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THE MEDIATORY ROLES OF ANXIETY SENSITIVITY AND PSYCHOLOGICAL RESILIENCE IN THE RELATIONSHIP BETWEEN PERCEIVED PARENTAL ATTITUDES AND TRAIT ANXIETY LEVELS AMONG UNIVERSITY STUDENTS

Özge Demirsu[1] **Feryal Çam Çelikel[2]**

Klinik Psikolog **Işık Üniversitesi**

Özge Demirsu[1], Feryal Çam Çelikel[2]
[1]Özge Demirsu, Özel bir danışmanlık merkezinde klinik psikolog, İzmit, Türkiye
E posta: ozgedemirsu@gmail.com, **Tel:** 05338741631
Orcid id: 0009-0006-8527-6875
[2] Prof. Dr. Feryal Çam Çelikel, Işık Üniversitesi, Psikoloji Departmanı, İstanbul, Türkiye
E posta: feryalcamcelikel@gmail.com, **Tel:** 05325762858
Orcid id: 0009-0001-3125-8288

Öz

Bu çalışma, üniversite öğrencilerinde algılanan ebeveyn tutumları (aşırı koruyucu, reddedici ve duygusal sıcak) ile sürekli kaygı düzeyi arasındaki ilişkiyi, ayrıca anksiyete duyarlılığı ve psikolojik dayanıklılığın aracılık rollerini incelemiştir. Türkiye'nin Kocaeli ve İstanbul illerinden 385 üniversite öğrencisi (175 kadın, 210 erkek) katılmıştır. Katılımcılar, Sosyodemografik ve Diğer Bilgi Formu, Kısaltılmış Algılanan Ebeveyn Tutumları Ölçeği- Çocuk Formu, Anksiyete Duyarlılığı Endeksi-3, Spielberger Sürekli Kaygı Envanteri ve Yetişkinler için Psikolojik Dayanıklılık Ölçeği'ni doldurmuşlardır. Algılanan ebeveyn tutumları, sürekli kaygı, anksiyete duyarlılığı ve psikolojik dayanıklılık arasındaki ilişkiler Pearson korelasyon analizi ile, aracılık rolleri ise basit regresyon analizi ile incelenmiştir. Yapılan analizlerin bulguları şunlardır: (a) Aşırı koruyucu ve reddedici ebeveyn tutumları, artan sürekli kaygı ve anksiyete duyarlılığı ile ilişkilendirilmiş, psikolojik dayanıklılığın gerilemesine yol açmış; duygusal sıcak ebeveyn tutumları ise daha düşük düzey kaygıyı ve daha güçlü psikolojik dayanıklılığı öngörmüştür. (b) Psikolojik dayanıklılık, duygusal sıcaklık ile sürekli kaygı arasındaki ilişkiye tamamen, aşırı koruyucu tutum ile sürekli kaygı arasındaki ilişkiye ise kısmen aracılık etmiştir. (c) Anksiyete duyarlılığı, aşırı koruyucu ve duygusal sıcak ebeveyn tutumları ile sürekli kaygı arasındaki bağlantıda kısmen aracılık etmiştir. (d) Yüksek anksiyete duyarlılığı, artan sürekli kaygı düzeyi ve azalan dayanıklılık ile ilişkilidir. (e) Kadınlar annelerini daha sıcak ve daha ilgili olarak algılarken, erkekler babalarını daha reddedici olarak görmüşlerdir; bu durum geleneksel cinsiyet rollerinden kaynaklanmaktadır. (f) Hem aşırı koruyucu hem de duygusal sıcak tutumların her iki ebeveynden de benzer psikolojik etkilere yol açtığı ve babaların çocukların psikolojik refahını şekillendirmede önemli role sahip olduğu bulgulanmıştır. (g) Dayanıklılık, yaşla birlikte artmış ve zamanla stres yönetimi geliştirilmiştir. Bu bulgular, uyumsuz ebeveyn tutumları olan bireylerde kaygıyı azaltmak ve psikolojik dayanıklılığı artırmak için müdahalelere duyulan ihtiyacı vurgulamaktadır.

Anahtar Kelimeler: Algılanan Ebeveyn Tutumları, Sürekli Kaygı, Psikolojik Dayanıklılık, Anksiyete Duyarlılığı.

Abstract

This study examined the relationship between perceived parental attitudes (overprotective, rejecting, and emotionally warm) and trait anxiety in university students, along with the mediating roles of anxiety sensitivity and psychological resilience. A total of 385 undergraduate students (175 females, 210 males) from universities in Kocaeli and Istanbul, Turkey, participated and completed the Sociodemographic and Other Information Data Form, the Shortened Perceived Parental Attitudes Scale – Child Form, the Anxiety Sensitivity Index-3, the Psychological Resilience Scale for Adults and Spielberger Trait Anxiety Inventory. Relationships between perceived parental attitudes, trait anxiety, anxiety sensitivity, and psychological resilience were examined via Pearson correlation, and mediation roles were tested using simple regression. Path analyses revealed that: (a) Overprotective and rejecting parental attitudes were associated with higher trait anxiety and anxiety sensitivity, as well as lower psychological resilience, while emotionally warm parental attitudes predicted lower anxiety and greater resilience. (b) Psychological resilience completely mediated the link between emotional warmth and trait anxiety, while partially mediating the impact of overprotective attitudes. (c) Anxiety sensitivity partially mediated the relationship between both overprotective and emotionally warm parental attitudes and trait anxiety. (d) Higher anxiety sensitivity was linked to increased trait anxiety and reduced resilience. (e) Females perceived their mothers as warmer and more involved, while males viewed their fathers as more rejecting, due to traditional gender roles. (f) Similar psychological effects were observed for overprotective and emotionally warm attitudes from both parents, emphasizing the father's role in shaping children's well-being. (g) Resilience improved with age, suggesting better stress management over time. Our findings highlight the need for interventions to reduce anxiety and enhance resilience in individuals with maladaptive parental attitudes.

Keywords: Perceived Parental Attitudes, Trait Anxiety, Psychological Resilience, Anxiety Sensitivity

INTRODUCTION

1. Prevalence and Conceptualization of Anxiety Disorders

Anxiety disorders are highly prevalent and affect the quality of life of both adults and children, with similar rates observed across different age groups (Merikangas & Theodory, 2024). According to recent studies, while genetic and familial factors contribute to the development of anxiety, environmental influences also play a significant role. Freud's (1926) conceptualization of anxiety is a foundational element of psychoanalytic theory. His drive theory defined anxiety as a consequence of repressed desires, and defense mechanisms (such as withdrawal, projection, and displacement) are employed to manage these internal conflicts. Freud considered anxiety as central to psychopathology, proposing that unresolved anxiety could lead to the development of neuroses (Sadock, B. J., Sadock, V. A., Ruiz, P., 2014)

