



Geliş Tarihi (Received): 23/07/2024

Kabul Tarihi (Accepted): 21/12/2024

Life Skills Journal of Psychology-Yaşam Becerileri Psikoloji Dergisi, 2024; 8(16), 83-97.

Parenting Style and Anxiety Symptoms A Moderated-Mediation Analysis of Interpersonal Cognitive Distortions and Anxiety Disorder

Ebeveyn Tarzı ve Anksiyete Belirtileri: Kişilerarası Bilişsel Çarpıtmalar ve Anksiyete Bozukluğunun Düzenlenmiş Aracılık Analizi

Burcu Büge,¹ Volkan Koç²

10.31461/ybpd.1520575

Abstract

Anxiety symptoms often relate to perceived negative parenting styles inherited from one's parents, impacting cognitive processes in interpersonal relationships. This study investigates the association between anxiety symptoms, parenting styles, and interpersonal cognitive distortions in individuals with anxiety disorders compared to healthy controls. The study involved 164 adult participants—82 with diagnosed anxiety disorders and 82 without psychiatric diagnoses, comprising 42 (26%) males and 122 (74%) females, aged 18-60 years (mean age = 30.5±8.84). Participants completed a demographic questionnaire, the Young Parenting Inventory, the Interpersonal Cognitive Distortions Scale, and the Beck Anxiety Inventory. The anxiety disorder group exhibited heightened levels of anxiety symptoms, interpersonal cognitive distortions, and specific maternal parenting styles (overprotective/unbounded, conditional/achievement-oriented, and pessimistic/anxious), as well as a paternal resistant/suppressive parenting style, in contrast to the control group. Interpersonal cognitive distortions were identified as mediators in the relationships between overprotective/unbounded maternal parenting and anxiety, as well as closed to change/repressing paternal parenting and anxiety. However, the diagnosis of anxiety disorder did not moderate the relationship between parenting styles and cognitive distortions. These findings emphasize the importance of targeting interpersonal cognition in treating and preventing anxiety disorders, especially in individuals with overprotective/unbounded mothers and resistant/suppressive fathers.

Key Words: Anxiety Disorder, Parenting Style, Cognitive Distortions, Relationships

Öz

Anksiyete belirtileri, kişinin ebeveynlerinden miras aldığı algılanan olumsuz ebeveynlik tarzlarıyla sıklıkla ilişkili bulunmuştur ve bu durum kişilerarası ilişkilerde bilişsel süreçleri etkilemektedir. Bu çalışma, anksiyete bozukluğu olan bireylerde anksiyete belirtileri, ebeveynlik tarzları ve kişilerarası bilişsel çarpıtmalar arasındaki ilişkiyi sağlıklı kontrol grubu ile karşılaştırarak araştırmaktadır. Çalışmaya 164 yetişkin katılımcı dahil edilmiş; yaşları 18-60 arasında değişen (ortalama yaş = 30.5±8.84) bu katılımcıların 82'si anksiyete bozukluğu teşhisi almış ve 82'si psikiyatrik tanı almamış kişilerden oluşmaktadır. Katılımcıların 42'si (%26) erkek ve 122'si (%74) kadındır. Katılımcılar demografik bilgi formu, Young Ebeveynlik Ölçeği, Kişilerarası Bilişsel Çarpıtmalar Ölçeği ve Beck Anksiyete Envanterini doldurmuşlardır. Anksiyete bozukluğu grubunun, kontrol grubuna kıyasla daha yüksek düzeyde anksiyete belirtileri, kişilerarası bilişsel çarpıtmalar ve belirli anne (aşırı koruyucu/evhamlı, koşullu/başarı odaklı ve kötümser/endişeli) ve baba (değişime kapalı/duygularını bastıran) ebeveynlik tarzları sergilediği bulunmuştur. Kişilerarası bilişsel çarpıtmaların, aşırı koruyucu/evhamlı anne ebeveynliği ile anksiyete; değişime kapalı/duygularını bastıran baba ebeveynliği ile anksiyete arasındaki ilişkilerde aracı rol oynadığı tespit edilmiştir. Ancak, anksiyete bozukluğu tanısının, ebeveynlik tarzları ve bilişsel çarpıtmalar arasındaki ilişkiyi değiştirmedeği görülmüştür. Bu bulgular, özellikle aşırı koruyucu/evhamlı anneler ve değişime kapalı/duygularını bastıran babalarla büyüyen bireylerdeki anksiyete bozukluklarının tedavisinde, kişilerarası bilişleri hedeflemenin önemini vurgulamaktadır.

Anahtar Kelimeler: Anksiyete Bozukluğu, Ebeveynlik Tarzı, Bilişsel Çarpıtmalar, İlişkiler

*This article was produced from Burcu Buge's master thesis completed under the supervision of Volkan Koc.

¹ **Correspondence:** Burcu Buge, Istanbul Sabahattin Zaim University, E-Mail: burcu.buge@izu.edu.tr

Citation: Buge, B., Koc, V. (2024). Parenting Style and Anxiety Symptoms A Moderated-Mediation Analysis of Interpersonal Cognitive Distortions and Anxiety Disorder. Life Skills Journal of Psychology, 8(16), 83-97.

Introduction

Anxiety serves as a significant stimulus that prepares individuals both physically and psychologically, in the face of potential threats. However, it can also render a person vulnerable when confronted with life-threatening situations, impeding their ability to effectively respond to danger (Beck, 1976). Anxiety symptoms commonly co-occur with various physical and mental health issues in adults (Cassano et al., 2002; Markowitz et al., 1989; Pini et al., 1997). Over the years, intervention approaches, such as psychotherapy and pharmacotherapy, have been developed for the treatment of anxiety disorders (Bandelow et al., 2017; Hans & Hiller, 2013). Numerous studies have explored the factors contributing to the development of anxiety disorders and demonstrated the efficacy of cognitive-behavioral therapy (CBT) as a viable treatment option (Hofmann et al., 2012; Hofmann and Smits, 2008). The primary objective of CBT is to enhance an individual's functionality by challenging and reducing distorted thoughts. Cognitive distortions are examined, critically evaluated, and discussed collaboratively with clients (Sharf, 2011).

