

Reliability and Validity of a Turkish Version of the 5-Item Future Anxiety Scale

ABSTRACT

Objective: The aim of this study was to adapt the short version of the Future Anxiety (FA) Scale (FAS) into Turkish and to assess its validity and reliability.

Methods: This study comprised 3 stages. The first stage of the study assessed the scale's linguistic validity. The second stage assessed the scale's factor structure, criterion validity, and reliability. The third stage assessed the scale's structural validity, and cross-checked its validity and reliability. In addition, a test-retest was conducted with a 2-week interval to assess the reliability of the scale.

Results: The FAS adapted into Turkish has a 5-item and 1-factor structure, consistent with the short version of the FAS. The Turkish version of the FAS was found to be a valid and reliable measurement tool.

Conclusion: The 5-item version of the FAS was translated and adapted into Turkish. The Turkish version of the FAS will be useful for Turkish researchers who want to conduct quantitative research on FA.

Keywords: Anxiety, Future Anxiety Scale, adaptation, validity, reliability

Introduction

Anxiety is one of the many reactions that individuals, as social beings, have to the events they encounter throughout their lives. It is defined as emotional and cognitive reactions that arise due to perceiving and interpreting warnings from the inner world or environmental factors as dangerous.¹ One type of anxiety caused by developing and changing environmental conditions and becoming increasingly prevalent is future anxiety (FA). According to Zaleski, FA is more dominant than positive cognitive and emotional processes.² Future anxiety is the concept of attitudes toward the future, where fear and anxiety are stronger than hope. This situation is related to the fear the individual feels about future events and that dangerous or negative developments will occur.

Every fear is somehow related to the future. However, FA refers to the uncertainty, anxiety, and fear created by expected adverse events from a more distant future rather than the near future. Compared to other anxiety concepts, FA is cognitive rather than emotional. In other words, individuals are aware of their future concerns. According to Zaleski, specific personality traits that determine the individual's fears, personal experiences, and reaction to current events underlie FA.² Cognitive stimuli and the ability to mentally cope with the future induce FA.

One approach that explains FA as a cognitive concept is Bandura's³ self-efficacy theory. According to Bandura, anxiety is a predictable state about possible undesirable events, and an individual's ability to cope with the issues that cause anxiety relates to self-efficacy. Anyone who believes they can overcome negativity will not have anxious thoughts or experience anxiety.

The most important feature that distinguishes FA from other types of anxiety described in the literature is the place held by the possible negative situation in the individual's mind.



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Zaleski defined FA as one of the fundamental elements of a negative future perspective in time, similar to anger, anxiety, and feelings of helplessness.^{4,5}

Future anxiety is based on the cognitive and emotional background of negative, future-oriented thinking. As a concept, it, therefore, needs to be measured accurately. The first scale to measure FA (FAS; future anxiety scale) was developed by Zaleski and contained 29 items.² Worthington and Whittaker¹⁷ stated that a scale should be as short as possible, provided that it remains valid, meets psychometric standards, and motivates individuals to provide honest and free answers. Zaleski subsequently developed a short 5-item version of the original 29-item FAS.⁴ This was referred to as the Dark Future Scale (DFS) because it can require considerable time when used with other scales, and also because biased data may be obtained. Dark Future Scale was found to be a valid and reliable scale for measuring FA, with a Cronbach's α score of 0.90, and a test-retest evaluation of $r = 0.62$ ($P < .001$).⁴

Zaleski's DFS has good psychometric properties but is also somewhat controversial. Dark Future Scale was tested by correlating it with measures from other types of time perspectives, including the Future Time Perspective Scale, the Future Negative Scale, the Zimbardo Time Perspective Inventory (ZTPI), and the Carpe Diem Scale. In this way, FA and negative attitudes toward future aims were confirmed, consistent with other studies.⁵⁻⁷ Similarly, FA was positively correlated with a negative evaluation of the past, consistent with the notion that a negative evaluation of one's past is associated with a negative view of the future, as demonstrated by other studies.⁵⁻⁷ However, contrary to Zaleski's assumptions, FA did not correlate negatively with the Future Time Perspective Scale and the ZTPI scale. Instead, a significant positive correlation was found between FA and the propensity to plan and think about the future.