The impact of anxiety on psychopathology has long been a central topic in clinical psychology and psychiatry. Contemporary research suggests that anxiety is not only a primary symptom of many mental disorders but also functions as a predisposing and maintaining factor across a broad spectrum of psychopathologies, particularly mood and anxiety disorders. For example, a study by Kessler et al. (2017) found high comorbidity rates between anxiety and depression. This suggests that anxiety may precede the onset of depressive symptoms and exacerbate their severity. Moffitt and colleagues (2019) emphasized that early anxiety symptoms resulting from emotional dysregulation and impaired social functioning during childhood increase the likelihood of developing various psychiatric disorders, including depression and mood disorders. Trait anxiety refers to a person's general tendency to experience anxiety, worry, or fear across a wide range of situations. Anxiety sensitivity, on the other hand, refers to the fear of anxiety-related physical, emotional, or cognitive sensations. Recent studies have confirmed the critical role of anxiety sensitivity in the development and exacerbation of anxiety disorders. According to Huppert and Foa (2024), anxious individuals tend to overestimate the likelihood and severity of feared events. A meta-analytic review by McNally et al. (2009) conducted with young adults highlighted this tendency, revealing significantly higher levels of anxiety sensitivity among individuals with anxiety disorders compared to those without. Research by Schmidt et al. (2011) further indicated that high levels of anxiety sensitivity are associated with the onset of panic attacks and other common mental disorders, underlining its predictive value for anxiety-related conditions. Similarly, in his study, Vedat Şar (2015) reported that individuals with high anxiety sensitivity display heightened sensitivity to anxiety-related sensations, which contributes to increased anxiety levels. Schmidt et al. (2018) demonstrated that individuals with high trait anxiety are more likely to focus on and exaggerate bodily sensations (e.g., heart palpitations or shortness of breath) in response to anxiety, thereby increasing the likelihood of developing anxiety sensitivity.

2. Parental Attitudes and Their Effects on the Development of Anxiety

Parental attitudes play a crucial role in a child's psychological development. Recent studies have shown that parental warmth, empathy, and emotional validation are significant protective factors against anxiety (Murray et al., 2017). Another related study revealed that overprotectiveness may increase anxiety sensitivity by limiting autonomy and amplifying perceptions of external threats (Hullman et al., 2010). Moreover, parental rejection characterized by criticism and lack of warmth has been associated with anxiety symptoms. For example, Sofrona and Giannakopoulos (2024) found that maternal rejection mediated the relationship between maternal anxiety symptoms and adolescents' mental health and quality of life. Adolescents who perceived higher levels of maternal rejection were found to be more vulnerable to symptoms of anxiety and depression. Additionally, Yang, Li, and Lin (2019) investigated the effects of perceived parental rejection on health-risk behaviors (e.g., substance use), emphasizing the mediating role of psychological resilience. Their study demonstrated that resilient individuals, despite perceiving parental rejection, exhibited more effective coping strategies and engaged in fewer health-risk behaviors. Recent research highlights the significant role of parenting styles in adolescents' academic, social, and emotional development. Authoritative parenting, characterized by warmth and structure, has been linked to higher academic motivation and cognitive abilities (Hughes et al., 2022). In a study examining the relationship between parenting attitudes and self-esteem, parental warmth and supportive behaviors were found to reduce children's social anxiety levels (Xu, Ni, Ran, & Zhang, 2017). Furthermore, supportive parenting was shown to promote identity development and emotional stability (Martínez et al., 2022).

Liossi and colleagues (2016), in their study of adults from divorced families, found that individuals who perceived high parental rejection had higher levels of trait anxiety. However, psychological resilience was shown to buffer the negative mental health outcomes of such adverse experiences.

3. The Protective Role of Psychological Resilience in the Development of Anxiety

Emerging research has contributed to a deeper understanding of the relationship between psychological resilience and trait anxiety, emphasizing the influence of both individual and environmental factors. Studies have shown that individuals with higher levels of psychological resilience tend to exhibit lower levels of trait anxiety despite exposure to stressors, suggesting that resilience functions as a protective buffer against anxiety disorders (Bonanno, 2004). In contrast, factors such as health problems, low self-esteem, and poor coping skills have been identified as individual risk factors that diminish resilience and exacerbate anxiety symptoms (Kaiser & Kröger, 2018). Similarly, Perry (2012) emphasized that psychological resilience serves as a protective factor against anxiety, proposing that resilient individuals are better equipped to manage stress, thereby reducing the impact of anxiety. Recent studies have highlighted the significant roles of self-esteem, self-efficacy, and social support in enhancing psychological resilience and reducing anxiety, particularly among adolescents. Liu et al. (2022) found that parental support has a direct effect on psychological resilience, promoting hope and effective coping strategies that contribute to decreased levels of anxiety. Furthermore, research by Zhang et al. (2023) indicated that adolescents with higher self-efficacy and stronger social support networks exhibit fewer psychological symptoms and greater psychological well-being during early adolescence.

METHOD

1.Sample

The target population of this study consisted of undergraduate students enrolled at universities in Turkey. Based on student registration data provided by the Council of Higher Education, the minimum required sample size was determined to be 385. Participants were selected through a non-probability sampling method, specifically using convenience sampling. Undergraduate students from eight different universities (five private and three public) were included in the study. All participants were adults and provided informed consent prior to participation.

Students who had lost at least one parent, who were raised by caregivers other than their biological parents, who had a psychiatric diagnosis according to DSM-5 criteria, or who were currently using psychotropic medication were excluded from the study.

2. Instruments

1.Socio-demographic Information Form

A Socio-demographic and Other Information Form developed by the researchers was used to collect personal and family-related data relevant to the study objectives. The form included questions regarding participants' age, gender, parental education level, marital status, income level, place of residence, primary caregiver, parental survival status, and past or current psychiatric conditions.

2. Shortened Perceived Parental Attitude Scale—Child Form (SPPAS-CF)

This 23-item scale is a shortened version of the original 81-item EMBU developed by Perris et al. (1980) and was designed to assess individuals' retrospective perceptions of parental attitudes during childhood. The scale consists of three subscales: rejection, emotional warmth, and overprotection. Items are rated separately for the mother and the father using a 4-point Likert scale (1 = never, 4 = always).The Turkish adaptation of the scale was conducted by Karancı et al. (2006). The emotional warmth subscale includes 7 items, overprotection 9 items, and rejection 7 items. Item 17 is reverse-coded. The Cronbach's alpha coefficients were reported as 0.80 for maternal rejection, 0.76 for maternal emotional warmth, and 0.76 for maternal overprotection. Similarly, paternal subscale alphas were 0.82 (rejection), 0.79 (emotional warmth), and 0.79 (overprotection).

3. Anxiety Sensitivity Index-3 (ASI-3)

The ASI-3 was developed by Taylor et al. (2007) to assess anxiety sensitivity in a more detailed and multidimensional manner. The Turkish adaptation and psychometric validation were carried out by Mantar (2008).The scale consists of 18 items grouped into three subscales: physical, cognitive, and social (interpersonal) concerns. Each subscale includes 6 items, five of which are derived from the original ASI. Responses are rated on a 5-point Likert scale ranging from 0 ("very little") to 4 ("very much"). The overall Cronbach's alpha coefficient for the Turkish version was 0.93. The alpha coefficients for the subscales were 0.89 for physical, 0.88 for cognitive, and 0.82 for social concerns.

4. State-Trait Anxiety Inventory—Trait Form (STAI-II)

The STAI, developed by Spielberger, Gorsuch, and Lushene (1970), is a widely used instrument for assessing anxiety. The Turkish adaptation and validation were conducted by Öner and Le Compte (1983). The Trait Anxiety Inventory consists of 20 items and this subscale measures the frequency of participants' emotional, cognitive, and behavioral responses to anxiety using a 4-point Likert scale (1 = almost never, 2 = sometimes, 3 = often, 4 = almost always) (Le Compte & Öner, 1998; Aydemir & Köroğlu, 2000). Reliability coefficients reported by Öner and Le Compte ranged between 0.83 and 0.87 (Yüksel & Kurt, 2003).

