

## Adaptation and Validation of the Turkish Version of Career Anxiety Scale

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**Abstract:** Recent changes and uncertainty in labor markets delay the demand and requirements of employment. Thus, career anxiety has made an important issue among university students. The aim of this study was to adapt the Career Anxiety Scale (CAS), originally developed by Tsai et al. (2017), into Turkish and to investigate its psychometric properties in terms of validity and reliability. The Turkish version of the CAS was administered to four different groups (N= 619) to examine its validity and reliability. Confirmatory factor analysis, concurrent validity with intolerance to uncertainty and psychological well-being and test-retest reliability were conducted. After ensuring the linguistic equivalence and clarity, the results of confirmatory factor analysis revealed that the second-order four-factor structure had acceptable fit indices with the data of 356 undergraduate students. Correlation test results showed that the CAS and its subscales had positive relationships with intolerance to uncertainty, and negative relationships with psychological well-being. Internal consistency values were higher than .70 cutoff value and test-retest correlation coefficient was .88. In addition, it was observed that female university students scored higher than male students on both total career anxiety and its subscales, whereas no significant differences were found in total career anxiety or subscale scores across academic fields. The findings of this study indicate that the Turkish version of the scale is a valid and reliable instrument, offering a foundation for future research and interventions focused on understanding career-related anxiety.

**Keywords:** Career anxiety, intolerance to uncertainty, psychological well-being, scale adaptation.

### Kariyer Kaygısı Ölçeği'nin Türkçe Uyarlaması ve Geçerlik Çalışması

**Öz:** İşgücü piyasalarındaki son değişimler ve belirsizlikler, istihdam talebinin ve gerekliliklerinin ertelenmesine yol açmaktadır. Bu durum, üniversite öğrencileri arasında kariyer kaygısını önemli bir sorun haline getirmiştir. Bu çalışmanın amacı, Tsai ve arkadaşları (2017) tarafından geliştirilen Kariyer Kaygısı Ölçeği- KKÖ'nin (Career Anxiety Scale) Türkçeye uyarlanması ve geçerlik-güvenilirlik açısından psikometrik özelliklerinin incelenmesidir. Türkçe KKÖ'nün formunun, geçerlik ve güvenilirliğini değerlendirmek amacıyla dört farklı gruba (N = 619) uygulanmıştır. Doğrulayıcı faktör analizi, belirsizliğe tahammülsüzlük ve psikolojik iyi oluş ile eşzamanlı geçerlik analizi ile test-tekrar test güvenilirliği analizleri gerçekleştirilmiştir. Dilsel eşdeğerlik ve ifadelerin açıklığı sağlandıktan sonra yapılan doğrulayıcı faktör analizi sonuçları, ikinci düzey dört faktörlü yapının 356 lisans öğrencisinden elde edilen verilerle kabul edilebilir uyum indekslerine sahip olduğunu ortaya koymuştur. Korelasyon analizleri, KKÖ ve alt boyutlarının belirsizliğe tahammülsüzlükle pozitif, psikolojik iyi oluşla ise negatif yönde ilişkili olduğunu göstermiştir. İç tutarlılık katsayıları .70 eşik değerinin üzerinde bulunmuş, test-tekrar test korelasyon katsayısı ise .88 olarak hesaplanmıştır. Ayrıca, kadın üniversite öğrencilerinin hem toplam kariyer kaygısı hem de alt boyut puanlarının erkek öğrencilere kıyasla daha yüksek olduğu; buna karşın akademik alanlara göre toplam kariyer kaygısı ve alt boyut puanlarında anlamlı bir farklılık bulunmadığı gözlenmiştir. Araştırma bulguları, ölçeğin Türkçe formunun geçerli ve güvenilir bir ölçme aracı olduğunu ve kariyerle ilişkili kaygıyı anlamaya yönelik gelecekteki araştırma ve müdahalelere sağlam bir temel sunduğunu göstermektedir.

**Anahtar Kelimeler:** Kariyer kaygısı, belirsizliğe tahammülsüzlük, psikolojik iyi oluş, ölçek uyarlaması

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## Introduction

In recent years, the labor market across the world has dramatically transformed into uncertainty due to the effects of Covid-19 and the development of artificial intelligence (Cao & Hamori, 2022; Müceldili et al., 2023). The COVID-19 pandemic brought significant changes to the global labor market, disrupting organizations through closures, travel restrictions, and decreased customer demand, which led to financial strain (Mahmud et al., 2021). This health crisis also became an economic one, causing unemployment to surge globally—from 5.37% in 2019 to 6.47% in 2020 (World Bank, 2020). Additionally, the rapid digitalization has created unpredictable work environments, requiring employees to constantly adapt, develop new skills, and stay flexible (Savickas et al., 2009). Those unable to meet these demands often face job insecurity. The pandemic-induced work changes—such as blurred work-life boundaries, unexpected job losses, and irregular hours—have also affected mental health, increasing anxiety and health risks (Cao & Hamori, 2022).

Changes and uncertainty in labor markets delay individuals' process of gaining economic independence and undermine their self-confidence, especially for those who have graduated from university, but faced difficulties in finding a job and uncertainties in working conditions. Therefore, career anxiety has always been an important issue among university students. The career anxiety experienced by young people has deepened and that this situation has reached dimensions that threaten their psychological health (Korkmazer, 2020). While uncertainties about the future increase for young people due to economic difficulties, this anxiety is felt more intensely by individuals with low tolerance for uncertainty, which further undermines their psychological well-being (Schweizer et al., 2023). For young people, this anxiety can become a psychological burden when combined with uncertainties about their future. Especially during times of intense economic hardship, mental health problems such as depression, anxiety and stress are on the rise among university students (American Psychological Association, 2022). This can also negatively affect students' academic performance and motivation.

Although career anxiety has gained considerable attention among researchers, educators, and policymakers, studies focusing on the career anxiety of Turkish undergraduate students remain limited. For example, a search in the Web of Science database using the keywords “career anxiety,” “Turkey,” and “undergraduate students” yielded only two relevant studies. One possible explanation for this scarcity is the lack of a valid and reliable self-report instrument designed to assess career anxiety among undergraduate students. In the existing literature on career anxiety, there is only one self-report measure that examines career-related choices among secondary school students, which does not adequately address the experiences of university students. Therefore, the development or adaptation of a valid and reliable instrument to assess career anxiety specifically among Turkish undergraduate students is essential to support future research and practical applications in this area.

## Anxiety

Anxiety is an unpleasant emotional condition marked by subjective feelings of tension, apprehension, and restlessness that arise as a result of autonomic nervous system activation (Spielberger, 1972). This emotional state emerges when individuals perceive a threat to their future happiness, self-esteem, or ability to interpret and make sense of their experiences (Epstein, 1985). According to Spielberger (1972), anxiety can be conceptualized in two dimensions: state anxiety and trait anxiety. State anxiety refers to a transient emotional reaction triggered by perceiving a specific situation as threatening, and its intensity and duration vary according to the perceived level of threat (Spielberger, 1972). In contrast, trait anxiety represents a stable personality characteristic that reflects the extent to which individuals have a general tendency to experience anxiety, and it has been linked to long-term outcomes such as career-related decisions (Campagna & Curtis, 2007). Trait career anxiety involves persistent concerns regarding future employment and workplace conditions, and it is often discussed within the framework of state anxiety. This distinction underscores the difference between state anxiety, which represents a temporary emotional reaction to situational threats, and trait anxiety, which indicates a general predisposition to experience sustained anxiety in stressful circumstances (Spielberger, 1983). While state anxiety pertains to a short-term, situation-specific perception of threat, trait anxiety denotes a more enduring personality disposition that manifests across various contexts (Spielberger, 1966, 1972, 1983). Anxiety is generally characterized by negative emotions, excessive worry, and physiological symptoms such as elevated blood pressure, sweating, trembling, dizziness, muscle tension, and rapid heartbeat (Barlow, 2002). Consequently, anxiety is regarded as one of the most prevalent mental health concerns among university students (American College Health Association, 2014).