According to Sharf (2011), cognitive distortions can have detrimental effects on an individual's social, interpersonal, and professional lives. When individuals develop dysfunctional thoughts regarding their experiences, they may struggle to objectively evaluate their current situations. Consequently, negative thoughts can produce negative emotions, ultimately exacerbating anxiety symptoms (Sharf, 2011). Numerous studies have indicated that negative automatic thoughts stemming from cognitive distortions are closely associated with anxiety symptoms (Kashdan et al., 2006; Kim, 2005; Mansell, 2004; Rheingold et al., 2003; Tairi et al., 2016; Weeks et al., 2017; Wilson et al., 2011).

Research indicates that the quality of the parent-child relationship during early childhood is a predictor of anxiety symptoms (Hudson & Rapee, 2001). This relationship not only has implications for individuals' social interactions but also profoundly impacts their future mental health (Dozier et al., 2008; Shorey & Snyder, 2006). The relationship with the parent that is formed in early childhood plays a pivotal role in shaping personality development, influencing the formation of the child's cognitive schema about the external world and affecting their psychological well-being (Körük et al., 2016; Young et al., 2003). It is hypothesized that if children develop a negative worldview during their formative years, they may become more sensitive to threats and perceive the world as a fearful and dangerous place, potentially leading to the manifestation of anxiety symptoms (Weems et al., 2007). Conversely, individuals who establish a secure attachment style with their parents during childhood are expected to maintain healthy relationships in subsequent years, thereby positively influencing future relationships and safeguarding themselves against the development of psychopathology (Nakash-Eisikovits et al., 2002).

Meeting the diverse emotional needs of children at various stages of development is crucial for their future psychological well-being and overall mental health (Young et al., 2003). Several negative parenting styles exhibited significant positive correlations with anxiety symptoms (Körük et al., 2016; Soygüt et al., 2008). Punitive, critical, coercive, and authoritarian parenting attitudes have been found to mediate the development of anxiety disorders in children (Lindhout et al., 2003; Teetsel et al., 2014). Additionally, children who perceive their parents as rejecting, anxious, ambivalent, or avoidant tend to display higher levels of anxiety (Muris et al., 2000). Considering these findings, professionals who work with children and adolescents diagnosed with anxiety disorders are encouraged to carefully assess the dynamics of their parent-child relationships (Schimmenti & Bifulco, 2015).

The literature provides numerous examples that highlight the relationship between diverse types of anxiety disorders and negative parenting styles. Individuals diagnosed with anxiety disorders have reported feeling more restricted by their parents, experiencing less love, and receiving inadequate attention (Bandelow et al., 2002). In several research studies, individuals diagnosed with social anxiety disorder consistently reported their parents as displaying lower levels of warmth and care, demonstrating rejection, and being perceived as overly protective (Arrindell et al., 1989; Bruch and Heimberg, 1994; Lieb

et al., 2000). Individuals with panic disorder have reported receiving less attention from their caregivers than individuals without any psychiatric disorders (Brown & Harris, 1993). Individuals with generalized anxiety disorder (GAD) have reported higher levels of perceived rejection from their families than individuals without a diagnosis (Cassidy, 1995). Moreover, individuals with GAD described their parents as less loving and more controlled (Chambless et al., 1996). These negative experiences during childhood can have a lasting impact on an individual's mental health, potentially contributing to the development or exacerbation of anxiety disorders. Therefore, it is recommended that individuals be provided with preventive mental health programs for child development, both during pregnancy and after birth (Lima et al., 2019; Wolford et al., 2017).

According to research findings, individuals who experience negative parenting styles may develop cognitive distortions (McGinn et al., 2005; Muris, 2006). These cognitive distortions can have a direct impact on social adaptation, influencing an individual's capacity to effectively fulfill professional and social roles, including those related to their relationships with their partners and family (Bosc, 2000; Ota et al., 2020). Importantly, these distorted thoughts can lead to negative emotions, potentially exacerbating anxiety symptoms (Last et al., 1985; Spinhoven et al., 2018). This suggests that the relationship between perceived parenting styles and anxiety symptoms may be mediated by the presence of these cognitive distortions. In other words, cognitive distortions may act as an intermediary factor that explains how negative parenting styles can lead to anxiety symptoms.

This study aimed to compare individuals with anxiety disorders and healthy individuals in terms of anxiety symptoms, interpersonal cognitive distortions, and perceived parenting styles. Additionally, the study sought to investigate the mediating role of interpersonal cognitive distortions (see Figure 1) and the moderating effect of the diagnosis of anxiety disorder on the relationship between parenting style and anxiety symptoms (see Figure 2). The researchers of this study examined whether the group (anxiety-control) had a moderating effect on the first path (parenting style-interpersonal cognitive distortions) of the mediation models. According to attachment theory, the quality of early parent-child relationships influences cognitive and emotional development, as indicated by research findings (Salmon & Reese, 2015; Shah et al., 2011). Negative parenting styles can lead to the development of insecure attachment styles (Gamble & Roberts, 2005). These insecure attachment styles are associated with heightened anxiety and cognitive distortions in how individuals perceive themselves and their relationships (Kerns & Brumariu, 2014; Mikulincer & Shaver, 2012). Examining the moderation effect of an anxiety disorder diagnosis on the relationship between parenting style and interpersonal cognitive distortions is valuable for tailoring interventions and treatments for individuals with anxiety disorders. The findings of this study contribute to the existing literature by highlighting the significance of relationship-focused psychotherapy in addressing anxiety symptoms and suggesting the potential use of relationship-based preventive programs for anxiety disorders.