5. Resilience Scale for Adults (RSA)

The RSA was developed by Friborg et al. (2003) and adapted into Turkish by Basım and Çetin (2011). Later revisions by Friborg et al. (2005) refined the "personal competence" domain into two subdimensions: "perception of self" and "future orientation," resulting in a six-factor structure.The subscales include: perception of self (6 items), future orientation (4 items), structured style (4 items), social competence (6 items), family cohesion (6 items), and social resources (7 items).Based on data from both student and working adult samples, the total Cronbach's alpha for the Turkish version was 0.86. The alpha coefficients for the subscales were: 0.76 (perception of self), 0.75 (future orientation), 0.84 (social competence), 0.89 (family cohesion), 0.80 (social resources), and 0.76 (structured style).

DATA ANALYSIS

The data obtained in this study were analysed using SPSS version 21. To examine the mediating roles of psychological resilience and anxiety sensitivity in the relationship between perceived parental attitudes and trait anxiety, simple regression analysis was conducted. In the regression model, the independent variables were perceived maternal and paternal emotional warmth, overprotection, and rejection; the dependent variable was trait anxiety; and the mediating variables were anxiety sensitivity and psychological resilience. An analysis of skewness and kurtosis values revealed that all variables, except for maternal and paternal rejection, were normally distributed. No outliers were detected, as Cook's distance values did not exceed 1. Correlation coefficients ranged between –0.167 and 0.570. To assess potential multicollinearity, Tolerance and Variance Inflation Factor (VIF) values were calculated in accordance with Pallant's (2007) recommendations. The VIF values obtained were as follows: emotional warmth from mother (0.351; 2.851), overprotectiveness from mother (0.395; 2.532), emotional warmth from father (0.339; 2.952), overprotectiveness from father (0.413; 2.422), anxiety sensitivity (0.720; 1.389), and psychological resilience (0.688; 1.454). These values indicated no evidence of multicollinearity.

Additionally, the Durbin-Watson test yielded a value of 1.831, indicating independence of residuals. As all assumptions were met, the regression model was deemed appropriate for use.

RESULTS

1. Sociodemographic and Other Characteristics of the Sample

A total of 385 participants were included in the study, consisting of 175 women (45%) and 210 men (55%). The mean age of the sample was 20.64 years (SD = 2.15), with an age range of 17 to 33 years.

Table I. Sociodemographic and Other Characteristics of the Sample

	MEAN±SD	
Age	20.64±2.15	
Mother's years of education	8.88±4.736	
Fathers's years of education	10.69±4.649	
	N	%
Gender		
Female	175	45
Male	210	55
Mother's educational level		
Below high school	207	54
High school and above	178	46
Father's educational level		
Below high school	148	38
High school and above	237	62
Perceived income level		
Below average	61	16
Average and above	324	84
Living arrangement		
With family	173	45
Not with family	212	55

2. Reliability and Descriptive Statistics of the Scales

The reliability and validity information for the scales is presented in Table 1, while descriptive statistics are shown in Table 2.

Table II. Cronbach's Alpha Reliability Analysis of the Scales

	Cronbach's Alfa	Numbers of Item
SPPAS-CF[1]		
M-Emotional Warmth	0.76	7
M-Overprotection	0.76	9
M- Rejection	0.80	7
F-Emotional Warmth	0.79	7
F-Overprotection	0.79	9
F-Rejection	0.82	7
ASI-3[2]	0.93	18
Pyhsical	0.89	6
Cognitive	0.88	6
Social	0.82	6
STAI-II[3]	0.874	20
RSA[4]	0.86	33
Self Perception	0.76	6
Future Perception	0.75	4
Social Competence	0.84	6
Family Cohence	0.89	6
Social Resources	0.80	7
Structurel Style	0.76	4

[1]Short-Form Perceived Parental Attitudes Scale- Child Form (SPPAS-CF), [2]Anxiety Sensitivity Index-3 (ASI-3), [3]Spielberger Traıt Anxiety Inventory- II (STAI-II), [4]Resilience Scale for Adults (RSA)

As presented in Table II, reliability analyses were conducted using Cronbach's alpha coefficient**.** A coefficient between 0.60 and 0.80 is considered moderately reliable, whereas values above 0.80 indicate high reliability. All subscales met the acceptable reliability threshold, with ASI-3 (0.93) and STAI-II (0.874) demonstrating excellent reliability.

Tablo III. Descriptive Statistics of the Scales

	Cronbach's Alpha	Numbers of Items
SPPAS-CF[1]		
M-Emotional Warmth	21.08±3.96	7–28
M-Overprotection	19.95±4.79	10–36
M-Rejection	9.37±2.76	7–28
F- Emotional Warmth	19.89±4.38	7–28
F- Overprotection	18.77±4.74	9–36
F- Rejection	9.40±2.95	7–28
ASI-3[2]	21.89±13.52	0–68
Physical Anxiety Sensitivity	7.03±5.08	0–23
Cognitive Anxiety Sensitivity	7.17±5.29	0–24
Social Anxiety Sensitivity	7.69±5.12	0–24
STAI-II[3]	42.94 ± 9.337	22–77
RSA[4]	128.79±17.55	78–165
Self Perception	23.50±4.66	6–30
Future Perception	15.53±4.05	4–45
Structurel Style	14.20±3.46	4–20
Social Competence	23.49±4.57	6–30
Family Cohence	22.97±4.48	6-30
Social Resources	29.11±4.64	14-35

[1]Short-Form Perceived Parental Attitudes Scale- Child Form (SPPAS-CF), [2]Anxiety Sensitivity Index-3 (ASI-3), [3]Spielberger Traıt Anxiety Inventory- II (STAI-II), [4]Resilience Scale for Adults (RSA)

As presented in Table III, descriptive statistics revealed that the means of the SPPAS-CF subscales ranged from 9.37 to 21.08, while the ASI-3 had a mean of 21.89 (SD = 13.52), STAI-II a mean of 42.94 (SD = 9.34), and RSA a mean of 128.79 (SD=17.55). These findings indicate variability in perceived parental attitudes, anxiety sensitivity, and resilience.

Table IV. Evaluation of Participants with Different Sociodemographic Characteristics in Terms of Perceived Parental Attitudes