## Career Anxiety

Career refers to a process that shapes life and work life, includes work experiences, and allows an individual to move upwards, downwards, or horizontally within an organization (Yarnall, 2008). Werther and Davis (1996) defined career in a broader context as the sum of all the work an individual had done throughout their life. As a process, career develops

through individuals' lifespan (Magnuson & Starr, 2000). As one type of anxiety, career anxiety refers to the negative emotions that individuals experience at various stages of their career decision-making processes and job performance (Shin & Lee, 2019). This anxiety is linked to concerns about the future and uncertainties about career development. With the rapid changes in the labor market in recent years, the business world has become increasingly unstable, uncertain, and unpredictable (Vignoli, 2015). High unemployment rates have also increased this uncertainty, leading to an increase in career anxiety. Career anxiety is an important factor that negatively affects not only psychological well-being but also career-related outcomes. For example, 37.3% of students stated anxiety as one of the biggest obstacles to their academic success (American College Health Association, 2022). In this context, studies examining career anxiety and its underlying mechanisms contribute to the understanding of anxiety from a career perspective. Most undergraduate students state that they experience some level of career anxiety, no matter how clear their career decisions are (Daniels et al., 2006; Gordon, 1998). Individuals, regardless of their developmental stage or job status, often feel anxious about their career path (Chartrand et al., 1990; Saka et al. 2008). Career anxiety is a common phenomenon among university students regardless of cultural or ethnic background (Gordon & Steele, 2015; Pisarik et al., 2017). While a certain level of anxiety can have a positive effect on preparing for career-related goals (Cho, 2008), excessive anxiety can hinder individuals' functionality and cease to be beneficial. Therefore, management of career anxiety becomes important for individuals to cope with career-related challenges.

Research on factors triggering career anxiety has contributed to a comprehensive understanding of career anxiety. Westbrook et al. (1985) defined the main sources of career anxiety as financial concerns, the degree of interest in chosen careers, satisfaction with career paths, and anxiety about achieving success in the career. Saka et al. (2008) stated that anxiety in the career decision process stems from various factors such as concerns about the decision-making process, uncertainty about the future and low tolerance for ambiguity, perfectionism regarding career choice, and fear of making the wrong choice. Vignoli et al. (2005) also emphasized that career anxiety is associated with fear of academic or professional failure, failure to meet parents' expectations, and possible disruptions in close relationships due to career. Tsai et al. (2017) suggested that factors such as the skills required for employment, difficulties in the labor market, and the adequacy of professional education at universities also affect anxiety. Studies on the causes of career anxiety show that low tolerance for uncertainty increases anxiety (Xu et al., 2016) and indecisive individuals have higher anxiety levels (Kaplan & Brown, 1987). Individual characteristics such as career adaptability (Shin & Lee, 2019), personality traits (Shi et al., 2015), gender (Saka & Gati, 2007), depression (Mahmud et al., 2021), and high self-esteem and expectations (Salimi et al., 2005) are also associated with career anxiety.

### **The Need for the Study**

The present study aimed to adapt the Career Anxiety Scale (CAS), originally developed by Tsai et al. (2017), into Turkish and to evaluate its validity and reliability. The CAS was initially designed to assess career anxiety among Taiwanese undergraduate students and has subsequently been utilized in various studies to measure career anxiety among Indian (Kautish et al., 2021), Chinese (Zhou et al., 2022), and Italian (Ardolino et al., 2024) student populations. Adapting and validating the Career Anxiety Scale (CAS) for undergraduate students in Turkey is both important and beneficial for several reasons. First, unemployment—particularly among higher education graduates—has become a growing concern in Turkey (Algül, 2024; Yalnızca-Yıldırım & Cenkseven-Önder, 2023). According to the most recent OECD report based on 2022 data, Turkey had the lowest employment rate for individuals with a bachelor's degree among OECD countries (OECD, 2024). Similarly, data from the Turkish Statistical Institute (TÜİK) in 2023 indicated that the employment rate among individuals with a bachelor's degree was 75.6%, suggesting that approximately one in four university graduates was unemployed. Moreover, several contextual factors have exacerbated the economic situation in Turkey, including the COVID-19 pandemic, a substantial influx of refugees from Middle Eastern countries over the past decade, and the devastating earthquake that occurred on February 6, 2023—all of which have negatively affected the Turkish economy (Ahmad et al., 2023; Tanrikulu, 2021). As a result, Turkey has one of the highest overall unemployment rates (8.6%) among OECD countries, with the highest unemployment rate among individuals holding a bachelor's degree. Empirical studies conducted with Turkish undergraduate students provide further evidence of heightened unemployment-related anxiety. For example, Yaşar and Turgut (2020) reported that senior sport sciences students exhibited high levels of unemployment anxiety ( $M = 4.07$  on a five-point scale). Similarly, in a study of Turkish nursing students, Öncü et al. (2023) found that more than half of the participants (53.0%) experienced high levels of unemployment anxiety, and a significant proportion (64.9%) reported intentions to seek employment abroad. In another study, Oral et al. (2024) found that depressive symptoms and job hopelessness were widespread among Turkish university students. Collectively, these findings underscore the importance of examining career anxiety among Turkish undergraduate students. In the Turkish literature, only one self-report measure—the High School Career Anxiety Scale—has been developed to assess career anxiety (Çetin-Gündüz & Nalbantoğlu-Yılmaz, 2016). This instrument consists of 14 items grouped into two subscales: *family influence* and *career choice*. As the subscale titles suggest, the instrument primarily focuses on the concerns of

high school students regarding their choice of academic or professional pathways in higher education. However, for undergraduate students who have already selected a professional field, this scale may not adequately capture the nature of their career-related anxiety. Therefore, there is a clear need for a valid and reliable self-report instrument to assess Turkish undergraduate students' career anxiety, particularly from the perspectives of personal competence, employment environment, and educational experience.

Secondly, the original CAS was developed with Taiwan undergraduate students, which differ from Turkish undergraduate students. According to Hofstede et al. (2010), the uncertainty avoidance index of Turkey was at strong level (Index score 85.0) whereas Taiwan was classified in the moderate level (Index score 69.0). Hofstede et al. (2010) argued that a higher score of uncertainty avoidance index referred to an unhappier life and thus was associated with a higher stress and anxiety. Thus, examining validity and reliability of the CAS in the Turkish context would be important and beneficial.

Third, several researchers in Turkey have used a short version of the CAS, adapted by Mahmud et al (2021) to measure undergraduate students' career anxiety (Müceldili et al., 2023; Üngüren & Kaçmaz, 2022; Yürcü & Akıncı, 2024). Yürcü & Akıncı (2024), for example, examined Turkish undergraduate tourism and hospitality students' career anxiety with its short version and reported only internal consistency score of Cronbach alphas as .89. However, in the short version of the CAS, Mahmud et al (2021) included only five items from the employment environment scale of the CAS. They excluded personal ability, irrational beliefs about employment and professional education training sub-scales of the CAS. These sub-scales are important to capture a more comprehensive picture of career anxiety of undergraduate students because of the fact that their professional skills, beliefs and training can a source of career anxiety. Thus, adapting the whole CAS would be important to comprehend the causes of career anxiety among Turkish undergraduate students.

Lastly, in their validity study, Tsai et al (2017) run explanatory and confirmatory factor analyses for construct validity and average variance extracted (AVE) for convergent validity to test its validity. They did not include any concurrent validity method. Testing the concurrent validity of the CAS with intolerance of uncertainty and psychological well-being would be beneficial. In addition, for the reliability of the CAS, they stuck on internal consistency score of Cronbach alphas. In this study, we examined the reliability with test-retest, which allowed us to assess how consistent scores from the scale over time. Therefore, some additional validity and reliability tests would have potential to increase the validity and reliability of the CAS.

To assess the concurrent validity of the adapted Career Anxiety Scale (CAS), its correlations with intolerance of uncertainty (IU) and psychological well-being were examined. IU refers to the tendency of individuals to respond negatively—emotionally, cognitively, and behaviorally—to uncertain situations. Individuals with high levels of IU often experience negative emotions such as anxiety, worry, and even depression when confronted with uncertain circumstances (Andrews et al., 2023; Buhr & Dugas, 2009). This trait reflects a predisposition to fear unpredictable future events and to perceive uncertainty as an undesirable condition (Buhr & Dugas, 2009). Specifically, individuals with high IU are more likely to interpret uncertain situations negatively and perceive themselves as unable to cope, which can lead to heightened emotional distress (Carleton et al., 2012; McEvoy, 2019). Conversely, individuals with low tolerance for uncertainty may experience life as overwhelming due to the ambiguity and unpredictability inherent in daily situations (Buhr & Dugas, 2002). Empirical studies support these associations: Zhou et al. (2022) reported a positive relationship between intolerance of uncertainty and future career anxiety among Chinese university students during the COVID-19 pandemic. Similarly, Özçelik-Bozkurt (2023) found that although hotel employees exhibited moderate levels of IU, career anxiety increased when intolerance of uncertainty was triggered. Tang et al. (2024) also noted that IU has a direct effect on career anxiety. In summary, intolerance of uncertainty contributes to heightened anxiety and worry across various domains of life. Based on this evidence, it was hypothesized that IU would be positively correlated with career anxiety scores measured by the CAS.