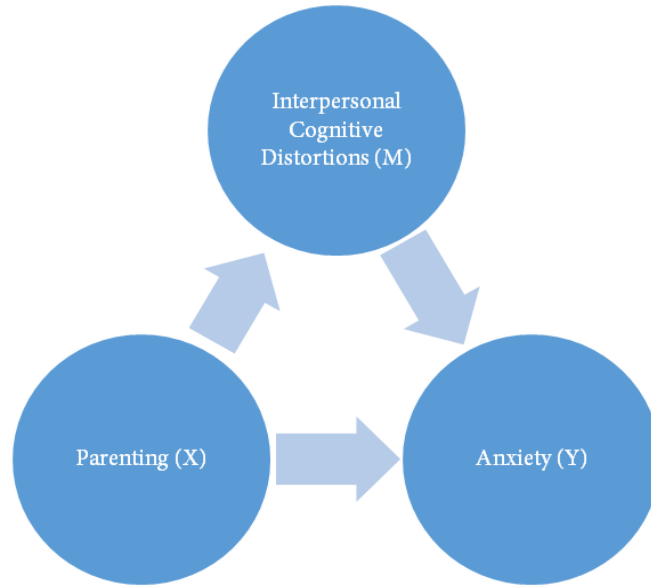


Figure-1. The mediating role of interpersonal cognitive distortions

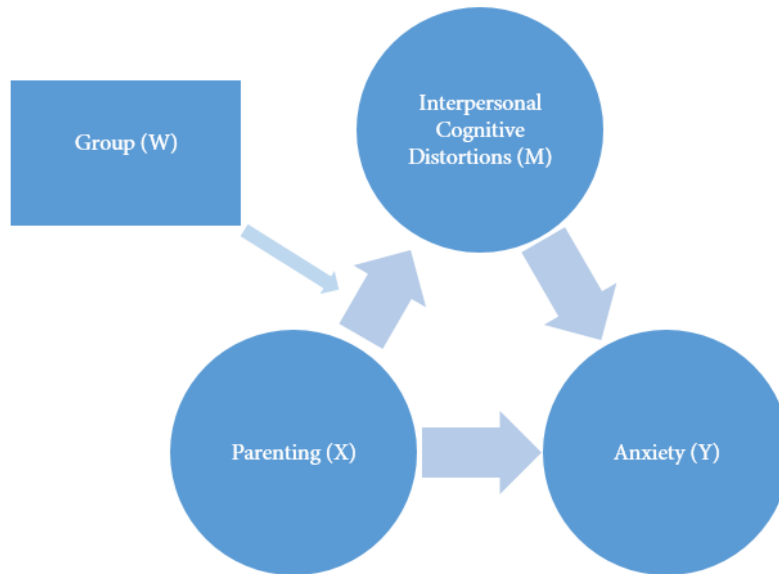


Figure-2. The moderating effect of anxiety disorder diagnosis on the relationship between parenting style and anxiety symptoms

Method

Participants

The study involved 164 adults aged 18-60 (mean age=30.5, SD=8.84). Both groups were age-matched (within ± 3 years) and had similar gender distributions: 61 females (74%) and 21 males (26%) in each group. In a case-control design, 82 participants were diagnosed with anxiety disorders by local psychiatrists who used structured clinical interviews based on DSM-5 criteria, with 28% having panic disorder, 26% GAD, 19% SAD, and 27% other anxiety disorders. These diagnosed individuals had either recently started treatment or had received it for up to two weeks. The remaining 82 participants, who were healthy and had no history of psychiatric disorders or treatment, were recruited from the general population through online advertisements and university noticeboards. Each participant underwent a preliminary screening to confirm their eligibility and ensure they met the inclusion criteria for the study.

Instruments

Demographic Information Form: The researchers developed a demographic form to collect information about the participants' age, gender, and psychological condition.

Young Parenting Inventory (YPI): The YPI, originally developed by Young (1994) and adapted to Turkish by Soygüt et al. (2008), assesses parenting styles with 72 items, separately for mothers (YPI-M) and fathers (YPI-F). It comprises 10 factors: prescriptive/forming, condescending/flawing, emotionally depriving, exploitative/abusive, overprotective/unbounded, conditional/achievement-oriented, overly permissive/limitless, pessimistic/anxious, punishing, and resistant/suppressive. Soygüt et al. (2008) reported reliability coefficients for YPI-M ranging from .53 to .86 and for YPI-F from .61 to .88, affirming the inventory's reliability in measuring parenting style.

Interpersonal Cognitive Distortions Scale (ICDS): The ICDS, developed by Hamamcı and Büyüköztürk (2003), assesses cognitive distortions in interpersonal relationships. It comprises 19 items (e.g. there are no true friends in this life; it's always beneficial to keep relationships with people superficial), with higher scores indicating greater cognitive distortion. The scale exhibits acceptable internal consistency ($\alpha=.67$) and moderate test-retest reliability ($r=.74$), ensuring the scale's consistency and stability in measuring interpersonal cognitive distortions.

Beck Anxiety Inventory (BAI): The BAI, initially developed by Beck et al. (1988) and adapted to Turkish by Ulusoy et al. (1998), assesses the frequency of anxiety symptoms. It demonstrates high internal consistency ($\alpha=.93$), but moderate test-retest reliability ($r=.57$). The BAI effectively discriminates individuals with anxiety disorders from those without clinically significant anxiety (Ulusoy et al., 1998).

Procedure

This study obtained approval from the Research Ethics Committee (No: E.5919; Date: 30.09.2020) at İstanbul Sabahattin Zaim University. Participants received comprehensive information on research objectives, procedures, and gave informed consent before using measurement tools. Data were collected from individuals seeking treatment at various Turkish hospitals and clinics. The diagnostic group had anxiety disorders, and the control group had no psychiatric diagnoses. They completed the Demographic Information Form, Young Parenting Inventory (YPI), Interpersonal Cognitive Distortions Scale (ICDS), and Beck Anxiety Inventory (BAI). To mitigate order-based bias, forms were administered in different sequences. No artificial intelligence (AI)-assisted technologies, including Large Language Models (LLMs), chatbots, or image creators, were utilized in the production of this work. The entire content, including text and images, is solely the result of authorship.