	SPPAS-CF-Mother Form Emotional Warmth		SPPAS-CF-Mother Form Overprotection		SPPAS-CF-Mother Form Rejection	
Gender	Mean±SD		Mean±SD		Mean±SD	
Female (n=175)	21.53±3.918	t=2.038	19.72±5.081	t=-0.855	9.07±2.314	t=-1.968
Male (n=210)	20.71±3.959	p=.0042*	20.14±4.521	p=0.393	9.61±3.064	p=0.050
Mother's Education						
Below high school (n=207)	20.57±4.064	t=-2.768	20.34±4.617	t=1.719	9.54±2.710	t=1.322
High school and above(n=178)	21.68±3.751	p=0.006*	19.50±4.942	p=.086	9.17±2.807	p=0.187
Father's Education						
Below high school (n=148)	20.97±3.865	t=-0.431	19.63±4.354	t=-1.045	9.08±2.314	t=-1.719
High shool and above (n=237)	21.15±4.019	p=0.667	20.15±5.029	p=0.297	9.55±2.993	p=0.087
Living Arrangement						
With family (n=173)	21.62±3.981	t=2.440	19.46±4.828	t=-1.815	9.07±2.970	t=-1.931
Not with family (n=212)	20.64±3.890	p=0.015*	20.35±4.718	p=0.070	9.61±2.554	p=0.054
	SPPAS-CF-Father Form Emotional Warmth		SPPAS-CF-Father Form Overprotection		SPPAS-CF-Father Form Rejection	
Gender	Mean±SD		Mean±SD		Mean±SD	
Female (n=175)	20.35±4.635	t=1.898	18.71±4.971	t=-0.196	8.91±2.426	t=-3.040
Male (n=210)	19.50±4.133	p=0.058	18.81±4.554	p=.0845	9.80±3.281	p=0.003*
Mother's Education						
Below high school (n=207)	19.40±4.514	t=-2.354	19.30±4.622	t=2.416	9.52±2.954	t=0.856
High school and above (n=178)	20.45±4.167	p=0.019*	18.14±4.816	p=0.016*	9.26±2.954	p=0.393
Father's Education						
Below high school (n=148)	19.67±4.433	t=-0.767	18.61±4.390	t=-0.517	9.24±2.620	t=-0.419
High school and above (n=237)	20.02±4.355	p=0.444	18.86±4.956	p=0.606	9.49±3.144	p=0.399
Living Arrangement						
With family (n=173)	20.17±4.504	t=1.164	18.53±4.798	t=-0.898	9.31±3.304	t=-0.511
Not with family (n=212)	19.65±4.278	p=0.245	18.96±4.698	p=0.370	9.47±2.638	p=0.609

SPPAS-CF: Short-Form Perceived Parental Attitudes Scale – Child Form
*p<0.05: statistically significant

As presented in Table IV, female participants perceived their mothers as more emotionally warm than males (t=2.038, p=0.042), while males perceived their fathers as more rejecting (t=-3.040, p=0.05). Participants with parents who had a high school education or higher reported greater parental warmth (mothers: t=-2.768, p=0.006; fathers: t=-2.354, p=0.019), and those whose mothers had less than a high school education experienced more paternal overprotection (t=2.416, p=0.016). Additionally, participants living with their families perceived their mothers as warmer and more supportive compared to those living apart (t=2.440, p=0.015).

Table V. Evaluation of Participants with Different Sociodemographic Characteristics in Terms of Anxiety Sensitivity and Trait Anxiety Levels

	ASI-3 Total		ASI-3 Physical		ASI- 3 Cognitive		ASI- 3 Social		ASI-3 STAI-II	
Gender	Mean±SD		Mean±SD		Mean±SD		Mean±SD		Mean±SD	
Female (n=175)	20.33±13.182	t=-2.083	6.94±5.140	t=0.293	6.60±5.248	t=-1.941	6.78±4.841	t=-3.226	44.12±9.653	t=2.275
Male (n=210)	23.20±13.682	p=0.03*	7.10±5.035	p=0.70	7.65±5.294	p=0.053	8.45±5.230	p=0.001*	41.96±8.971	p=0.02*
Mother's Education										
Below high school (n=207)	21.96±13.082	t=0.103	6.97±4.920	t=0.229	7.09±5.084	t=-0.337	7.90±5.034	t=0.847	42.88±9.600	t=0.138
High school and above (n=178)	21.81±14.039	p=0.918	7.09±5.267	p=0.89	7.27±5.537	p=0.736	7.46±5.218	p=0.397	43.01±9.049	p=0.80
Father's Education										
Below high school (n=148)	21.01±12.740	t=-1.007	6.80±4.886	t=0.698	6.73±4.932	t=-1.328	7.49±4.948	t=-0.627	41.89±9.249	t=-1.757
High school and above (n=237)	22.44±13.976	p=0.315	7.17±5.197	p=0.46	7.45±5.498	p=0.185	7.82±5.228	p=0.531	43.60±9.351	p=0.080
Living Arrangement										
With family(n=173)	19.23±12.811	t=-3.548	6.15±4.574	t=3.141	6.13±5.205	t=-3.530	6.94±5.025	t=-2.622	42.24±9.332	t=1.325
Not with family (n=212)	24.07±13.714	p=0.00*	7.74±5.359	p=0.00*	8.02±5.223	p=0.00*	8.31±5.124	p=0.00*	43.51±9.325	p=0.16

ASI-3: Anxiety Sensitivity Index-3, STAI-II: State-Trait Anxiety Inventory
*p<0.05: statistically significan

As shown in Table V, male participants had higher overall and social anxiety sensitivity than females (overall: t=-2.083, p=0.038; social: t=-3.226, p=0.001), while females had higher trait anxiety (t=2.275, p=0.023). Participants not living with their families showed higher social (t=-3.548, p=0.000), physical (t=-3.141, p=0.002), and cognitive anxiety sensitivity (t=-3.530, p=0.000) than those living with family.

Table VI. Evaluation of Participants with Different Sociodemographic Characteristics in Terms of Psychological Resilience Levels

	RSA		RSA-Self Perception		RSA-Future Perception		RSA-Structurel Style	
Gender	Mean±SD		Mean±SD		Mean±SD		Mean±SD	
Female (n=175)	131.70±16.641	t=2.995	23.26±4.982	t=-0.929	15.94±3.959	t=1.819	14.39±3.531	t=1.006
Male(n=210)	126.37±17.956	p=0.003*	23.70±4.370	p=0.354	15.19±4.109	p=0.070	14.04±3.400	p=0.315
Mother' Education								
Below high school (n=207)	129.57±18.181	t=.932	23.57±4.893	t=0.346	15.69±4.323	t=0.826	14.39±3.536	t=1.170
High school and above (n=178)	127.89±16.792	p=0.352	23.41±4.380	p=0.730	15.35±3.719	p=0.409	13.98±3.366	p=0.243
Father's Education								
Below high school (n=148)	129.49±18.812	t=.613	23.72±4.792	t=0.746	15.94±4.548	t=1.559	14.41±3.710	t=0.951
High School and above (n=237)	128.36±16.740	p=0.540	23.36±4.576	p=0.456	15.28±3.699	p=0.120	14.07±3.295	p=9.342
Living Arrangement								
With family (n=173)	129.89±17.281	t=1.109	23.75±4.777	t=0.962	15.67±4.379	t=0.603	14.28±3.648	t=0.396
Not with family (n=212)	127.90±17.757	p=0.268	23.29±4.559	p=0.337	15.42±3.774	p=0.547	14.14±3.307	p=0.692

	RSA-Social Competence		RSA-Family Coherence		RSA-Social Resources	
Gender	Mean±SD		Mean±SD		Mean±SD	
Female (n=175)	24.23±4.456	t=2.961	23.51±4.642	t=2.194	30.35±4.165	t=4.961
Male(n=210)	22.86±4.588	p=0.003*	22.51±4.289	p=0.029*	28.07±4.771	p=0.000*
Mother's Education						
Below high school (n=207)	23.14±4.825	t=-1.580	23.17±4.767	t=0.947	29.59±4.654	t=2.235
High school and above (n=178)	23.88±4.243	p=0.115	22.74±4.110	p=0.344	28.54±4.576	p=0.026*
Father' Education						
Below high school (n=148)	23.16±4.748	t=-1.120	23.02±4.714	t=0.178	29.24±4.835	t=0.434
High school and above (n=237)	23.69±4.460	p=0.263	22.94±4.329	p=0.859	29.03±4.526	p=0.665
Living Arrangement						
With family (n=173)	23.51±4.483	t=0.089	23.06±4.603	t=0.375	29.62±4.549	t=1.962
Not with family (n=212)	23.47±4.657	p=0.929	22.89±4.377	p=0.708	28.69±4.686	p=0.050

RSA: Resilience Scale for Adults
*p<0.05: statistically significant

As shown in Table VI, female participants exhibited higher psychological resilience (t=2.995, p=0.003), social competence (t=2.961, p=0.003), family harmony (t=2.194, p=0.029), and social resources (t=4.961, p=0.000) than males, and participants whose mothers had less than a high school education had higher social resources than those with more educated mothers (t=4.026, p=0.05).

