New York: Taylor & Francis Group.

Reuther, E. T., Davis, T. E., Rudy, B. M., Jenkins, W. S., Whiting, S. E., & May, A. C. (2013). Intolerance of uncertainty as a mediator of the relationship between perfectionism and obsessive-compulsive symptom severity. *Depression and Anxiety*, *30*(8), 773-777. https://doi.org/10.1002/da.22100

Sarıçam, H. (2018). The psychometric properties of Turkish version of depression anxiety stress scale-21 (DASS-21) in community and clinical samples. *Journal of Cognitive-Behavioral Psychotherapy and Research*, *7*(1), 19-30. https://doi.org/10.5455/jcbpr.274847

Sarıçam, H., Erguvan, F. M., Akın, A., & Akça, M. Ş. (2014). The Turkish short version of the intolerance of uncertainty (IUS-12) scale: The study of validity and reliability. *Route Educational and Social Science Journal*, *1*(3), 148-157. https://doi.org/10.17121/ressjournal.109

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, *8*(2), 23-74. https://doi.org/10.1.1.509.4258&rep=rep1&type=pdf

Sherry, S. B., Mackinnon, S. P., & Nealis, L. J. (2018). Perfectionism and interpersonal problems: Narcissistic and self-critical perfectionism. In *The psychology of perfectionism* (pp. 177-199). Routledge.

Shihata, S., McEvoy, P. M., & Mullan, B. A. (2017). Pathways from uncertainty to anxiety: An evaluation of a hierarchical model of trait and disorder-specific intolerance of uncertainty on anxiety disorder symptoms. *Journal of Anxiety Disorders*, *45*, 72-79. https://doi.org/10.1016/j.janxdis.2016.12.001

Shikatani, B., Antony, M. M., Cassin, S. E., & Kuo, J. R. (2016). Examining the role of perfectionism and intolerance of uncertainty in postevent processing in social anxiety disorder. *Journal of Psychopathology and Behavioral Assessment*, *38*(2), 297-306. https://doi.org/10.1007/s10862-015-9516-8

Smith, M. M., Saklofske, D. H., Stoeber, J., & Sherry, S. B. (2016). The big three perfectionism scale. *Journal of Psychoeducational Assessment*, *34*(7), 670-687. https://doi.org/10.1177/0734282916651539

Stoeber, J., & Damian, L. E. (2016). Perfectionism in employees: Work engagement, workaholism, and burnout. In *Perfectionism, health, and well-being* (pp. 265-283). Springer, Cham.

Stoeber, J. (2017). *The psychology of perfectionism: Theory, research, applications*. Routledge.

Stoeber, J., & Gaudreau, P. (2017). The advantages of partialling perfectionistic strivings and perfectionistic concerns: Critical issues and recommendations. *Personality and Individual Differences*, *104*, 379-386. https://doi.org/10.1016/j.paid.2016.08.039

Stoeber, J., & Otto, K. (2006). Positive conceptions of perfectionism: Approaches, evidence, challenges. *Personality and Social Psychology Review*, *10*(4), 295-319. https://doi.org/10.1207/s15327957pspr1004_2

Stoeber, J., Madigan, D. J., & Gonidis, L. (2020). Perfectionism is adaptive and maladaptive, but what's the combined effect? *Personality and Individual Differences*. https://doi.org/10.1016/j.paid.2020.109846

Tabachnick, B. G. & Fidell, L. S. (2006). *Using multivariate statistics* (5th ed.). Boston: Allyn & Bacon.

Toroslu, B., & Çırakoğlu, O. C. (2022). Do perfectionism and intolerance of uncertainty mediate the relationship between early maladaptive schemas and relationship and partner related obsessive–compulsive symptoms? *Current Psychology*. https://doi.org/10.1007/s12144-022-03050-w

Tükel, R., Meteris, H., Koyuncu, A., Tecer, A., & Yazıcı, O. (2006). The clinical impact of mood disorder comorbidity on obsessive–compulsive disorder. *European Archives of Psychiatry and Clinical Neuroscience*, *256*(4), 240-245. https://doi.org/10.1007/s00406-006-0632-z

Tükel, R., Polat, A., Özdemir, Ö., Aksüt, D., & Türksoy, N. (2002). Comorbid conditions in obsessive-compulsive disorder. *Comprehensive Psychiatry*, *43*(3), 204-209. https://doi.org/10.1053/comp.2002.32355

Viswanath, B., Narayanaswamy, J. C., Rajkumar, R. P., Cherian, A. V., Kandavel, T., Math, S. B., & Reddy, Y. J. (2012). Impact of depressive and anxiety disorder comorbidity on the clinical expression of obsessive-compulsive disorder. *Comprehensive Psychiatry*, *53*(6), 775-782. https://doi.org/10.1016/j.comppsych.2011.10.008

Weijters, B., & Baumgartner, H. (2021). On the use of balanced item parceling to counter acquiescence bias in structural equation models. *Organizational Research Methods*, *25*(1), 170-180. https://doi.org/10.1177/1094428121991909