Psychological well-being refers to the extent to which individuals experience positive emotions more frequently than negative ones and report overall life satisfaction (Diener, 1984). It is conceptualized as a combination of enjoying life and functioning effectively across daily activities (Huppert, 2009). Psychological well-being encompasses various aspects of an individual's mental health, including happiness, perceived success, and overall life satisfaction. Additionally, it has been suggested that psychological well-being is positively associated with resilience, defined as an individual's capacity to cope with crises—mentally or emotionally—or to quickly return to a pre-crisis state (De Terte & Stephens, 2014). Individuals with high levels of psychological well-being typically exhibit greater tolerance for uncertainty and lower levels of anxiety. Empirical evidence supports this association: for instance, Keker (2020) found a negative relationship between career anxiety and psychological well-being among high school students. Similarly, Karayağız (2020) reported a low-level

negative correlation between psychological well-being and job anxiety among undergraduate students. Based on these findings, it was hypothesized that psychological well-being would be negatively correlated with career anxiety scores measured by the CAS.

### Methods

A survey design was utilized to address study purposes. As a non-experimental research design, the survey design is appropriate to examine individuals' attitudes or beliefs through the established scale. Once granting permission for adapting the CAS from its developers, the IRB from the scientific and ethical board at Muğla Sıtkı Koçman University was taken (protocol no: 3/240138). The survey was administered to four different groups of the participants to examine its validity and reliability. Statistical methods and techniques were used to examine the validity and reliability of the Turkish version of the CAS.

#### Participants

In this cross-sectional study, the convenience sampling method was used as the sampling technique. Undergraduate students who enrolled in a state university located in the Southwestern Turkey were selected as accessible population to save time and money due to its convenience to the researchers. In 2024-fall semester, data were collected from four different undergraduate groups to examine the validity and reliability of Turkish version of the CAS. To test linguistic equivalence and clarity, both versions, the Turkish and original English versions of the CAS were administered to a group of 45 senior year students (25 female, 20 male), who are fluent in both languages at the Department of English Language Teaching, aged between 21 and 24 (mean age = 22.08). Next, the Turkish version of the CAS was administered to a group of 356 undergraduate students (263 female, 93 male) aged 17 to 30 to run confirmatory factor analysis. For concurrent validity, data were collected from an additional sample of 175 undergraduate students (96 female, 79 male), aged 18 to 29 (mean age= 20.96), to examine the relationships between career anxiety, intolerance of uncertainty, and psychological well-being. Lastly, test-retest reliability analyses were then conducted with a group of 43 undergraduate students (36 female, 7 male) aged 21 to 24 (mean age = 22.48).

**Table 1.**

#### *Demographic Information about the Participants*

Purpose	Female		Male		Age
	<i>n</i>	%	<i>n</i>	%	<i>M</i>
Linguistic equivalence and clarity	25	55.56	20	44.44	22.08
Construct validity	263	73.88	93	26.12	21.05
Concurrent validity	96	54.86	79	45.14	20.96
Test-retest reliability	36	83.72	7	16.28	22.48
Total	420	67.85	199	32.15	21.58

#### Measures

##### **Career Anxiety Scale**

The CAS was developed by Tsai et al (2017) to measure Taiwan tourism and hospitality undergraduate students' career anxiety. As a four point Likert-type scale (1= strongly disagree, 4= strongly agree), it consisted of 25 items in four dimensions, named irrational beliefs about employment, personal ability, employment environment, professional education training. Personal ability is about fundamental skills that a prospective employee should have, including teamwork, leadership capacity, computer literacy and foreign language (8 items). Irrational beliefs about employment describes unrealistic or unhelpful expectations and assumptions that university graduates may hold as they enter the labor market (8 items). Employment environment describes the anxiety related to working environment or conditions on employment (five items). Professional education training is about the anxiety relating professional education that they train in undergraduate education (four items). Tsai et al (2017) run exploratory and confirmatory factor analyses with data from 479 undergraduate students from ten different universities Taiwan. Results of exploratory factor analysis showed that the four factors explained 53.96% of variance, and the results of confirmatory factor analysis resulted in acceptable fit indices as  $\chi^2/df = 2.748$ ,  $IFI=.90$ ,  $GFI=.90$ ,  $AGFI=.90$  and  $RMSEA = .047$ . Internal consistency coefficients of Cronbach alphas were between .76 and .89. With Turkish undergraduate sample, several studies used a short version of the CAS, consisting of only employment environment sub-dimension, and reported that Internal consistency coefficients of Cronbach alphas .94 (Üngüren & Kaçmaz, 2022).

**Psychological Well-Being**

Scale was developed by Diener et al. (2010) to assess individuals’ psychological well-being. It was adapted into Turkish by Telef (2013). As a seven-point Likert type scale (1: strongly disagree, 7: strongly agree), it consists of eight items related to self-perceived success in relationships, self-esteem, optimism and purpose. The scale is unidimensional, which gives psychological well-being score. The high score indicates many psychological resources and strengths. In adaptation study with 529 university students, Telef (2013) reported an acceptable fit of the scale as  $\chi^2/df = 4.645$ , CFI= .95 and RMSEA = .08. Cronbach alpha values for internal reliability was .80.

**Intolerance of Uncertainty Scale-12**

Freeston et al. (1994) developed the Intolerance of Uncertainty Scale (IUS) to assess individuals’ emotional, cognitive, and behavioral reactions to uncertainty, the future, and ambiguous situations. Carleton et al. (2007) subsequently shortened the original scale to a 12-item version, known as the IUS-12. The IUS-12 was adapted into Turkish by Sarıçam et al. (2014). The IUS-12 is a five-point Likert-type scale (1 = not at all characteristic of me, 5 = entirely characteristic of me) and comprises two subdimensions: prospective anxiety (seven items) and inhibitory anxiety (five items). Higher scores indicate greater intolerance of uncertainty. In the Turkish adaptation study with 593 university students, Sarıçam et al. (2014) reported acceptable model fit indices for the scale:  $\chi^2(48) = 147.20$ , CFI = .95, and RMSEA = .073. Cronbach’s alpha coefficients indicated good internal reliability, with .84 for prospective anxiety and .77 for inhibitory anxiety.

**Data Analysis and Adapting Procedure of the CAS**

According to Hambleton and Patsula (1999), the scale adaptation process involves a series of carefully structured steps, beginning with the establishment of linguistic and cultural equivalence. In the adaptation of the Career Anxiety Scale (CAS) for Turkish culture, permission was first obtained from the original authors, and the scale was then translated into Turkish. The accuracy and appropriateness of the translation were evaluated through a back-translation process and the review of five experts who were fluent in English and specialized in the relevant field, after which necessary adjustments were made. The translated scale was initially administered to a group of 45 fourth-year English Language Teaching undergraduate students who were bilingual. Pearson correlation coefficients between the Turkish and English versions of the CAS ranged from .91 to .97, indicating a high degree of similarity between the items of both versions (see Table 2). A strong and significant correlation was also observed between the total scores of the original and Turkish versions of the scale ( $r = .97$ ,  $p < .01$ ). Additionally, participants provided feedback regarding the clarity and mutual compatibility of the items. Following confirmation of linguistic equivalence and clarity, the final Turkish version of the CAS was administered to a sample of 356 undergraduate students. Construct validity of a scale is typically assessed using two approaches: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). While EFA is primarily data-driven and used to explore underlying factors (Thompson, 2004), CFA is theory-driven and employed to confirm the factor structure of a scale. Although Tsai et al. (2017) used EFA to validate the CAS structure, CFA was utilized in the present study because the factor structure had already been established. In CFA, acceptable fit indices are generally considered as  $\chi^2/df < 5$ , CFI  $> .90$ , and RMSEA  $< .08$  (Hu & Bentler, 1999). Data collected from 175 undergraduate students were used to examine the concurrent validity of the CAS. Concurrent validity, a type of criterion-related validity alongside predictive validity, assesses the extent to which scores on a scale are associated with other outcome measures (Chen et al., 2024). In this study, concurrent validity was evaluated by examining the relationships between career anxiety, intolerance of uncertainty, and psychological well-being. Reliability analyses of the CAS were conducted using Cronbach’s alpha, McDonald’s omega, and test-retest reliability methods. Finally, potential differences in career anxiety and its subscales across gender and academic field were examined using a one-way MANOVA. Based on the results of the validity and reliability analyses, the final Turkish version of the CAS was established.