3. Correlation Analyses

Table VII presents the results of the Pearson correlation analysis between the scores of university students on SPPAS-CF, ASI-3, STAI-II and RSA.

Table VII. Correlation Matrix of Research Variables

	1	2	3	4
1. SPPAS-CF-Mother Form-Emotional Warmth				
2. SPPAS-CF-Mother Form-Overprotection	-0.066			
3. ASI-3	-0.167**	0.263**		
4. STAI-II	-0.230**	0.285**	0.570**	
5. RSA	0.377**	-0.220**	-0.417**	-0.520**
	1	2	3	4
1. SPPAS-CF-Father Form-Emotional Warmth				
2. SPPAS-CF-Father Form-Overprotection	-0.126*			
3. ASI-3	-0.086	0.271**		
4. STAI-II	-0.253**	0.293**	0.570**	
5. RSA	0.385**	-0.206**	-0.417**	-0.520**

*p<0.05: statistically significant **p<0.01: statistically significant

Perceived maternal and paternal warmth are associated with lower anxiety sensitivity and trait anxiety, and higher psychological resilience, while overprotection shows the opposite pattern. Anxiety sensitivity is positively related to trait anxiety and negatively related to psychological resilience. Trait anxiety and psychological resilience are strongly negatively correlated, indicating that higher anxiety corresponds to lower resilience.

4. Mediation Analyses

The mediating roles of anxiety sensitivity and psychological resilience in the relationship between perceived parental attitudes and trait anxiety were examined using Baron and Kenny's (1986) four-step method.

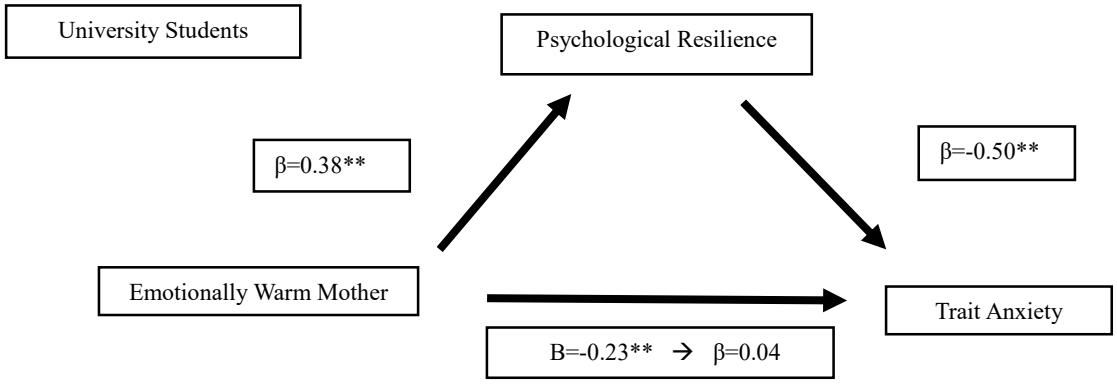

Figure 1. Sobel testi: $z' = 6.39$, $p < 0.001$

As shown in Figure 1, perceived maternal emotional warmth is associated with lower trait anxiety (R^2=0.053, β=-0.230, p<.01) and higher psychological resilience (R^2=0.142, β=0.377, p<.01), and its effect on trait anxiety becomes non-significant when psychological resilience is included, indicating that maternal warmth influences trait anxiety indirectly through psychological resilience, with full mediation confirmed by the Sobel test (β=-0.040, p>.05; z=6.39, p<.001).

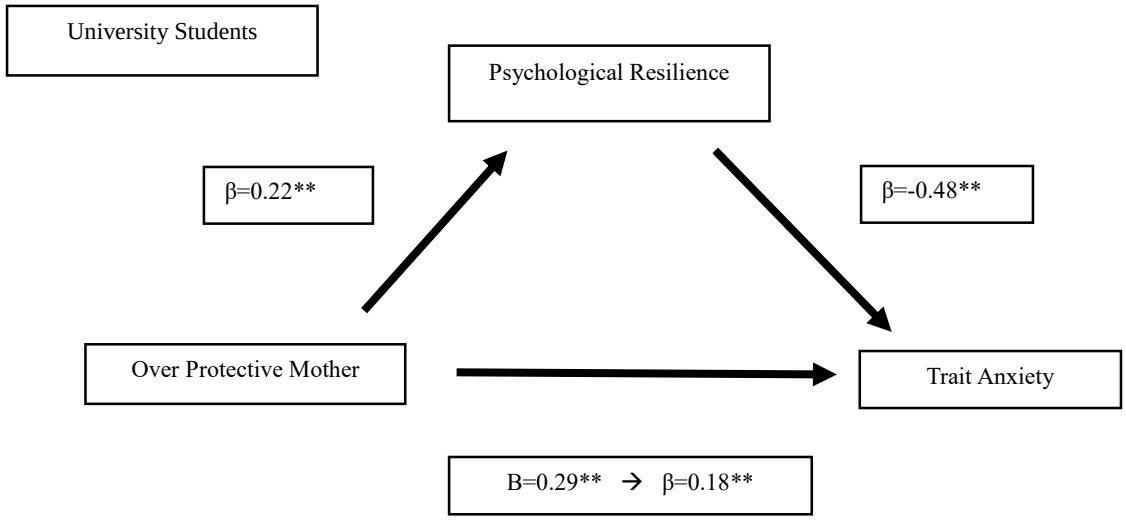

Figure 2. Sobel testi: *z'* = 4.10, *p* <0.001

As shown in Figure 2, overprotective maternal attitudes positively predict trait anxiety (R^2=0.081, β=0.285, p<.01) and negatively predict psychological resilience (R^2=0.048, β=-0.220, p<.01). When psychological resilience is included, it significantly predicts lower trait anxiety (β=-0.480, p<.01), while the effect of overprotective maternal attitudes decreases but remains significant (β=0.180, p<.01), with Sobel test confirming partial mediation (z=4.10, p<.001).