Wheeler, H. A., Blankstein, K. R., Antony, M. M., McCabe, R. E., & Bieling, P. J. (2011). Perfectionism in anxiety and depression: Comparisons

across disorders, relations with symptom severity, and role of comorbidity. *International Journal of Cognitive Therapy*, *4*(1), 66-91. https://doi.org/10.1521/ijct.2011.4.1.66

Williams, B. M., & Levinson, C. A. (2021). Intolerance of uncertainty and maladaptive perfectionism as maintenance factors for eating disorders and obsessive-compulsive disorder symptoms. *European Eating Disorders Review*, *29*(1), 101-111. https://doi.org/10.1002/erv.2807

Wu, K. D., & Cortesi, G. T. (2009). Relations between perfectionism and obsessive–compulsive symptoms: Examination of specificity among the dimensions. *Journal of Anxiety Disorders*, *23*(3), 393-400. https://doi.org/10.1016/j.janxdis.2008.11.006

Yorulmaz, O., Karanci, A. N., Dirik, G., Bastug, B. T., Göka, E., & Burns, G. L. (2007). Padua Envanteri-Washington Eyalet Üniversitesi Revizyonu: Türkçe versiyonunun psikometrik özellikleri. *Türk Psikoloji Yazıları, 10*(20), 75-85.

Zhu, W. (1997). Making bootstrap statistical inferences: A tutorial. *Research Quarterly for Exercise and Sport*, *68*(1), 44-55. https://doi.org/10.1080/02701367.1997.10608865

Table 1

Sociodemographic Characteristics of Participants

	n	%
Gender		
Male	79	20.9
Female	297	78.8
Not specified	1	0.3
Marital Status		
Single	295	78.2
Married	73	19.4
Divorced	9	2.4
Education Level		
Middle School	2	0.6
High School	157	41.6
University	178	47.2
Postgraduate	40	10.6
Employment		
Unemployed	11	2.9
Student	243	64.4
Employed	123	32.6

5. **Table 2**

6. *Descriptive Statistics, Cronbach's Alphas and Correlations for Study Variables*

Variables	*α*	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. BTPS-SCP	.92	53.61	13.07	-														
2. BTPS-RP	.90	27.53	8.35	.70	-													
3. BTPS-NP	.89	41.78	11.07	.48	.70	-												
4. IUS-12-PA	.85	22.56	5.89	.58	.49	.37	-											
5. IUS-12-IA	.92	15.89	5.43	.53	.37	.23	.66	-										
6. DASS-Depression-P1	.80	8.81	3.19	.44	.20	.18	.33	.42	-									
7. DASS-Depression-P2	.81	6.25	2.57	.42	.20	.15	.31	.38	.85	-								
8. DASS-Anxiety-P1	.72	7.50	2.75	.51	.31	.23	.42	.41	.63	.57	-							
9. DASS-Anxiety-P2	.74	5.18	2.13	.40	.27	.20	.30	.35	.56	.50	.72	-						
10. PI-WSUR-COWC	.86	23.99	7.61	.14	.15	.08	.28	.24	.14	.12	.17	.16	-					
11. PI-WSUR-DRGRC	.67	5.43	2.50	.16	.17	.10	.27	.29	.07	.11	.20	.13	.48	-				
12. PI-WSUR-CHKC	.91	23.57	8.55	.33	.16	.05	.39	.40	.22	.21	.31	.17	.45	.52	-			
13. PI-WSUR-OTHASO	.82	14.23	5.41	.50	.28	.14	.44	.45	.36	.35	.47	.39	.42	.48	.63	-		
14. PI-WSUR-OITHSO	.67	11.40	3.15	.33	.22	.25	.24	.20	.38	.37	.39	.34	.06	.18	.25	.40	-	
15. BTPS-Total Score	.95	122.94	28.0	.86	.90	.83	.56	.45	.33	.31	.42	.34	.14	.16	.22	.37	.32	-

Note 1. *N = 377*

Note 2. *BTPS-SCP: Big Three Perfectionism Scale-self-critical perfectionism, BTPS-RP: Big Three Perfectionism Scale-rigid perfectionism, BTPS-NP: Big Three Perfectionism Scale-narcissistic perfectionism, IUS-12-PA: Intolerance of Uncertainty Scale- prospective anxiety, IUS-12-IA:Intolerance of Uncertainty Scale- inhibitory anxiety, DASS-Depression-P1: Depression Anxiety Stress Scale-Depression Parcel 1, DASS-Depression-P2: Depression Anxiety Stress Scale-Depression Parcel 2, DASS-Anxiety-P1:Depression Anxiety Stress Scale-Anxiety Parcel 1, DASS-Anxiety-P2: Depression Anxiety Stress Scale-Anxiety Parcel 2, PI-WSUR-COWC: Padua Inventory - Washington State University Revision-obsessions and washing compulsions, PI-WSUR-DRGRC: Padua Inventory - Washington State University Revision -dressing/grooming compulsions, PI-WSUR-CHKC: Padua Inventory - Washington State University Revision-checking compulsions, PI-WSUR-OTHASO: Padua Inventory - Washington State University Revision-obsessional thoughts of harm to self/others, PI-WSUR-OITHSO: Padua Inventory - Washington State University Revision-obsessional impulses to harm self/others.*