Data Analysis

This study performed a power analysis in G*Power 3.1.9.2 (Faul et al., 2007) to determine the sample size needed ($n=82$) to detect a moderate effect size (.30) with 80% power at a significance level of $p=0.05$ for correlation analysis. Participants, including those with anxiety disorders and without psychiatric diagnoses, were compared with independent t-tests on anxiety symptoms, cognitive distortions, and perceived parenting styles. Pearson's correlations examined relationships between parenting styles, cognitive distortions, and anxiety in the 164-participant dataset analyzed using SPSS v25.0. Additionally, the study investigated the mediating role of cognitive distortions and the moderating effect of anxiety disorder diagnosis in the relationship between parenting style and anxiety symptoms. The PROCESS macro by Hayes (2017) was employed to conduct the mediation and moderation analyses. This macro is a statistical tool that allows researchers to assess complex relationships between variables, including indirect effects (mediation) and the conditions under which effects occur (moderation).

Results

Findings Related to the T-test Analysis

The independent-samples t-test found significant differences between the diagnostic (anxiety disorder) and control groups regarding anxiety symptoms, interpersonal cognitive distortions, and perceived parenting styles (Table-1). Those with anxiety disorders exhibited more pronounced anxiety symptoms and cognitive distortions, indicating challenges in interpersonal relationships. Additionally, specific parenting styles varied, with the diagnostic group reporting elevated overprotective/unbounded, conditional/achievement-oriented, and pessimistic/anxious maternal parenting, along with increased resistant/suppressive paternal parenting.

Table-1. Comparative results of the diagnostic group and control group

	Diagnostic Group		Control Group		t(164)	p	Cohen's d
	M	SD	M	SD			
	Beck Anxiety Inventory	27.15	14.19	16.24			
Interpersonal Cognitive Distortions Scale	52.37	11.04	47.30	11.99	2.812	0.006	0.44
Young Parenting Inventory: Overprotective/Unbounded (Mother) Subscale	22.76	6.32	20.41	7.66	2.141	0.034	0.34
Young Parenting Inventory: Conditional/Achievement-Oriented (Mother) Subscale	16.34	6.17	14.18	6.42	2.200	0.029	0.34
Young Parenting Inventory: Pessimistic/Anxious (Mother) Subscale	8.98	4.37	7.59	3.98	2.129	0.035	0.33
Young Parenting Inventory: Resistant/Suppressive (Father) Subscale	9.90	4.11	8.63	3.70	2.087	0.038	0.32

Findings Related to Correlation Analysis

Significant correlations were found between perceived parenting style, interpersonal cognitive distortions, and anxiety levels in both the diagnostic (anxiety disorder) and control groups. In the diagnostic group, anxiety levels ($m=27.15$, $SD=14.19$) were positively correlated with interpersonal cognitive distortions ($m=52.37$, $SD=11.04$) ($r=.30$, $p=0.007$), prescriptive/forming mother ($m=33.12$, $SD=14.71$) ($r=.23$, $p=0.041$), pessimistic/anxious mother ($m=8.98$, $SD=4.37$) ($r=.26$, $p=0.017$), and resistant/suppressive mother ($m=8.90$, $SD=3.71$) ($r=.29$, $p=0.009$). These correlations suggest that in individuals with anxiety disorders, higher anxiety levels are associated with higher levels of interpersonal cognitive distortions and certain negative perceptions of maternal parenting styles.

In the control group, anxiety levels ($m=16.24$, $SD=12.36$) were positively correlated with interpersonal cognitive distortions ($m=47.31$, $SD=11.99$) ($r=.44$, $p<0.001$) and condescending/flawing mothers ($m=14.97$, $SD=8.45$) ($r=.22$, $p=0.049$). These results indicate that both interpersonal cognitive distortions and specific parenting styles were associated with anxiety symptoms in both groups. However, the correlation patterns varied between the diagnostic and control groups, suggesting potential differences in the factors contributing to anxiety symptoms in individuals with and without anxiety disorders.

Findings Related to the Mediation Analysis

The study employed PROCESS Model 4 for mediation analysis, investigating how interpersonal cognitive distortions mediate the link between distinct parenting styles and anxiety symptoms in all participants. Four mediation models (Model-1-4) were tested based on significant t-test differences in parenting styles between the anxiety and healthy control groups. The mediation analysis outcomes are as follows:

Model-1: Indirect (mediated) effect of interpersonal cognitive distortions on anxiety was significant ($\beta=.17$, CI [.04, .32]). Direct effect of overprotective/unbounded mothers on anxiety was not significant ($\beta=.04$, CI [-.25, .33]). Model-2: Indirect (mediated) effect of interpersonal cognitive distortions on anxiety was not significant ($\beta=.12$, CI [-.04, .30]). The direct effect of conditional/achievement-oriented mothers on anxiety was not significant ($\beta=-.01$, CI [-.25, .33]). Model-3: Indirect (mediated) effect of interpersonal cognitive distortions on anxiety was not significant ($\beta=.17$, CI [-.06, .40]). Direct effect of pessimistic/anxious mothers on anxiety was significant ($\beta=.52$, CI [.04, 1.00]). Model-4: Indirect (mediated) effect of interpersonal cognitive distortions on anxiety was significant ($\beta=.26$, CI [.03, .50]). Direct effect of resistant/suppressive fathers on anxiety was not significant ($\beta=-.08$, CI [-.60, .44]). Based on these results, we conclude that interpersonal cognitive distortions mediate the link between overprotective/unbounded mothers and anxiety, as well as the connection between resistant/suppressive fathers and anxiety. Notably, no mediating effect was observed with conditional/achievement-oriented or pessimistic/anxious mothers. This underscores that the influence of interpersonal cognitive distortions on anxiety symptoms differs based on parenting styles (see Table-2).