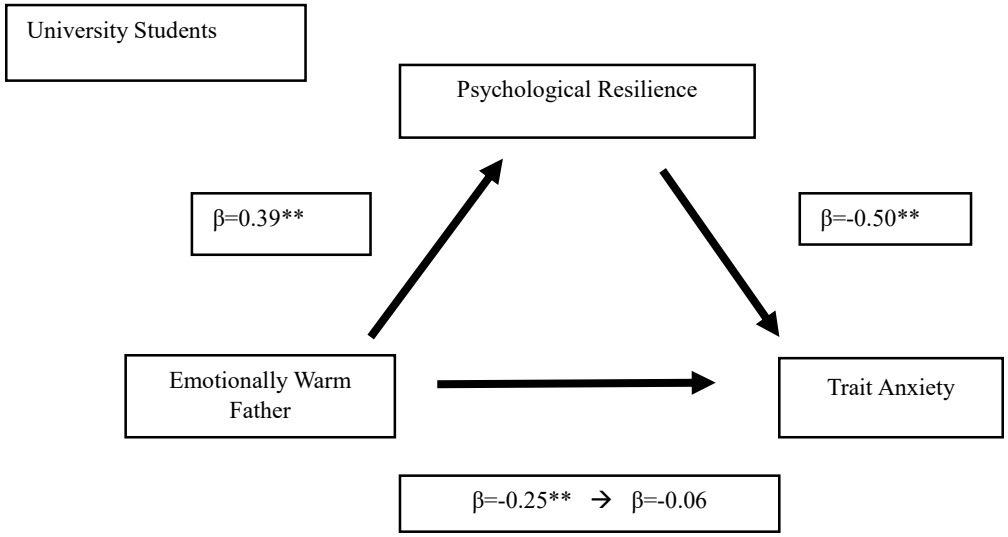

Figure 3. Sobel testi: *z'* = 6.45, *p*<0.001

As shown in Figure 3, perceived paternal warmth negatively predicts trait anxiety (R^2=0.064, β=-0.253, p<.01) and positively predicts psychological resilience (R^2=0.148, β=0.385, p<.01), and its direct effect on trait anxiety becomes non-significant when psychological resilience is included, indicating that paternal warmth reduces trait anxiety indirectly through psychological resilience, with full mediation confirmed by the Sobel test (β=-0.063, p>.05; z=6.45, p<.001).

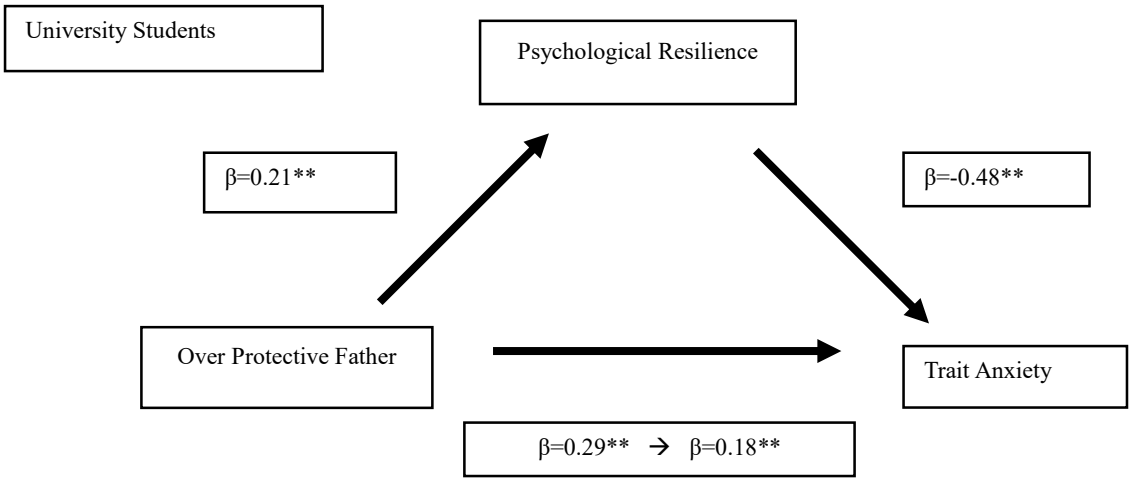

Figure 4. Sobel testi: *z'* = 3.86, *p*< 0.001

As shown in Figure 4, paternal overprotection positively predicts trait anxiety (R^2=0.086, β=0.293, p<.01) and negatively predicts psychological resilience (R^2=0.042, β=-0.206, p<.01), and its effect on trait anxiety decreases but remains significant when psychological resilience is included, indicating that paternal overprotection increases trait anxiety both directly and indirectly through reduced psychological resilience, with partial mediation confirmed by the Sobel test (β=0.194, p<.01; z=3.86, p<.001).

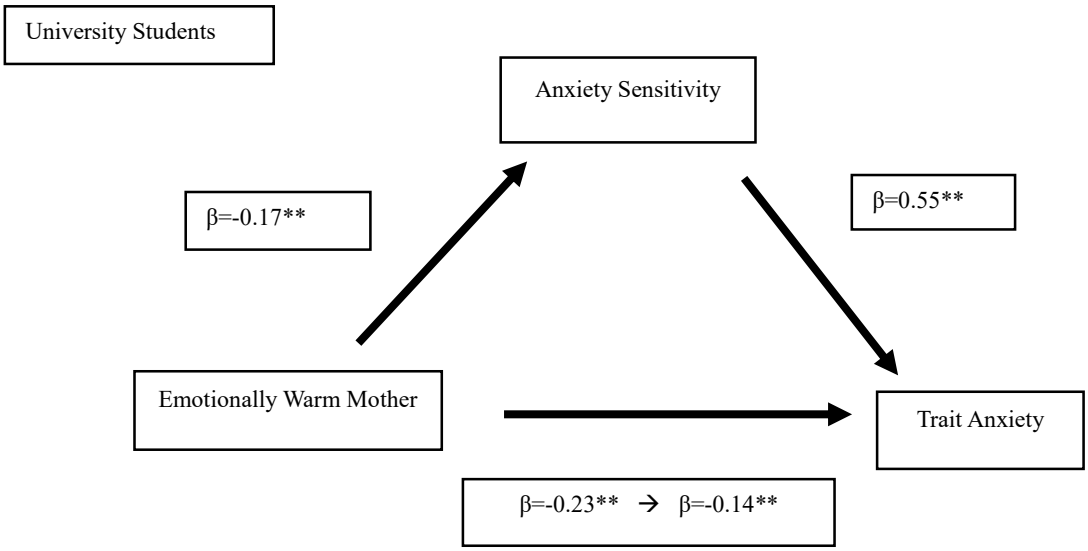

Figure 5. Sobel testi: *z'*=3.22, *p*<0.01

As shown in Figure 5, perceived maternal warmth negatively predicts trait anxiety and anxiety sensitivity (R^2=0.053, β=-0.230, p<.01), and its direct effect on trait anxiety becomes non-significant when anxiety sensitivity is included, indicating that maternal warmth reduces trait anxiety indirectly through anxiety sensitivity, with full mediation confirmed by the Sobel test (β=-0.139, p>.05; z=3.22, p<.001).