**Table 2.**

*Pearson Correlation Coefficients Between Turkish and English Versions of the CAS*

Versions		Turkish Version				
		1	2	3	4	5
English Version	1-Total Scale	.97				
	2-Personal Ability		.95			
	3-Irrational Beliefs About Employment			.94		
	4-Employment Environment				.91	
	5-Professional Education Training					.97

**Results**

Confirmatory factor analyses (CFA) were conducted to evaluate the construct validity of the Turkish version of the Career Anxiety Scale (CAS). Three different models were tested. First, a single-factor model was examined, which yielded unsatisfactory fit indices ( $\chi^2/df = 14.6$ , CFI = .75, RMSEA = .196). Second, a four-factor model was tested, resulting in partially acceptable fit indices ( $\chi^2/df = 3.52$ , CFI = .89, RMSEA = .084). Finally, a second-order four-factor model was evaluated, producing better fit indices compared to the previous models ( $\chi^2/df = 3.52$ , CFI = .90, RMSEA = .080). Given that the second-order four-factor model demonstrated a lower RMSEA and higher CFI than the four-factor model, it was accepted as the best-fitting model (Kline, 2015). Factor loadings and error variances for the second-order four-factor model are presented in Figure 1.

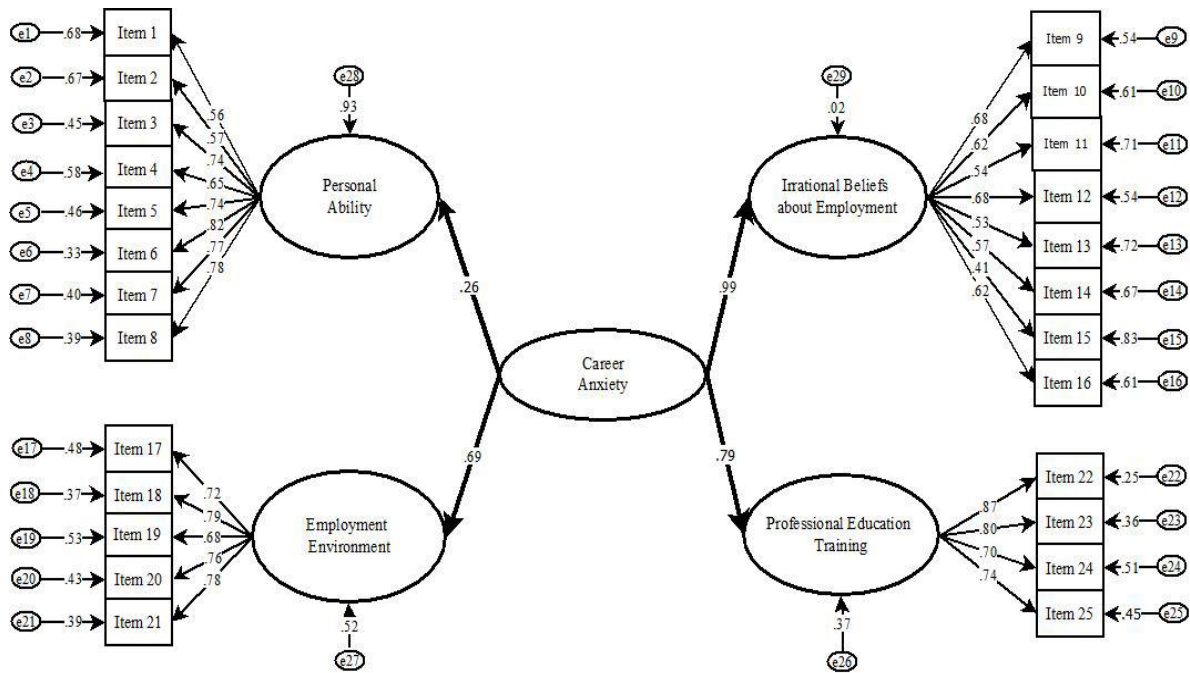
**Table 3.**

*Fit Indices of Different Models for Construct Validity*

Models	$\chi^2/ sd$	CFI	TLI	IFI	GFI	AGFI	RMSEA (CI 95%)
1-Single Factor Model	4017/275=14.60	.75	.73	.75	.82	.76	.196 (.190/.201)
2-Four Factor Model	947/269=3.52	.89	.88	.90	.95	.94	.084(.078/.090)
3-Second-order four-Factor Model	960/271=3.52	.90	.90	.90	.96	.94	.080(.075/.086)

**Figure 1.**

*The Second-Order Four-Factor Confirmatory Factor Analysis Results of the CAS and Its Factor Loading Values and Error Variances*



Note: All factor loading values are significant at the .01 level.

The fit indices related to the second level confirmatory factor analysis of the CAS showed that the second level factor structure of the scale had acceptable values ( $\chi^2/ sd = 3.52$ , CFI= .90, TLI= .90, GFI= .96, AGFI= .94, RMSEA=.080 [.076, .086]). The first factor was named as "personal ability" as in the original scale. The factor loading values of the first factor, which consisted of eight items, varied between .56 and .82. The second factor was "irrational beliefs about employment" that its loading values varied between .41 and .68. The third factor was "employment environment". The item loading values for the factor consisting of five items varied between .68 and .79. The last factor was "professional education training". The item loading values for this factor varied between .70 and .87. The loading values of the four factors of the CAS were between .26 and .99. In another validity study, the convergent validity of the scale was assessed by calculating the Average Variance Extracted (AVE). This value was found to be 0.56 for the overall scale, while for the subscales it was calculated as .51, .40, .55, and .61, respectively.

In Table 4, Pearson correlation coefficients amongst the total score of CAS, and its factors, intolerance to uncertainty and psychological well-being were given. Accordingly, as theoretically predicted, the CAS and its subscales had positive relationships with intolerance to uncertainty, and negative relationships with psychological well-being. Additionally, all correlations between sub-factors were positive and statistically significant ( $p < .05$ ), indicating that the factors of the CAS shared the career anxiety.

**Table 4.**

*Descriptive Statistics and Pearson Correlation Coefficients Amongst Variables*

Variables	Mean	Sd	1	1a	1b	1c	1d	2	3
1 – The CAS <sup>a</sup>	2.61	0.47	–						
1a - Personal ability <sup>a</sup>	2.70	0.65	.62*	–					
1b - Irrational beliefs about employment <sup>a</sup>	2.32	0.59	.82*	.19*	–				
1c - Employment environment <sup>a</sup>	3.21	0.68	.69*	.15*	.57*	–			
1d - Professional education training <sup>a</sup>	2.29	0.82	.73*	.20*	.64**	.41*	–		
2 - Intolerance of uncertainty <sup>b</sup>	3.47	0.81	.35*	.22*	.36*	.33*	.35*	–	
3 - Psychological well-being <sup>c</sup>	4.94	1.18	-.25*	.15*	-.40*	-.20*	-.38*	-.29*	–

\*  $p < .01$  <sup>a</sup>: 4-point scale <sup>b</sup>: 5-point scale <sup>c</sup>: 7-point scale

**Reliability of the CAS**

In order to test the reliability of the CAS, internal consistency values of Cronbach's alphas ( $\alpha$ ), McDonald's omega ( $\omega$ ) and Composit Reliability (CR) coefficients were calculated. It was found to be  $\alpha = .89$  and  $\omega = .89$  for the whole CAS,  $\alpha = .85$  and  $\omega = .85$  for personal ability,  $\alpha = .74$  and  $\omega = .75$  for irrational beliefs about employment,  $\alpha = .81$  and  $\omega = .81$  for employment environment, and  $\alpha = 0.81$  and  $\omega = .81$  for professional education training. While the CR value calculated for the total of CAS was found to be 0.86, the values for the subscales were obtained as .89, .80, .86, and .87, respectively. Test-retest reliability was also tested by applying the CAS to the same group twice with a 10-day interval. In the test-retest application, Pearson correlations were found to be .88 for the total score of the CAS and between .77 and .88 for its factors.