Table-2. Mediation results

Model	Path	b	se	95% CI	
				Lower	Upper
1	OUM (X) → ICDS (M)	.34	.13	.09	.59
	ICDS (M) → Anxiety (Y)	.50	.09	.32	.67
	OUM (X) → Anxiety (Y)	.04	.15	-.35	.33
	Total effect	.21	.16	-.10	.52
	Indirect effect	.17	.07	.04	.32
2	COM (X) → ICDS (M)	.23	.14	-.05	.52
	ICDS (M) → Anxiety (Y)	.50	.09	.33	.68
	COM (X) → Anxiety (Y)	-.01	.16	-.33	.32
	Total effect	.11	.18	-.24	.46
	Indirect effect	.12	.08	-.04	.30
3	PAM (X) → ICDS (M)	.36	.22	-.07	.78
	ICDS → Anxiety (Y)	.48	.09	.30	.65
	PAM → Anxiety (Y)	.52	.24	.04	1.00
	Total effect	.69	.26	.18	1.21
	Indirect effect	.17	.03	.12	-.06
4	RSF (X) → ICDS (M)	.50	.23	.04	.96
	ICDS (M) → Anxiety (Y)	.51	.09	.33	.68
	RSF (X) → Anxiety (Y)	-.08	.26	-.60	.44
	Total effect	.18	.28	-.39	.74
	Indirect effect	.25	.12	.03	.50

ICDS: interpersonal cognitive distortions; OUM: Overprotective/unbounded mother; COM: Conditional/achievement-oriented mother; PAM: Pessimistic/anxious mother; RSF: Resistant/suppressive father

Findings Related to the Moderated Mediation Analysis

The researchers used moderated mediation analysis (PROCESS Model 7) to assess if the group (anxiety-control) had a moderating influence on the first path (parenting style-interpersonal cognitive distortions) in the mediation models. Only two parenting styles, overprotective/unbounded mothers, and resistant/suppressive fathers, were considered in these models. The results, as shown in Table-3, revealed that the group did not significantly moderate the effects of overprotective/unbounded mothers ($\beta = -.26$,

95% CI [-.77, .25]) or resistant/suppressive fathers ($\beta=-.66$, 95% CI [-1.58, .25]) on interpersonal cognitive distortions. Thus, the group (anxiety-control) did not significantly impact the relationship between parenting styles and interpersonal cognitive distortions. These findings indicate that in this study, the influence of parenting styles on interpersonal cognitive distortions remained consistent regardless of the group (anxiety-control). While this suggests that the anxiety-control group did not alter the impact of perceived parenting styles on interpersonal cognitive distortions in this study, it does not necessarily indicate a complete absence of effect. Instead, these findings suggest that, regardless of the group assignment, perceived parenting styles consistently influenced interpersonal cognitive distortions among participants.

Table-3. Moderated mediation results

Model	Path	ICDS (M)				Anxiety (Y)			
		b	se	95% CI		b	se	95% CI	
				Lower	Upper			Lower	Upper
5	OUM (X)	0.40	.16	.07	.72	.04	.15	-.25	.33
	Group (W)	10.01	5.93	-1.70	21.72	-	-		
	ICDS (M)	-	-			.50	.09	.32	.67
	Interaction (X*W)	-.26	.26	-.77	.25	-	-		
	Direct effect	-	-			.04	.15	-.25	.33
6	RSF (X)	.77	.34	.10	1.45	-.08	.26	-.60	.44
	Group (W)	10.65	4.61	1.55	19.76	-	-		
	ICDS (M)	-	-			.51	.09	.33	.68
	Interaction (X*W)	-.66	.46	-1.58	.25	-	-		
	Direct effect	-	-			-.08	.26	-.60	.44

ICDS: Interpersonal cognitive distortions; OUM: Overprotective/unbounded mother; RSF: Resistant/suppressive father

Discussion

This study revealed significant differences in interpersonal cognitive distortions and perceived parenting styles between individuals with anxiety disorders (diagnostic group) and healthy controls. The diagnostic group showed higher anxiety symptoms and specific negative parenting styles, such as overprotective/unbounded, conditional/achievement-oriented, pessimistic/anxious mother styles, and resistant/suppressive father styles. Additionally, the study found that interpersonal cognitive distortions may mediate the relationship between an overprotective/unbounded mother and anxiety, as well as between a resistant/suppressive father and anxiety. These results suggest that interpersonal cognitive distortions may contribute to anxiety symptoms in individuals with specific parenting styles. However, group membership (anxiety-control) did not moderate the link between parenting style and interpersonal cognitive distortions, indicating that this relationship was consistent across diagnostic and control groups. While this indicates that the anxiety-control group did not modify the impact of perceived parenting styles on interpersonal cognitive distortions in this study, it does not necessarily denote a complete

absence of effect. Instead, these findings suggest that, irrespective of the group assignment, perceived parenting styles consistently influenced interpersonal cognitive distortions among participants.

Overall, these findings provide insights into the associations among anxiety symptoms, interpersonal cognitive distortions, perceived parenting styles, and their potential roles in the development and maintenance of anxiety disorders. In the existing literature, most studies examining the association between negative parenting styles and anxiety have primarily focused on young student populations, as evidenced by Möller et al. (2016). However, the current study sought to provide a more comprehensive perspective on anxiety disorders by investigating clinical and non-clinical Turkish adults. As previously mentioned, cognitive behavioral theory suggests that individuals with anxiety tend to exhibit a higher frequency of cognitive distortions than individuals without anxiety (Clark & Beck, 2011). Consistent with this notion, this study found that interpersonal cognitive distortions were statistically higher among participants in the diagnostic group than among those in the control group.

The findings indicate that participants diagnosed with anxiety were more likely to report experiencing certain parenting styles compared to those in the control group. Specifically, the mothers of participants in the anxiety diagnosis group were perceived as more overprotective and unbounded, which suggests that these mothers may have been excessively involved in their children's lives without setting clear boundaries. Overprotective parenting experiences are associated with schemas related to impaired autonomy in adolescence and adulthood (Bruysters & Pilkington, 2022) and has been associated with a rise in anxiety symptoms among adolescents (Petegem et al., 2021). Overprotective/unbounded parenting could contribute to a lack of autonomy in the child, potentially fostering anxiety. Additionally, these mothers were also seen as more conditional and achievement-oriented, indicating that their love and approval might have been contingent upon the child's success or achievements. This could create pressure and fear of failure in children, further contributing to anxiety. The mothers were also characterized by a pessimistic and anxious style, which could mean that these mothers often expressed worry or fear about various aspects of life. Anxious mothers tend to display more critical and catastrophizing behaviors, which can contribute to the development of anxiety in their children (Whaley et al., 1999). On the other hand, the fathers in the anxiety diagnosis group were more likely to exhibit resistant and suppressive parenting styles. A resistant father might be emotionally distant or unresponsive to the child's needs, while a suppressive father might discourage the expression of emotions or opinions. Parents who are emotionally unavailable often struggle with their own unresolved emotional issues from childhood, which may prevent them from effectively meeting their child's emotional needs (Szluz, 2020). These behaviors could contribute to the child's internalization of anxiety, as they may feel unsupported and unable to express their concerns openly. Together, these findings suggest that certain parental behaviors and attitudes are more prevalent in families where a child has been diagnosed with anxiety, potentially playing a role in the development or maintenance of anxiety symptoms.