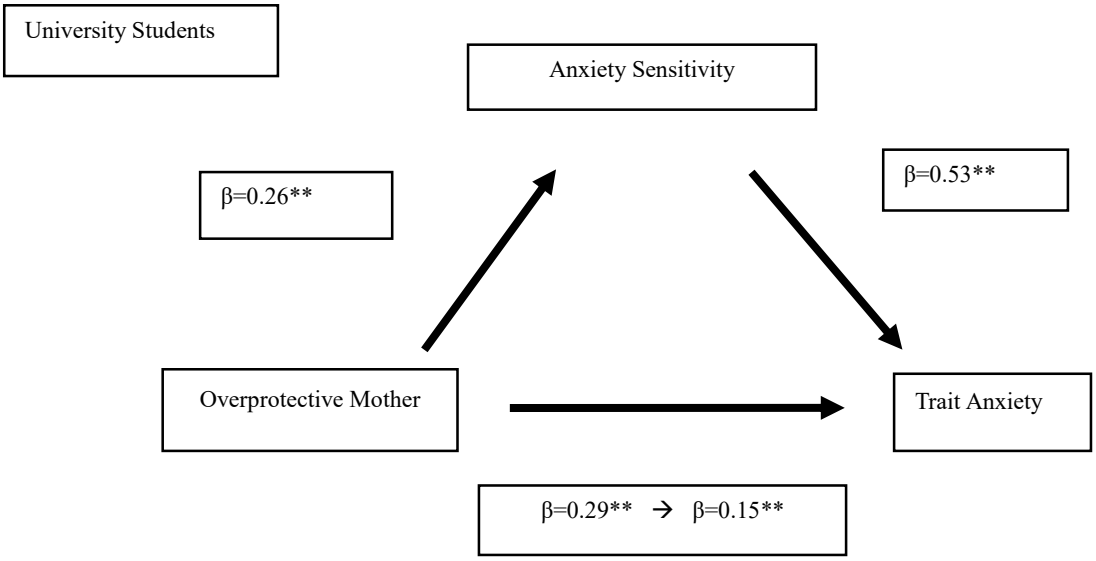

Figure 6. Sobel testi: *z'*=4.90, *p*<0.001

As shown in Figure 6, perceived overprotective mothering positively predicts trait anxiety (R^2=0.081, β=0.285, p<.01) and anxiety sensitivity (R^2=0.069, β=0.263, p<.01). When anxiety sensitivity is included, it significantly predicts trait anxiety (β=0.532, p<.01), while the direct effect of overprotective mothering decreases but remains significant (β=0.145, p<.01), with Sobel test confirming partial mediation (z=4.90, p<.001).

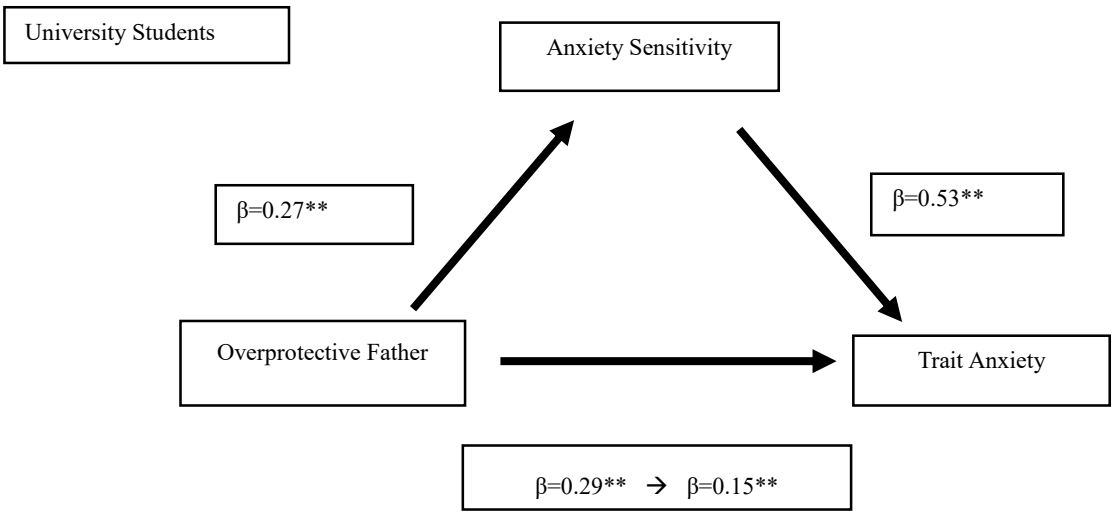

Figure 7. Sobel testi: *z'*=5.02, *p*<0.001

As shown in Figure 7, perceived overprotective fathering positively predicts trait anxiety (R^2=0.086, β=0.293, p<.01) and anxiety sensitivity (R^2=0.073, β=0.271, p<.01), and its direct effect on trait anxiety becomes non-significant when anxiety sensitivity is included, with Sobel test confirming partial mediation (β=0.150, p>.05; z=5.02, p<.001), suggesting that overprotective fathering increases trait anxiety both directly and indirectly through anxiety sensitivity.

5. Results of the Correlation Analysis

This study examined the relationships among sociodemographic factors, perceived parental attitudes, anxiety sensitivity, and psychological resilience. Age was positively correlated with self-perception (r=.144, p=.005). Higher maternal education was positively associated with perceived maternal warmth (r=.186, p<.001), while paternal education was positively correlated with paternal warmth (r=.137, p=.007) and social competence (mother: r=.137, p=.007; father: r=.101, p=.049). Perceived maternal warmth was negatively correlated with cognitive (r=-.210, p<.001) and social anxiety sensitivity (r=-.146, p=.004), and positively correlated with self-perception (r=.218, p<.001), future expectations (r=.237, p<.001), social competence (r=.236, p<.001), family cohesion (r=.461, p<.001), and social resources (r=.258, p<.001). Conversely, maternal overprotection was positively correlated with physical (r=.217, p<.001), cognitive (r=.255, p<.001), and social anxiety sensitivity (r=.215, p<.001), and negatively correlated with self-perception (r=-.193, p<.001), future expectations (r=-.191, p<.001), and family cohesion (r=-.200, p<.001). Perceived maternal rejection was positively correlated with increased anxiety sensitivity (r=.367, p<.001) and trait anxiety (r=.361, p<.001), and negatively correlated with psychological resilience (r=-.300, p<.001), self-perception (r=-.282, p<.001), and social resources (r=-.163, p=.001). Paternal warmth was negatively correlated with cognitive anxiety sensitivity (r=-.148, p=.004), and positively correlated with self-perception (r=.202, p<.001), future expectations (r=.228, p<.001), structured style (r=.120, p=.018), and family cohesion (r=.518, p<.001). Paternal overprotection was positively correlated with cognitive (r=.281, p<.001), social (r=.236, p<.001), and physical anxiety sensitivity (r=.249, p<.001), and negatively correlated with self-perception (r=-.191, p<.001), future expectations (r=-.177, p<.001), social competence (r=-.122, p=.016), and family cohesion (r=-.156, p=.002). Paternal rejection was strongly associated with total anxiety sensitivity (r=.341, p<.001), including cognitive (r=.374, p<.001), social (r=.267, p<.001), and physical (r=.249, p<.001) dimensions, and negatively associated with psychological resilience (r=.314, p<.001), self-perception (r=-.245, p<.001), and family cohesion (r=-.392, p<.001). High anxiety sensitivity, particularly cognitive sensitivity, was strongly associated with higher trait anxiety (r=.561, p<.001) and lower psychological resilience (r=.408, p<.001).

DISCUSSION

This study examined how psychological resilience and anxiety sensitivity mediate the relationship between perceived parental attitudes and trait anxiety in university students. Women perceived their mothers as warmer, while men saw their fathers as more distant and rejecting (Fişek, 2011), likely due to gender roles in emotional expression (Rosenfield & Mouzon, 2013). Anxiety disorders are more common in women, and parental education and socioeconomic factors influence both parental attitudes and anxiety (Kaplan & Sadock, 2020; Kağıtçıbaşı, 2005). Living with family and receiving emotional support is linked to lower anxiety sensitivity (Norton & Gough, 2020).