Note 3. *Correlations ≤ |.10| are not significant*
Correlations between |.11| and |.13| significant at p < .05
Correlations between |.14| and |.18| significant at p < .01
Correlations ≥ |.19| significant at p <. 001

Table 3

Regression Analyses Predicting Depression, Anxiety and Obsessive-Compulsive Symptom Scores

Variables	DASS-D: Depression Symptoms			DASS-A: Anxiety Symptoms			PI-WSUR: Obsessive-Compulsive Symptoms		
	Model 1			Model 2			Model 3		
	B	**β**	*SE*	*B*	**β**	*SE*	*B*	**β**	*SE*
Constant	4.87***		1.20	3.25**		.97	47.87***		4.60
BTPS- SCP	.25***	.59	.02	.19***	.54	.02	.66***	.43	.10.
BTPS-RP	-.17**	-.25	.05	-.05	-.09	.04	.01	.00	.20
BTPS-NP	.03	.06	.03	.02	.04	.03	-.12	-.06	.12
R^2	.22***			.25***			.16***		
ΔR^2	.22			.24			.15		

Note. N = 377

***p <.01, *** p < .001*

Table 4

Direct, Indirect and Total Effects of the Structural Model

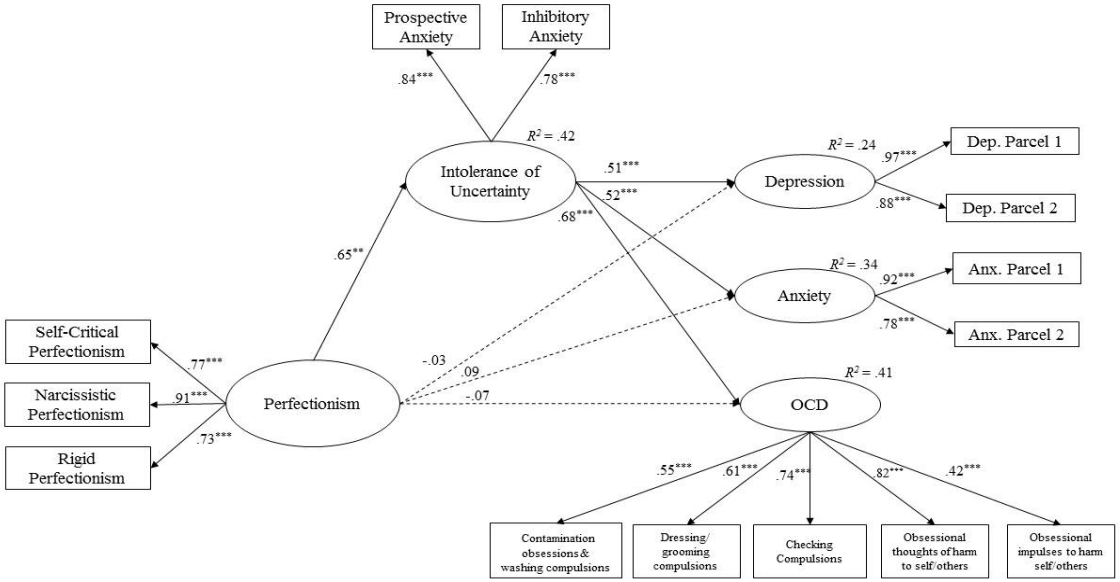
Direct Effects	B	β	*SE*	90 % CI	p
Perfectionism → Intolerance of Uncertainty	.32	.65	.06	[.54, .75]	.001
Perfectionism → Depression	-.01	-.03	.10	[-.18, .14]	.699
Perfectionism → Anxiety	.02	.09	.11	[-.08, .26]	.401
Perfectionism → OCD	-.01	-.07	.11	[-.26, 08]	.456
Intolerance of Uncertainty → Depression	.32	.51	.09	[.37, .66]	.000
Intolerance of Uncertainty → Anxiety	.27	.52	.10	[.36, .69]	.000
Intolerance of Uncertainty → OCD	.22	.68	.10	[.55, .84]	.000
Indirect Effects	B	β	*SE*	90 % CI	p
Perfectionism → Intolerance of Uncertainty → Anxiety	.09	.34	.08	[.23, .49]	.000
Perfectionism → Intolerance of Uncertainty → Depression	.10	.33	.07	[.23, .47]	.000
Perfectionism → Intolerance of Uncertainty → OCD	.07	.44	.09	[.33, .61]	.000
Total Effects	B	β	*SE*	90 % CI	p

Perfectionism → Anxiety	.11	.42	.06	[.31, .53]	.001
Perfectionism → Depression	.09	.30	.06	[.18, .43]	.001
Perfectionism → OCD	.06	.37	.07	[.25, .49]	.001

Note. N = 377

Figure 1

Transdiagnostic Mediation Model



Note. N=377, *** p< .001, ** p< .01 Dashed lines represent insignificant path coefficients.