The findings of the study revealed that interpersonal cognitive distortions played a mediating role in the relationship between an overprotective/unbounded mother and anxiety, as well as between resistant/suppressive father and anxiety. These results have important implications for clinicians working in collectivistic cultures such as Türkiye. It is recommended that clinicians inquire about the presence of an overprotective/unbounded mother and resistant/suppressive father parenting styles when assessing clients. Moreover, clinicians should recognize the mediating influence of interpersonal cognitive distortions between these negative parenting styles and anxiety symptoms, emphasizing the examination and modification of clients' distorted beliefs concerning their interpersonal relationships. However, the group variable (anxiety-control) did not demonstrate a moderating effect on the initial pathway (parenting style-interpersonal cognitive distortions) of the mediation models. This suggests that the impact of overprotective/unbounded mother and resistant/suppressive father parenting styles on anxiety symptoms via interpersonal cognitions is similar in both the diagnostic and control groups.

This study focused on specific anxiety disorders (e.g., panic disorder, SAD, GAD), limiting the generalizability of findings to other anxiety disorders. Future research should include a broader range. Anxiety symptoms are assessed broadly, without comparing diagnostic groups. Future studies should examine and compare symptoms across different diagnostic categories with larger sample sizes. Correlational design limits the establishment of causal relationships. Future research should consider experimental or longitudinal designs to explore causality. Addressing these limitations can enhance the understanding of the relationship between parenting styles, cognitive distortions, and specific anxiety disorders, shedding light on causal mechanisms.

When considering the overall implications of the findings, this study makes valuable contributions to the literature and psychotherapy practice by examining the role of relationship-oriented variables for treating anxiety symptoms among adults. This study highlights the potential importance of relationship-based interventions in preventive programs for youth, emphasizing the need to explore the perceived relationship with parents in the treatment of anxiety disorders.

Given that negative parenting styles were found to be higher in the diagnostic group, addressing the quality of parent-child relationships could be a valuable component of anxiety disorder treatment. Clinicians working with individuals with anxiety disorders should consider assessing and intervening in the parent-child relationship dynamics, particularly focusing on the negative parenting styles identified in this study. Understanding how these parenting styles contribute to interpersonal cognitive distortions and subsequently impact anxiety symptoms can inform therapeutic interventions. In line with the recommendations of Borkovec et al. (2002), incorporating interpersonal interventions into cognitive behavioral therapy may enhance therapeutic effectiveness for treating anxiety symptoms. This study suggests that training programs targeting the management of interpersonal cognitions could be examined in future research to evaluate their efficacy in reducing anxiety symptoms.

It is important for clinicians to recognize that they cannot change past negative parental attitudes or behaviors. However, they should be mindful that an overprotective/unbounded mother or a resistant/suppressive father may trigger interpersonal cognitive distortions in clients, leading to increased anxiety levels. Therefore, this study underscores the significance of identifying and challenging cognitive distortions related to relationship expectations and replacing them with more adaptive thoughts as part of the treatment process for anxiety disorders. Overall, this study emphasizes the relevance of considering relationship-oriented variables for treating anxiety symptoms and suggests that interventions targeting interpersonal cognitions and parent-child relationships may contribute to improved outcomes in anxiety disorder therapy.

In conclusion, this study highlighted significant distinctions in interpersonal cognitive distortions and perceived parenting styles between individuals with anxiety disorders and healthy controls. The diagnostic group exhibited elevated anxiety symptoms along with specific negative parenting styles, such as overprotective/unbounded, conditional/achievement-oriented, pessimistic/anxious mother styles, and resistant/suppressive father styles. Interpersonal cognitive distortions were identified as potential mediators in the relationship between specific parenting styles and anxiety symptoms. Notably, these findings were consistent across both diagnostic and control groups.

The research delved into the unique context of Turkish culture, emphasizing the influence of collectivism and traditional values on perceived parenting styles. Mothers, assuming the primary caregiving role, displayed characteristics aligned with collectivistic approaches, while fathers tended to employ more distant forms of communication. The study's outcomes suggested that addressing overprotective/unbounded mother and resistant/suppressive father parenting styles, along with associated interpersonal cognitive distortions, could be crucial in clinical assessments and interventions for anxiety disorders.