High anxiety sensitivity increases trait anxiety and reduces psychological resilience. Parental rejection raises anxiety and lowers resilience, whereas warmth and support enhance resilience (López & Pérez, 2021; Zekari, Jowkar & Razmjoee, 2010). Both maternal and paternal attitudes are crucial for children's later mental health (Bögels Phares, 2009).

CONCLUSIONS & RECOMMENDATIONS

Early detection of dysfunctional family structures and interventions for at-risk families is crucial (Markus et al., 2003). Future research considering these factors could improve treatment approaches for anxiety (e.g., schema therapy, family-based interventions). The protective role of psychological resilience against continuous anxiety has been established, emphasizing the importance of strengthening resilience within treatment methods.

LIMITATION

The sample of the study consisted solely of undergraduate students from industrialized regions of Turkey; therefore, the generalizability of the findings is limited. Cultural variations in parental attitudes were not considered. In addition, the data were collected shortly after the exam period, which may have influenced participants' anxiety levels. The lack of a significant result for the rejecting parental attitude may be related to this. Participants' tendency to provide socially desirable responses might have affected their emotional warmth scores. Furthermore, individuals who had experienced parental loss or were raised by alternative caregivers were excluded from the study.

REFERENCES

[1] Barron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research:Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173–1182.

[2] Basım, H. N., & Çetin, F. (2011). Yetişkinler için psikolojik dayanıklılık ölçeği'nin Türkçe'ye uyarlanması: Güvenilirlik ve geçerlilik çalışması. Türk Psikoloji Yazıları, 14(28), 11–21.

[3] Bögels, S. M., & Phares, V. (2009). Psychological aspects of parenting: A handbook for clinicians. Springer Science & Business Media.

[4] Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? American Psychologist, 59(1), 20–28.

[5] Dirik, G., Yorulmaz, O., & Karancı, A. N. (2015). Çocukluk dönemi ebeveyn tutumlarının değerlendirilmesi: Kısaltılmış algılanan ebeveyn tutumları-çocuk formu. Türk Psikiyatri Dergisi, 26(2), 123–130.

[6] Fişek, M. (2011). Ebeveyn tutumları ve aile ilişkileri: Teoriler ve uygulamalar. Psikoloji Yayınları.

[7] Friborg, O., Hjemdal, O., Rosenvinge, J. H., & Martinussen, M. (2003). Development and validation of a Norwegian version of the Resilience Scale. Nordic Journal of Psychiatry, 57(6), 498–507.

[8] Huppert, J. D., & Foa, E. B. (2024). Anxiety disorders: Cognitive behavioral therapy. In R. Boland & M. Verduin (Eds.), Kaplan & Sadock's comprehensive textbook of psychiatry (11th ed., pp. 5843–5872). Wolters Kluwer.

[9] Hughes, C., Devine, R. T., Mesman, J., & Blair, C. (2022). Theory of mind and executive function in early childhood: Developmental relations and their implications for social competence. Child Development, 93(2), 200–216.

[10] Hullman, S. E., Rholes, W. S., & Simpson, J. A. (2010). Attachment and autonomy in adolescence. Journal of Adolescence, 33(4), 509–520.

[11] Kaiser, M. A., & Kröger, C. (2018). Resilience and anxiety disorders: Protective mechanisms in children and adolescents. Clinical Child and Family Psychology Review, 21(4), 456–472.

[12] Kessler, R. C., Chiu, W. T., Demler, O., & Walters, E. E. (2017). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry, 62(6), 617–627.

[13] Liu, Q., Li, Z., Wang, Y., & Zhang, H. (2022). The influence of parental support on adolescent resilience: A longitudinal study. Journal of Youth and Adolescence, 51(2), 233–247.

[14] Liossi, C., Schoth, D. E., & Godfrey, H. (2016). The long-term impact of parental divorce on adult anxiety and depression: A meta-analytic review. Clinical Psychology Review, 48, 1–13.

[15] Mantar, A. (2008). Anksiyete duyarlılığı indeksi 3'ün Türkçe formunun geçerlik ve güvenilirlik çalışması (Tıpta uzmanlık tezi). Dokuz Eylül Üniversitesi, İzmir.

[16] Martínez, I., García, F., & Yubero, S. (2022). Parental warmth, psychological well-being, and academic performance in adolescents. Journal of Adolescence, 94, 123–135.

[17] McNally, R. J., & Lorenz, L. S. (2009). Anxiety sensitivity and anxiety disorders: A meta-analytic review. Behavior Therapy, 40(1), 21–36.

[18] Merikangas, K. R., & Theodory, M. M. (2024). Anxiety disorders. In R. Boland & M. L. Verduin (Eds.), Kaplan & Sadock's comprehensive textbook of psychiatry (11th ed.). Lippincott Williams & Wilkins.

[19] Moffitt, T. E., Caspi, A., Harrington, H., & Milne, B. J. (2019). Anxiety and depression in childhood and adolescence: Predictors of later outcomes. Journal of Child Psychology and Psychiatry, 60(3), 231–244.

[20] Murray, L., Halligan, S. L., & Cooper, P. J. (2017). Effects of parental anxiety disorder on children's development: A review of the evidence. Clinical Child and Family Psychology Review, 20(3), 269–289.

[21] Öner, N., & Le Compte, A. (1983). Durumluk-sürekli kaygı envanteri el kitabı. Boğaziçi Üniversitesi Yayınları.

[22] Perry, B. D. (2012). The impact of early childhood adversity on resilience and stress reactivity. Journal of Pediatric Neuropsychology, 2(3), 233–248.

[23] Sadock, B. J., Sadock, V. A., & Ruiz, P. (2014). Kaplan & Sadock's synopsis of psychiatry: Behavioral sciences /Clinical psychiatry (11th ed., pp. 151–167). Wolters Kluwer.

[24] Schmidt, N. B., Richey, J. A., & Zvolensky, M. J. (2011). Anxiety sensitivity and its implications for understanding andtreating panic disorder. Clinical Psychology Review, 31(4), 527–536.

[25] Sofrona, G., & Giannakopoulos, G. (2024). The effects of maternal rejection on adolescent mental health: A mediatingmodel. Journal of Adolescence, 97, 145–160.

[26] Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. (1970). Manual for the State-Trait Anxiety Inventory (STAI).Consulting Psychologists Press.

[27] Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics (6th ed.). Pearson.

[28] Taylor, S., Zvolensky, M. J., & Cox, B. J. (2007). Anxiety sensitivity and panic disorder: A review of the literature.Journal of Anxiety Disorders, 21(2), 150–166.

[29] Xu, J., Ni, S., Ran, M., & Zhang, C. (2017). The relationship between parenting styles and adolescents' social anxiety inmigrant families: A study in Guangdong, China. Frontiers in Psychology, 8, 626.

[30] Yüksel, R., & Kurt, S. (2003). The reliability and validity of the Turkish version of the State-Trait Anxiety Inventory(STAI). Turkish Journal of Psychology, 22(64), 17–25.

[31] Zhang, W., Liu, S., & Zhao, Y. (2023). The impact of social support and self-efficacy on adolescent mental health: Alongitudinal analysis. Developmental Psychology, 59(2), 265–270. https://doi.org/10.1037/dev0001625

[32] Zekari, S., Jowkar, B., & Razmjoee, F. (2010). The role of parental warmth and overprotection in adolescents' anxiety.Journal of Adolescence, 33(2), 395–402.