**Group Differences in CAS**

**Table 5.**

*Findings Regarding the Differentiation of the Total Scale and Subscales of CAS By Gender*

			Sex	Mean	Sd	F	$\eta^2$
Total Career Anxiety			Women	66.33	11.46	25.691**	.047
			Man	60.23	11.68		
Subscales of CAS	Personal Ability		Women	21.90	5.04	5.600**	.011
			Man	20.62	5.51		
	Irrational Beliefs About Employment	Women	18.88	4.53	19.642**	.036	
		Man	16.75	4.77			
	Employment Environment		Women	16.27	3.26	20.450**	.037
			Man	14.66	3.86		
	Professional Education Training		Women	9.27	3.25	10.252**	.019
			Man	8.18	3.24		

\*\*  $p < .01$ ;  $\Lambda = 7.088$ ,  $p < .000$

According to Table 5, Total Career Anxiety significantly differs by gender among university students ( $F = 25.691$ ,  $p < .01$ ). Similarly, the subscales of Personal Abilities ( $F = 5.600$ ,  $p < .01$ ), Irrational Beliefs About Employment ( $F = 19.642$ ,  $p < .01$ ), Employment Environment ( $F = 20.450$ ,  $p < .01$ ), and Professional Education Training ( $F = 10.252$ ,  $p < .01$ ) also show significant differences based on gender. Examination of the differences revealed that female university students scored higher on total career anxiety and all subscales compared to their male university students. Regarding the effect size of gender on career anxiety, it was found to be “moderate” for Total Career Anxiety, Irrational Beliefs About Employment, and Employment Environment, whereas it was “low” for the Personal Abilities and Professional Education Training subscales.

**Table 6.**

*Findings Regarding the Differentiation of the Total Scale and Subscales of CAS by Academic Field*

		Academic Fields	Mean	Sd	F	$\eta^2$
Total Career Anxiety		Social	64.48	12.00	.428	.002
		Science-Mathematic	66.86	10.64		
		Physical Education	64.46	14.39		
		Turkish-Mathematic	65.07	11.52		
Personal Ability		Social	21.40	5.30	.801	.005
		Science-Mathematic	22.57	5.01		
		Physical Education	21.81	5.49		
		Turkish-Mathematic	21.53	5.08		
Irrational Beliefs about Employment		Social	18.14	4.378	.784	.004
		Science-Mathematic	18.54	4.942		
		Physical Education	17.62	5.308		
		Turkish-Mathematic	18.67	4.747		
Employment Environment		Social	15.80	3.69	.453	.003
		Science-Mathematic	16.33	2.91		
		Physical Education	16.25	3.28		
		Turkish-Mathematic	15.86	3.43		
Professional Education Training		Social	9.13	3.23	.133	.001
		Science-Mathematic	8.98	3.40		
		Physical Education	8.78	3.40		
		Turkish-Mathematic	8.99	3.28		
$\Lambda=.874. p>.000$						

As presented in Table 6, neither the Total Career Anxiety scores nor the mean scores of the career anxiety subscales of university students differ significantly with respect to their academic field of study. Accordingly, the effect of academic field on career anxiety appears to be almost negligible.

### Discussion, Conclusion, and Recommendations

#### Discussion and Conclusion

In this study, the adaptation of the Career Anxiety Scale (CAS), originally developed by Tsai et al. (2017), into Turkish and the evaluation of its psychometric properties were thoroughly examined. The language validity analysis revealed high and significant correlations ( $r = .91-.97$ ) between the Turkish and English versions, indicating that both forms are linguistically and conceptually equivalent. This finding supports the suitability of the scale for use in the Turkish context.

The construct validity of the 25 items covering the four sub-dimensions of the scale—personal competence, irrational beliefs about work, employment environment, and vocational training and skills—was assessed using confirmatory factor analysis (CFA). The CFA results demonstrated that the four-factor model had acceptable fit indices, confirming that the theoretical framework of the scale is valid for the Turkish sample. Furthermore, the significant interrelationships among the sub-dimensions provide additional support for the construct validity of the scale, indicating that the scale aligns well with its theoretically predicted structure. In previous adaptations of the CAS into English, Boo et al. (2022) removed three items due to low factor loadings (below .60). In the present study, although some items had factor loadings below .60, Tabachnick and Fidell (2007) suggest a lower cut-off value of .30 for item deletion. Therefore, no items were removed from the Turkish version of the scale.

In the concurrent validity, positive relationships were found between career anxiety and intolerance of uncertainty and negative relationships with psychological well-being. The findings of concurrent validity were consistent with the studies in the literature. The positive relationship between intolerance of uncertainty and career anxiety is consistent with the studies conducted by Zhou et al. (2022), Özçelik-Bozkurt (2023) and Tang et al. (2024). These studies reported that intolerance of uncertainty increased anxiety about the future and directly triggered individuals' career-related concerns. In addition, the negative relationship between psychological well-being and career anxiety was emphasized by Şeker (2020) and Karayağız (2020), which were consistent with the findings of the study. Intolerance of uncertainty both negatively affects psychological well-being and increases career anxiety, which is consistent with theoretical expectations. These findings indicated that the adapted CAS was compatible with theoretical expectations and the previous studies. To sum up, the construct validity and concurrent validity of the scale were strongly supported by the analyses.

In convergent validity, if this value falls below 0.5, it suggests that the variance attributed to measurement error surpasses the variance explained by the construct (factor), indicating a lack of convergent validity (Fornell & Larcker, 1981). In a multifactorial structure, each factor must have an AVE value greater than 0.5 to establish convergent validity (Kartal & Bardakçı, 2018). Since the AVE value obtained for this measurement instrument is 0.56, it confirms that the scale exhibits convergent validity.

Reliability analyses revealed high Cronbach alpha and McDonald omega coefficients (.89 for both) for the total scale and sub-factors. Test-retest reliability analysis confirmed the stability of the scale over time and showed that the correlation coefficient for the total scale was .88. These findings prove that the scale is reliable in terms of both internal consistency and measurement stability. Consistent with this study, studies utilized the CAS in other countries, like Boo et al (2022)'s study with the US college students, reported the reliability of the CAS was satisfactory. For a factor to demonstrate high construct reliability and, consequently, convergent validity, the CR coefficient must be greater than 0.7 (Kartal & Bardakçı, 2018). Since the CR value for CAS was found to be 0.86, it has been concluded that all factors exhibit high construct reliability (Hair et al., 2005).

The mean scores of the Career Anxiety Scale (CAS), presented in Table 4, indicate that the undergraduate students in this sample exhibited a moderate level of career anxiety on a four-point scale (1.00–1.99 = low, 2.00–2.99 = moderate, 3.00–4.00 = high). Similarly, with respect to the sub-dimensions, students generally reported moderate levels of anxiety, except for the employment environment sub-dimension, where they demonstrated a high level of anxiety. Previous research in the Turkish context has similarly indicated that undergraduate students are particularly concerned about employment-related issues. Consistent with these findings, Müceldili et al. (2023) reported high levels of career anxiety among Turkish undergraduates. In contrast, studies conducted in other countries have generally found moderate levels of career anxiety among university students (Boo et al., 2022; Zhou et al., 2022). The elevated anxiety related to the employment environment among Turkish undergraduates may be attributed to the ongoing economic crisis in Turkey (Daştan & Eygü, 2024). These findings underscore the need for further research focusing on career anxiety among Turkish undergraduate students. Overall, this study demonstrates that the Turkish version of the CAS is a valid and reliable measurement instrument, providing a solid foundation for future research and interventions aimed at understanding and addressing career-related anxiety.

Additionally, the study examined whether university students' career anxiety differed according to their gender and academic field. Research conducted among university students indicates that female students exhibit higher levels of career anxiety compared to their male counterparts. Several factors may account for this difference. First, numerous studies have reported that women generally experience higher levels of anxiety and stress than men (Graves et al., 2021; Pelch, 2018). Moreover, female students have been found to be at greater risk for anxiety, depression, and other psychological difficulties (Gao et al., 2020). In addition, women are more likely to experience test anxiety, particularly in the context of high-stakes examinations and academic performance, which in turn may heighten their career-related anxiety (Malespina et al., 2025). From a sociocultural perspective, societal expectations, concerns regarding economic independence, and heightened apprehension about employment opportunities appear to exert greater pressure on female students, thereby contributing to their elevated levels of career anxiety relative to men (Yang, 2025). Taken together, these findings suggest that female students' career anxiety is shaped not only by individual psychological factors but also by broader sociocultural conditions.

The research findings revealed that the academic field in which university students are enrolled does not lead to significant differences in career anxiety. This suggests that career anxiety is not merely discipline-specific but is more closely associated with factors such as uncertainty about the future, concerns about employment, economic conditions, and individual psychological characteristics. Indeed, previous studies have also demonstrated that, regardless of academic discipline, factors such as unemployment rates, post-graduation uncertainty, and societal expectations influence students' career anxiety (Okutan & Akbaş, 2019; Yang et al., 2025). Furthermore, students' self-efficacy beliefs and levels of psychological resilience emerge as stronger determinants of career anxiety (Choi et al., 2020). These findings indicate that career anxiety is shaped more by individual and socioeconomic conditions than by differences across academic fields.