References

- Arrindell, W.A., Kwee, M.G., Methorst, G.J., Van der Ende, J., Pol, E., & Moritz, B.J. (1989). Perceived parental rearing styles of agoraphobic and socially phobic in-patients. *The British Journal of Psychiatry*, 155, 526–535.
- Bandelow, B., Michaelis, S., & Wedekind, D. (2017). Treatment of anxiety disorders. *Dialogues in Clinical Neuroscience*, 19(2), 93-107.
- Bandelow, B., Spath, C., Tichauer, G.A., Broocks, A., Hajak, G., & Ruther, E. (2002). Early traumatic life events, parental attitudes, family history, and birth risk factors in patients with panic disorder. *Comprehensive Psychiatry*, 43(4), 269–278.
- Beck, A.T. (1976). *Cognitive therapy and the emotional disorders*. International Universities Press.
- Beck, A.T., Epstein, N., Brown, G., & Steer, R.A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, 56(6), 893-897.
- Borkovec, T.D., Newman, M.G., Pincus, A.L., & Lytle, R. (2002). A component analysis of cognitive-behavioral therapy for generalized anxiety disorder and the role of interpersonal problems. *Journal of Consulting and Clinical Psychology*, 70(2), 288-298.
- Bosc, M. (2000). Assessment of social functioning in depression. *Comprehensive Psychiatry*, 41(1), 63-69.
- Brown, G.W., & Harris, T.O. (1993). Aetiology of anxiety and depressive disorders in an inner city population: 1. early adversity. *Psychological Medicine*, 23(1), 143-154.
- Bruch, M.A., & Heimberg, R.G. (1994). Differences in perceptions of parental and personal characteristics between generalized and nongeneralized social phobics. *Journal of Anxiety Disorders*, 8, 155-168.
- Bruysters, N., & Pilkington, P. (2022). Overprotective parenting experiences and early maladaptive schemas in adolescence and adulthood: A systematic review and meta-analysis. *Clinical Psychology & Psychotherapy*, 30(1), 10-23.
- Cassano, G.B., Rossi, N.B., & Pini, S. (2002) Psychopharmacology of anxiety disorders. *Dialogues in Clinical Neuroscience*, 4(3), 271-285.
- Cassidy, J. (1995). Attachment and generalized anxiety disorder. In D. Cicchetti, & S.L. Toth (Ed.), *Rochester symposium on developmental psychopathology: Emotion, cognition, and representation* (Volume, 6, pp.343-370). University of Rochester Press.
- Chambless, D.L., Gillis, M.M., Tran, G.Q., & Steketee, G.S. (1996). Parental bonding reports of clients with obsessive compulsive disorder and agoraphobia. *Clinical Psychology and Psychotherapy*, 3(2), 77-85.
- Clark, D.A., & Beck, A.T. (2011). *Cognitive therapy for anxiety disorders: Science and practice*. Guilford Press.
- Dozier, M., Stovall- McClough, K.C., & Albus, K.E. (2008). Attachment and psychopathology in adulthood. In J. Cassidy & P.R. Shaver, (Ed.), *Handbook of attachment: Theory, research, and clinical applications* (pp.718-744). The Guilford Press.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191.
- Gamble, S., & Roberts, J. (2005). Adolescents' perceptions of primary caregivers and cognitive style: The roles of attachment security and gender. *Cognitive Therapy and Research*, 29, 123-141.

- Hamamcı, Z., & Büyüköztürk, Ş. (2003). İlişkilerle İlgili Bilişsel Çarpıtmalar Ölçeği: Ölçeğin geliştirilmesi ve psikometrik özelliklerinin incelenmesi. *Çukurova Üniversitesi Eğitim Fakültesi Dergisi*, 2(25), 107-111.
- Hans, E., & Hiller, W. (2013). A meta-analysis of nonrandomized effectiveness studies on outpatient cognitive behavioral therapy for adult anxiety disorders. *Clinical Psychology Review*, 33(8), 954-964.
- Hayes, A.F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. The Guilford Press.
- Hofmann, S.G., Asnaani, A., Vonk, I.J.J., Sawyer, A.T., & Fang, A. (2012). The efficacy of cognitive behavioral therapy: A review of meta-analyses. *Cognitive Therapy Research*, 36(5), 427-440.
- Hofmann, S.G., & Smits, J.A. (2008). Cognitive-behavioral therapy for adult anxiety disorders: A meta-analysis of randomized placebo-controlled trials. *Journal of Clinical Psychiatry*, 69(4), 621-632.
- Hudson, J.L., & Rapee, R.M. (2001). Parent-child interactions and anxiety disorders: An observational study. *Behaviour Research and Therapy*, 39(12), 1411-1427.
- Kashdan, T.B., Collins, R.L., & Elhai, J.D. (2006). Social anxiety and positive outcome expectancies on risk-taking behaviors. *Cognitive Therapy and Research*, 30(6), 749-761.
- Kerns, K., & Brumariu, L. (2014). Is insecure parent-child attachment a risk factor for the development of anxiety in childhood or adolescence?. *Child Development Perspectives*, 8(1), 12-17.
- Kim, E.J. (2005). The effect of the decreased safety behaviors on anxiety and negative thoughts in social phobics. *Journal of Anxiety Disorders*, 19(1), 69-86.
- Körük, S., Öztürk, A., & Kara, A. (2016). The predictive strength of perceived parenting and parental attachment styles on psychological symptoms among Turkish university students. *International Journal of Instruction*, 9(2), 215-230.
- Last, C., O'Brien, G., & Barlow, D. (1985). The relationship between cognitions and anxiety. *Behavior Modification*, 9, 235-241.
- Lieb, R., Wittchen, H., Höfler, M., Fuetsch, M., Stein, M.B., & Merikangas, K.R. (2000). Parental psychopathology, parenting styles, and the risk of social phobia in offspring: A prospective-longitudinal community study. *Archives of General Psychiatry*, 57(9), 859-866.
- Lima, F., Shepherd, C., Wong, J., O'Donnell, M., & Marriott, R. (2019). Trends in mental health related contacts among mothers of Aboriginal children in Western Australia (1990-2013): A linked data population-based cohort study of over 40 000 children. *BMJ Open*, 9.
- Lindhout, I.E., Boer, F., Markus, T.M., & Hoogendijk, T.H.G. (2003). Sibling relationships of anxiety disordered children- A research note. *Journal of Anxiety Disorders*, 17(5), 593-601.
- Mansell, W. (2004). Cognitive psychology and anxiety. *Psychiatry*, 3(4), 6-11.
- Markowitz, J.S., Weissman, M.M., Ouellette, R., Lish, J.D., & Klerman, G.L. (1989). Quality of life in panic disorder. *Archives of General Psychiatry*, 46(11), 984-992.
- McGinn, L., Cukor, D., & Sanderson, W. (2005). The relationship between parenting style, cognitive style, and anxiety and depression: Does increased early adversity influence symptom severity through the mediating role of cognitive style?. *Cognitive Therapy and Research*, 29, 219-242.
- Mickelson, K.D., Kessler, R.C., & Shaver, P.R. (1997). Adult attachment in a nationally representative sample. *Journal of Personality and Social Psychology*, 73(5), 1092-1106.
- Mikulincer, M., & Shaver, P. (2012). An attachment perspective on psychopathology. *World Psychiatry*, 11.