### **Limitations and Directions for Future Research**

Some limitations should be considered in this study. The sample of the study is limited to undergraduate students only. In future studies, the generalizability of the results can be increased by including data obtained from graduate students. In addition, the study was conducted with cross-sectional data. It is recommended that studies based on longitudinal data be conducted to evaluate the test-retest reliability of the CAS more comprehensively. In the future, applying the scale to different age groups and education levels can be beneficial in terms of generalizability. In addition,

longitudinal studies can examine the scale's variability over time in depth. In addition, exploring students' career anxiety perceptions with qualitative research methods can expand the knowledge in this area. Such studies can contribute to the development of effective interventions to reduce career anxiety.

### **Conclusions**

These analyses conducted on career anxiety reveal important results about the innovations that cultural differences and factors in the scale bring to the understanding of this concept. The high correlation between the original English scale and the Turkish form ( $r=0.97$ ) suggests that cultural differences do not disrupt the main structure of the scale, but career anxiety may differ in certain sub-factors. The fact that the fit values of the four-factor second-level model are better than other models indicates that career anxiety can be addressed comprehensively with factors such as "personal competence," "irrational beliefs about employment," "employment environment," and "vocational training." In conclusion, these findings provide important insights about how individual psychological factors such as career anxiety may vary in cultural contexts. In addition, the fact that the positive relationship of career anxiety with uncertainty tolerance and the negative relationship with psychological well-being are consistent across different cultural contexts suggests that the scale can be evaluated within a global framework. In this context, taking cultural differences into account allows for the development of more sensitive approaches to solving individual and social problems such as career anxiety.

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## Genişletilmiş Özet

### Giriş

Son yıllarda, Covid-19'un etkileri ve yapay zekâ gelişmeleri nedeniyle küresel işgücü piyasası dramatik bir şekilde belirsizliğe dönüşmüştür (Cao & Hamori, 2022; Müceldili ve ark., 2023). COVID-19 pandemisi, küresel işgücü piyasasında önemli değişikliklere yol açmış, işletmeleri kapanmalar, seyahat kısıtlamaları ve azalan müşteri talebiyle sekteye uğratmış ve bu durum finansal sıkıntılara neden olmuştur (Mahmud ve ark., 2021). Bu sağlık krizi aynı zamanda ekonomik bir krize dönüşmüş ve küresel işsizlik oranı 2019'da %5,37'den 2020'de %6,47'ye yükselmiştir (World Bank, 2020). Bunun yanında, hızlı dijitalleşme öngörülemez iş ortamları yaratmış, çalışanların sürekli uyum sağlamasını, yeni beceriler geliştirmesini ve esnek kalmasını zorunlu hale getirmiştir (Savickas ve ark., 2009). Bu talepleri karşılayamayanlar sıklıkla iş güvencesizliğiyle karşılaşmaktadır. Pandeminin yol açtığı iş değişiklikleri — bulanıklaşan iş-yaşam sınırları, beklenmedik iş kayıpları ve düzensiz çalışma saatleri — ruh sağlığını da etkilemiş, kaygıyı ve sağlık risklerini artırmıştır (Cao & Hamori, 2022).

Kariyer, yaşamı ve iş yaşamını şekillendiren, iş deneyimlerini içeren ve bireyin bir organizasyon içinde yukarıya, aşağıya veya yatay olarak hareket etmesine imkân tanıyan bir süreçtir (Yarnall, 2008). Werther ve Davis (1996) kariyeri daha geniş bir bağlamda, bireyin yaşamı boyunca yaptığı tüm işlerin toplamı olarak tanımlamıştır. Bir süreç olarak kariyer, bireylerin yaşam döngüsü boyunca gelişmektedir (Magnuson & Starr, 2000). Kaygının bir türü olan kariyer kaygısı ise, bireylerin kariyer karar verme süreçlerinin çeşitli aşamalarında ve iş performanslarında yaşadıkları olumsuz duyguları ifade etmektedir (Shin & Lee, 2019). Bu kaygı, geleceğe dair endişeler ve kariyer gelişimindeki belirsizliklerle ilişkilidir. Son yıllarda işgücü piyasasında yaşanan hızlı değişimlerle birlikte iş dünyası giderek daha istikrarsız, belirsiz ve öngörülemez hale gelmiştir (Vignoli, 2015). Yüksek işsizlik oranları da bu belirsizliği artırmış ve kariyer kaygısında artışa yol açmıştır. Kariyer kaygısı, yalnızca psikolojik iyi oluşu değil, aynı zamanda kariyerle ilgili sonuçları da olumsuz etkileyen önemli bir faktördür. Örneğin, öğrencilerin %37,3'ü kaygıyı akademik başarılarının önündeki en büyük engellerden biri olarak belirtmiştir (American College Health Association, 2022). Bu bağlamda, kariyer kaygısını ve onun altında yatan mekanizmaları inceleyen çalışmalar, kaygının kariyer perspektifinden anlaşılmasına katkıda bulunmaktadır. Çoğu lisans öğrencisi, kariyer kararları ne kadar net olursa olsun, belli düzeyde kariyer kaygısı yaşadığını belirtmektedir (Daniels ve ark., 2006; Gordon, 1998). Gelişimsel aşamaları ya da iş durumları ne olursa olsun, bireyler çoğunlukla kariyer yolları hakkında kaygı hissederler (Chartrand ve ark., 1990; Saka ve ark., 2008). Kariyer kaygısı, kültürel ya da etnik arka plan fark etmeksizin üniversite öğrencileri arasında yaygın bir olgudur (Gordon & Steele, 2015; Pisarik ve ark., 2017). Kaygının belli bir düzeyi kariyerle ilgili hedeflere hazırlanma sürecinde olumlu bir etki yaratabilirken (Cho, 2008), aşırı kaygı bireylerin işlevselliğini engelleyebilir ve faydalı olmaktan çıkabilir. Bu nedenle, kariyer kaygısının yönetimi, bireylerin kariyerle ilgili zorluklarla başa çıkabilmesi açısından önemli hale gelmektedir.

Türkiye'de lisans öğrencileri için Kariyer Kaygısı Ölçeği'ni (KKÖ) uyarlamak ve geçerlik-güvenirlik çalışmasını yapmak aşağıdaki nedenlerden dolayı önemli ve yararlı olacaktır. İlk olarak, özellikle yükseköğretim mezunları arasındaki işsizlik sorunu Türkiye'de giderek büyüyen bir sorun haline gelmiştir (Algül, 2024; Yalnızca-Yıldırım & Cenkseven-Önder, 2023). OECD'nin 2022 verilerine dayanan son raporuna göre, Türkiye OECD ülkeleri arasında lisans derecesine sahip bireylerde en düşük istihdam oranına sahiptir (OECD, 2024). Benzer şekilde, Türkiye İstatistik Kurumu'nun (TÜİK) 2023 verilerine göre, lisans derecesine sahip olanların kayıtlı istihdam oranı %75,6'dır; bu da her dört mezundan birinin işsiz olduğu anlamına gelmektedir. Son on yılda Orta Doğu ülkelerinden gelen büyük mülteci dalgasının ve Covid-19'un etkilerinin yanı sıra, 6 Şubat 2023'te meydana gelen büyük deprem de Türkiye ekonomisini olumsuz yönde etkilemiştir (Ahmad ve ark., 2023; Tanrıku, 2021). Sonuç olarak, OECD ülkeleri arasında Türkiye, %8,6 ile en yüksek işsizlik oranına sahip ülkelerden biri olmuş ve lisans mezunlarında işsizlik oranı en yüksek seviyeye ulaşmıştır. Bu nedenlerle, Türk lisans öğrencileriyle yapılan çalışmalar onların yüksek düzeyde işsizlik kaygısına sahip olduklarını ortaya koymuştur. Örneğin, Yaşar ve Turgut (2020), spor bilimleri son sınıf öğrencilerinin yüksek düzeyde işsizlik kaygısı yaşadıklarını bulmuştur (M= 4.07; beşli Likert ölçeğinde). Bir başka çalışmada, Türk hemşirelik öğrencileriyle yapılan araştırmada, Öncü ve ark. (2023) katılımcıların çoğunluğunun (%53,0) yüksek düzeyde işsizlik kaygısı hissettiklerini ve büyük bir kısmının (%64,9) yurt dışında çalışmayı planladıklarını ortaya koymuştur. Oral ve ark. (2024) ise Türk lisans öğrencilerinin depresif belirtilerini incelemiş ve üniversite öğrencileri arasında depresif belirtiler ile işsizlik umutsuzluğunun yaygın olduğunu bulmuştur. Bu nedenlerle, Türk lisans öğrencilerinin kariyer kaygısını incelemek kritik öneme sahiptir. Ancak, hâlihazırda bir meslek seçmiş olan lisans öğrencileri için bu ölçek kariyer kaygısını değerlendirmede uygun olmayabilir. Dolayısıyla, Türk lisans öğrencilerinin kişisel yeterlik, istihdam ortamı ve eğitim perspektiflerinden kariyer kaygılarını ölçebilecek bir öz-bildirim ölçeğine ihtiyaç olduğu açıktır.