- Möller, E.L., Nikolić, M., Majdandžić, M., Bögels, S.M. (2016). Associations between maternal and paternal parenting behaviors, anxiety and its precursors in early childhood: A meta-analysis. *Clinical Psychology Review*, 45, 17-33.
- Muris, P. (2006). Maladaptive schemas in non-clinical adolescents: relations to perceived parental rearing behaviours, Big Five personality factors and psychopathological symptoms. *Clinical Psychology & Psychotherapy*, 13, 405-413.
- Muris, P., Meesters, C., Merckelbach, H., & Hülsenbeck, P. (2000). Worry in children is related to perceived parental rearing and attachment. *Behavior Research and Therapy*, 38(5), 487-497.
- Nakash-Eisikovits, O., Dutra, L., & Westen, D. (2002). Relationship between attachment patterns and personality pathology in adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41(9), 1111-1123.
- Ota, M., Takeda, S., Pu, S., Matsumura, H., Araki, T., Hosoda, N., Yamamoto, Y., Sakakihara, A., & Kaneko, K. (2020). The relationship between cognitive distortion, depressive symptoms, and social adaptation: A survey in Japan. *Journal of Affective Disorders*, 265, 453-459.
- Petegem, S., Sznitman, G., Darwiche, J., & Zimmermann, G. (2021). Putting parental overprotection into a family systems context: Relations of overprotective parenting with perceived coparenting and adolescent anxiety. *Family Process*, 61(2), 792-807.
- Pini, S., Cassano, G. B., Simonini, E, Savino, M., SRusso, A., & Montgomery, S. A. (1997). Prevalence of anxiety disorders comorbidity in bipolar depression, unipolar depression and dysthymia. *Journal of Affective Disorders*, 42(2-3), 145-153.
- Rheingold, A.A., Herbert, J.D., & Franklin, M.E. (2003). Cognitive bias in adolescents with social anxiety disorder. *Cognitive Therapy and Research*, 27(6), 639-655.
- Salmon, K., & Reese, E. (2015). Talking (or not talking) about the past: The influence of parent-child conversation about negative experiences on children's memories. *Applied Cognitive Psychology*, 29, 791-801.
- Schimmenti, A., & Bifulco, A. (2015). Linking lack of care in childhood to anxiety disorders in emerging adulthood: The role of attachment styles. *Child And Adolescent Mental Health*, 20(1), 41-48.
- Shah, P., Muzik, M., & Rosenblum, K. (2011). Optimizing the early parent-child relationship: windows of opportunity for parents and pediatricians. *Current Problems in Pediatric and Adolescent Health Care*, 41, 7, 183-187.
- Sharf, R. (2011). *Theories of psychotherapy and counselling: Concepts and cases*. (5th ed.). Brooks/Cole.
- Shorey, H.S., & Snyder, C.R. (2006). The role of adult attachment styles in psychopathology and psychotherapy outcomes. *Review of General Psychology*, 10(1), 1-20.
- Soygüt, G., Çakır, Z., & Karaosmanoğlu, A. (2008). Ebeveynlik biçimlerinin değerlendirilmesi: Young Ebeveynlik Ölçeğinin psikometrik özelliklerine ilişkin bir değerlendirme. *Türk Psikoloji Dergisi*, 11(22), 17-30.
- Spinhoven, P., Hemert, A., & Penninx, B. (2018). Repetitive negative thinking as a predictor of depression and anxiety: A longitudinal cohort study. *Journal of Affective Disorders*, 241, 216-225.
- Szluz, B.L. (2020). Usidlenie w dzieciństwie – doświadczenie niezaspokojenia emocjonalnego w rodzinie. *Ujęcie Socjologiczne*, 41(1), 49–59.

- Tairi, T., Adams, B., & Zilikis, N. (2016). Cognitive errors in Greek adolescents: The linkages between negative cognitive errors and anxious and depressive symptoms. *International Journal of Cognitive Therapy*, 9(3), 261-279.
- Teetsel, R.N., Ginsburg, G.S., & Drake, K.L. (2014). Anxiety-promoting parenting behaviors: A comparison of anxious mothers and fathers. *Child Psychiatry And Human Development*, 45(2), 133-142.
- Ulusoy, M., Şahin, N.H., & Erkmen, H. (1998). The Beck Anxiety Inventory: Psychometric properties. *Journal of Cognitive Psychotherapy*, 12(2), 163-172.
- Weeks, M., Coplan, R., & Ooi, L. (2017). Cognitive biases among early adolescents with elevated symptoms of anxiety, depression, and co-occurring symptoms of anxiety-depression. *Infant and Child Development*, 26.
- Weems, C., Costa, N., Watts, S., Taylor, L., & Cannon, M. (2007). Cognitive errors, anxiety sensitivity, and anxiety control beliefs. *Behavior Modification*, 31, 174-201.
- Whaley, S., Pinto, A., & Sigman, M. (1999). Characterizing interactions between anxious mothers and their children. *Journal of Consulting and Clinical Psychology*, 67(6), 826-836.
- Wilson, C.J., Bushnell, J.A., Rickwood, D., Caputi, P., & Thomas, S.J. (2011). The role of problem orientation and cognitive distortions in depression and anxiety interventions for young adults. *Advances in Mental Health*, 10(1), 52-61.
- Wolford, E., Lahti, M., Tuovinen, S., Lahti, J., Lipsanen, J., Savolainen, K., Heinonen, K., Häimaläinen, E., Kajantie, E., Pesonen, A., Villa, P., Laivuori, H., Reynolds, R., & Räikkönen, K. (2017). Maternal depressive symptoms during and after pregnancy are associated with attention-deficit/hyperactivity disorder symptoms in their 3- to 6-year-old children. *PLoS ONE*, 12.
- Young, J.E. (1994). *Young Parenting Inventory*. Cognitive Therapy Center of New York.
- Young, J.E., Klosko, J.S., & Weishaar, M.E. (2003). *Schema therapy: A practitioner's guide*. Guilford Press.