## Yöntem

### Katılımcılar

Araştırmacılara zaman ve maliyet açısından kolaylık sağlaması nedeniyle, erişilebilir evren olarak Türkiye'nin güneybatısında yer alan bir devlet üniversitesine kayıtlı lisans öğrencileri seçilmiştir. 2024 güz döneminde, CAS'in Türkçe formunun geçerlik ve güvenilirliğini incelemek amacıyla dört farklı lisans grubundan veri toplanmıştır. Dilsel eşdeğerlik ve anlaşılabilirliği test etmek için, İngilizce Öğretmenliği Bölümü'nde okuyan ve her iki dile de hâkim olan 45 son sınıf öğrencisine (25 kadın, 20 erkek; yaş aralığı: 21–24; ort. yaş = 22,08) hem Türkçe hem de orijinal İngilizce formlar uygulanmıştır. Ardından, doğrulayıcı faktör analizi yapmak amacıyla, 17–30 yaş aralığında (263 kadın, 93 erkek) toplam 356 lisans öğrencisine KKÖ'nin Türkçe formu uygulanmıştır. Eşzamanlı geçerliği test etmek için, kariyer kaygısı, belirsizliğe tahammülsüzlük ve psikolojik iyi oluş arasındaki ilişkileri incelemek amacıyla, 18–29 yaş aralığında (96 kadın, 79 erkek; ort. yaş = 20,96) ek bir örneklemden 175 lisans öğrencisinden veri toplanmıştır. Son olarak, test-tekrar test güvenilirliği analizleri, 21–24 yaş aralığında (36 kadın, 7 erkek; ort. yaş = 22,48) toplam 43 lisans öğrencisiyle gerçekleştirilmiştir.

### Veri Toplama Araçları

Çalışmada veri toplama aracı olarak Kariyer Kaygısı Ölçeği (KKÖ), Psikolojik İyi Oluş Ölçeği ve Belirsizliğe Tahammülsüzlük Ölçeği-12 kullanılmıştır.

### Veri Analizi ve KKÖ'nin Uyarlama Süreci

Hambleton ve Patsula'ya (1999) göre, bir ölçeğin uyarlanma süreci, dilsel ve kültürel eşdeğerliğin sağlanmasıyla başlayan ve dikkatle izlenmesi gereken bir dizi adımdan oluşmaktadır. KKÖ'nin Türk kültürüne uyarlanmasında önce yazarlarından izin alınmış ve ardından ölçek Türkçeye çevrilmiştir. Çevirinin uygunluğu, geri çeviri yöntemi ve ilgili alanda çalışan ve İngilizceye hâkim beş uzmanın görüşleri ile değerlendirilmiş ve gerekli düzenlemeler yapılmıştır. Çevirisi yapılan ölçek, iki dile hâkim olan İngilizce Öğretmenliği lisans programı 4. sınıf öğrencilerinden oluşan 45 kişilik bir gruba uygulanmıştır. KKÖ'nin Türkçe ve İngilizce versiyonları arasındaki Pearson korelasyon katsayıları .91 ile .97 arasında değişmiş olup, bu durum maddelerin her iki versiyonda da birbirine oldukça benzer olduğunu göstermektedir (Bkz. Tablo 2). Buna göre, orijinal ölçeğin toplam puanları ile Türkçe çeviri formunun toplam puanları arasında pozitif ve anlamlı bir ilişki bulunmuştur ( $r = .97$ ,  $p < .01$ ). Ayrıca, katılımcılardan maddelerin karşılıklı uyumluluğu ve anlaşılabilirliği hakkında geri bildirim alınmıştır. Dil eşdeğerliği ve açıklığın sağlanmasının ardından, KKÖ'nin nihai Türkçe formu 356 lisans öğrencisine uygulanmıştır. Bir ölçeğin yapı geçerliğini değerlendirmek için genellikle kullanılan iki farklı yaklaşım vardır: açımlayıcı faktör analizi ve doğrulayıcı faktör analizi. Açımlayıcı faktör analizi, verideki temel faktörleri keşfetmeye odaklanırken (veri odaklı, Thompson, 2004), doğrulayıcı faktör analizi genellikle teoriye dayalıdır ve ölçeğin faktör yapısını doğrulamak için kullanılır. Tsai ve ark. (2017) KKÖ'nin yapısını doğrulamak için açımlayıcı faktör analizi kullanmış olmasına rağmen, ölçeğin faktör yapısı zaten keşfedildiği için biz doğrulayıcı faktör analizini tercih ettik. Doğrulayıcı faktör analizinde önerilen kabul edilebilir uyum indeksleri  $\chi^2/df < 2.5$ , CFI  $> .90$ , RMSEA  $< .08$  şeklindedir (Hu & Bentler, 1999). Ardından, 175 lisans öğrencisinden toplanan veriler, eşzamanlı geçerlik (concurrent validity) analizinde kullanılmıştır. Eşzamanlı geçerlik, öngörücü geçerlik ile birlikte kriter geçerliği yöntemlerinden biridir ve ölçek puanının diğer sonuç ölçütleriyle ne kadar ilişkili olduğunu açıklamak için kullanılır (Chen ve ark., 2024). KKÖ'nin eşzamanlı geçerliğini incelemek için, kariyer kaygısı, belirsizliğe tahammülsüzlük ve psikolojik iyi oluş arasındaki ilişkiler değerlendirilmiştir. KKÖ'nin güvenilirlik analizleri ise Cronbach alfa, McDonald omega ve test-tekrar test yöntemleri kullanılarak yapılmıştır. Son olarak, kariyer kaygısı ölçeği ve alt ölçeklerinin cinsiyet ve akademik alana göre farklılaşp farklılaşmadığı tek faktörlü MANOVA ile incelenmiştir. Geçerlik ve güvenilirlik çalışmaları tamamlandıktan sonra, ölçeğin nihai Türkçe versiyonu belirlenmiştir.

### Bulgular ve Tartışma/Sonuç

KKÖ'nin Türkçe versiyonunun yapı geçerliğini değerlendirmek için doğrulayıcı faktör analizleri (DFA) yapılmıştır. Üç farklı model test edilmiştir. İlk model tek ölçekli model olup, uyum indeksleri tatmin edici çıkmamıştır ( $\chi^2/df = 14,6$ , CFI = .75, RMSEA = .196). İkinci model dört faktörlü model olup, bazı kabul edilebilir uyum indeksleri elde edilmiştir ( $\chi^2/df = 3,52$ , CFI = .89, RMSEA = .084). Son model ise ikinci dereceden dört faktörlü model olup, diğer modellere göre daha uygun uyum indeksleri sağlamıştır ( $\chi^2/df = 3,52$ , CFI = .90, RMSEA = .080). İkinci dereceden dört faktörlü model, dört faktörlü modele göre daha düşük RMSEA ve daha yüksek CFI değerleri verdiği için kabul edilmiştir (Kline, 2015).

KKÖ'nin ikinci düzey doğrulayıcı faktör analizine ait uyum indeksleri, ölçeğin ikinci düzey faktör yapısının kabul edilebilir değerlere sahip olduğunu göstermiştir ( $\chi^2/df = 3,52$ , CFI = .90, TLI = .90, GFI = .96, AGFI = .94, RMSEA = .080 [.076, .086]). İlk faktör, orijinal ölçekle aynı şekilde "kişisel yeterlik" olarak adlandırılmıştır. Sekiz maddeden oluşan bu faktörün faktör yükleri .56 ile .82 arasında değişmiştir. İkinci faktör "istihdama ilişkin irrasyonel inançlar" olup, yük değerleri .41 ile .68 arasında değişmiştir. Üçüncü faktör "istihdam ortamı" olarak adlandırılmıştır ve beş maddeden oluşan bu faktörün madde yükleri .68 ile .79 arasında değişmiştir. Son faktör ise "mesleki eğitim ve öğretim" olarak belirlenmiş olup, madde yükleri .70 ile .87 arasında değişmiştir. KKÖ'nin dört faktörünün yük değerleri genel olarak .26 ile .99 arasında yer almıştır. Başka bir geçerlik çalışmasında ise ölçeğin yakınsak geçerliği (convergent validity) Ortalama Varyans Açıklığı (AVE) hesaplanarak değerlendirilmiş ve 0.56 olarak bulunmuştur.

Teorik beklentiye uygun olarak, KKÖ ve alt ölçekleri belirsizliğe tahammülsüzlük ile pozitif, psikolojik iyi oluş ile negatif ilişkiler göstermiştir. Ayrıca, alt faktörler arasındaki tüm korelasyonlar pozitif ve istatistiksel olarak anlamlı bulunmuştur ( $p < .05$ ), bu da CAS'in faktörlerinin kariyer kaygısını paylaştığını göstermektedir.

Ölçeğin tamamı için  $\alpha = .89$  ve  $\omega = .89$ , kişisel yeterlik alt boyutu için  $\alpha = .85$  ve  $\omega = .85$ , istihdama ilişkin irrasyonel inançlar için  $\alpha = .74$  ve  $\omega = .75$ , istihdam ortamı için  $\alpha = .81$  ve  $\omega = .81$ , mesleki eğitim ve öğretim için  $\alpha = .81$  ve  $\omega = .81$  olarak bulunmuştur. KKÖ için hesaplanan CR değeri 0.86 olarak belirlenmiştir. Ayrıca, test-tekrar test güvenirliliği de, KKÖ'nin aynı gruba 10 günlük aralıklarla iki kez uygulanmasıyla test edilmiştir. Test-tekrar test uygulamasında, KKÖ'nin toplam puanı için Pearson korelasyonu .88, alt faktörler için ise .77 ile .88 arasında bulunmuştur.

Tsai ve ark. (2017) tarafından geliştirilen KKÖ'nin Türkçeye uyarlanması ve psikometrik özelliklerinin değerlendirilmesi kapsamlı bir şekilde analiz edilmiştir. Ölçeğin dil geçerliliği bulguları, Türkçe ve İngilizce formlar arasında yüksek düzeyde anlamlı korelasyonlar ( $r = .91-.97$ ) olduğunu göstermiştir; bu da her iki formun dilsel ve kavramsal olarak eşdeğer olduğunu ortaya koymaktadır. Bu sonuç, ölçeğin Türk bağlamında uygulanabilirliğini desteklemektedir.

Ölçeğin dört alt boyutunu kapsayan 25 maddenin (kişisel yeterlik, işe ilişkin irrasyonel inançlar, istihdam ortamı, mesleki eğitim ve beceriler) yapı geçerliliği doğrulayıcı faktör analizi ile test edilmiştir. Doğrulayıcı faktör analizi sonuçları, ölçeğin dört faktörlü modelinin kabul edilebilir uyum indekslerine sahip olduğunu göstermiştir. Bu durum, ölçeğin teorik çerçevesinin Türk örnekleminde de geçerli olduğunu kanıtlamaktadır. Ayrıca, alt boyutlar arasındaki anlamlı ilişkiler, ölçeğin yapı geçerliliğini destekleyen önemli bir bulgu olarak öne çıkmaktadır. Bu sonuçlar, ölçeğin teorik olarak öngörülen yapılarla uyumlu olduğunu göstermektedir. CAS'in İngilizce'ye uyarlanması sürecinde, Boo ve ark. (2022) düşük faktör yükleri nedeniyle üç maddeyi (.60'ın altında) ölçekten çıkarmışlardır. Bu çalışmada ise bazı maddelerin faktör yükleri .60'ın altında olmasına rağmen, Tabachnick & Fidell (2007) tarafından önerilen kesme değeri .30 olarak belirtilmiştir. Bu nedenle, hiçbir madde ölçekten çıkarılmamıştır.

Yakınsak geçerlik (convergent validity) açısından, eğer bu değer 0,5'in altına düşerse, ölçüm hatasına atfedilen varyansın, yapının (faktörün) açıkladığı varyansı geçtiği ve bu nedenle yakınsak geçerliliğin bulunmadığı anlamına gelir (Fornell & Larcker, 1981). Çok faktörlü bir yapıda, her bir faktörün yakınsak geçerliliği sağlamak için AVE değerinin 0,5'in üzerinde olması gerekmektedir (Kartal & Bardakçı, 2018). Bu ölçüm aracından elde edilen AVE değeri 0,56 olduğundan, ölçeğin yakınsak geçerlik sergilediği doğrulanmıştır.

Güvenirlilik analizleri, ölçeğin tamamı ve alt faktörler için yüksek Cronbach alfa ve McDonald omega katsayıları (.89 her ikisi için de) olduğunu göstermiştir. Test-tekrar test güvenirliliği analizi, ölçeğin zaman içinde istikrarlı olduğunu doğrulamış ve toplam ölçek için korelasyon katsayısı .88 olarak bulunmuştur. Bu bulgular, ölçeğin hem iç tutarlılık hem de ölçüm istikrarı açısından güvenilir olduğunu kanıtlamaktadır. Bu çalışmayla uyumlu olarak, KK'nin diğer ülkelerde kullanılan çalışmaları da benzer şekilde güvenilirlik bildirmiştir; örneğin Boo ve ark. (2022) ABD'deki üniversite öğrencileriyle yaptıkları çalışmada KKÖ'nin güvenirliliği tatmin edici bulunmuştur. Bir faktörün yüksek yapı güvenirliliği ve dolayısıyla yakınsak geçerlik gösterebilmesi için, CR (Bileşik Güvenirlilik) katsayısının 0,7'den büyük olması gerekir (Kartal & Bardakçı, 2018). KKÖ için hesaplanan CR değeri 0,86 olduğundan, tüm faktörlerin yüksek yapı güvenirliliği sergilediği sonucuna varılmıştır (Hair ve ark., 2005).

Ayrıca, çalışmada üniversite öğrencilerinin kariyer kaygısının cinsiyetlerine ve akademik alanlarına göre farklılaşıp farklılaşmadığı incelenmiştir. Üniversite öğrencileri arasında yapılan araştırmalar, kadın öğrencilerin erkek öğrencilere kıyasla daha yüksek düzeyde kariyer kaygısı sergilediklerini göstermektedir. Bu farkın birkaç nedeni olabilir. İlk olarak, birçok çalışma kadınların genel olarak erkeklerden daha yüksek düzeyde kaygı ve stres yaşadığını bildirmiştir (Graves ve ark., 2021; Pelch, 2018). Ayrıca, kadın öğrencilerin kaygı, depresyon ve diğer psikolojik zorluklar açısından daha yüksek risk altında olduğu bulunmuştur (Gao ve ark., 2020). Bunun yanı sıra, kadınlar özellikle yüksek riskli sınavlar ve akademik performans bağlamında sınav kaygısı yaşamaya daha yatkındır ve bu durum dolaylı olarak kariyerle ilgili kaygılarını artırabilir (Malespina ve ark., 2025). Sosyokültürel açıdan bakıldığında, toplumsal beklentiler, ekonomik bağımsızlıkla ilgili endişeler ve istihdam fırsatlarına ilişkin artan kaygılar, kadın öğrenciler üzerinde daha fazla baskı oluşturarak erkeklere kıyasla kariyer kaygılarını yükseltmektedir (Yang, 2025). Tüm bu bulgular, kadın öğrencilerin kariyer kaygısının yalnızca bireysel psikolojik faktörlerle değil, aynı zamanda daha geniş sosyokültürel koşullarla da şekillendiğini göstermektedir.

Araştırma bulguları ayrıca, üniversite öğrencilerinin kayıtlı oldukları akademik alanın kariyer kaygısında anlamlı farklılıklar yaratmadığını ortaya koymuştur. Bu durum, kariyer kaygısının yalnızca disipline özgü olmadığını, daha çok gelecek belirsizliği, istihdam endişeleri, ekonomik koşullar ve bireysel psikolojik özellikler gibi faktörlerle ilişkili olduğunu göstermektedir. Aslında, önceki çalışmalar da akademik disipline bakılmaksızın, işsizlik oranları, mezuniyet sonrası belirsizlik ve toplumsal beklentiler gibi faktörlerin öğrencilerin kariyer kaygısını etkilediğini göstermiştir (Okutan & Akbaş, 2019; Yang ve ark., 2025). Ayrıca, öğrencilerin öz-yeterlik inançları ve psikolojik dayanıklılık düzeyleri, kariyer kaygısının daha güçlü belirleyicileri olarak öne çıkmaktadır (Choi ve ark., 2020). Bu bulgular, kariyer kaygısının akademik alan farklılıklarından ziyade bireysel ve sosyoekonomik koşullar tarafından daha fazla şekillendiğini göstermektedir.