Very few published studies on FA have examined the psychometric properties of the DFS from the perspective of the Turkish population. The aim of the current study was, therefore, to investigate the psychometric properties of DFS-TR to provide a tool for scientific research on this subject. Although the FAS is widely used, negative time perspective scales such as the DFS have been ignored in many studies.² Future anxiety scale could, therefore, be used to complement measurement tools that focus on positive attitudes toward the future (e.g., optimism, hope, and goal planning). Moreover, it is important to have available short, clear, and simple measurement tools for Turkish language research in many disciplines and interdisciplinary studies,

especially psychology and psychiatry. Hence, the following hypotheses were developed:

H1: The scale would be characterized by an 1-factor structure.

H2: The scale would have high internal consistency reliability.

H3: The scale would be positively correlated with Beck Hopelessness and Success Anxiety Scales and negatively with Meaning of Life and Positive Future Expectation Scales.

Material and Methods

Short Version of the Future Anxiety Scale: Turkish Version

Zaleski first developed the FAS with 29 items,² and later a short version with 5 items.⁴ The basis for FA is that negative cognitive and emotional states are more dominant than positive ones.² In other words, the feeling created by the possibility of future dangerous and adverse events causes FA. Therefore, the FAS can be used to measure an individual's tendency to think with anxiety and uncertainty about their future.

The short version of the FAS created by Zaleski⁴ is based on his original scale.² The scale was developed through 2 studies of 2285 completed surveys. The first study examined the reliability and factor structure, while the second study cross-validated the factorial structure and examined the construct validity of the short version by correlating it with the Future Time Perspective Scale,⁸ Future Negative Scale,⁹ ZTPI,⁶ and Carpe Diem Scale.¹⁰ In the FAS, responses are given on a 7-point Likert-type scale as follows: 0, strongly disagree; 1, disagree; 2, somewhat disagree; 3, uncertain; 4, somewhat agree; 5, agree; and 6, strongly agree. The original 29-item scale developed by Zaleski² had a Cronbach's α of 0.92, while the short version had slightly lower reliability with a Cronbach's α of 0.88.⁴

Measurement tools reflect the characteristics of the language and culture in which they were developed. Therefore, if a scale is to be used in different languages and cultures, it should be adapted to the specific language and culture. Findings obtained without a literature adaptation study may not be robust.¹¹

In the adaptation study, the FAS was initially translated from its original language into Turkish. The translation study followed the generally accepted method reported by Brislin.¹² Accordingly, the items in the scale were first translated from the source language (English) into the target language (Turkish) and then evaluated by other experts. Subsequently, the items translated and evaluated in the target language were back-translated into the source language by other experts. Other experts then check the back-translation and eliminate translation errors. After the final version of the translation is obtained, the provisional scale was applied to a group, and incomprehensible items were checked.

The items in the FAS were translated with the assistance of 9 academics who are experts in management and organizational behavior, have a good command of the English and Turkish languages, hold doctorates, and hold associate professor positions. An attempt was made during translation to maintain content equivalence between the 2 versions of the scale.¹³ After completing the translation, the 5-item FAS was applied to a test group of 21 individuals to identify any incomprehensible expressions. After comparing the responses to the 2 versions, it was determined that all items were understandable

MAIN POINTS

- The Future Anxiety Scale (FAS) adapted into Turkish has a 5-item and 1-factor structure consistent with the short version of the FAS.
- A strong positive correlation between the original English and translated Turkish versions of the short-form FAS ($r = 0.781-0.821$) was determined, demonstrating the linguistic equivalence of the translated and adapted version.
- The exploratory factor analysis explored and confirmatory factor analysis confirmed the single factor structure of the Turkish FAS.
- The scale had internal consistency (Cronbach's $\alpha = 0.833$, CR = 0.834, and McDonald's $\omega = 0.835$).
- Test-retest results ($r = 0.816$, $P < .05$) demonstrated that the scale's results are insensitive to time and reliable.

Table 1. Five Items from the Short Version of the Future Anxiety Scale in Turkish and English

Number	Statement
1	Şu anda beni rahatsız eden sorunların daha uzun süre devam etmesinden korkuyorum. <i>I am afraid that the problems which trouble me now will continue for a long time.</i>
2	Bazen hayatın krizleri veya zorluklarıyla karşılaşabileceğim düşüncesi beni çok korkutuyor. <i>I am terrified by the thought that I might sometimes face life's crises or difficulties.</i>
3	Gelecekte hayatımın daha da kötüye gitmesinden korkuyorum. <i>I am afraid that in the future, my life will change for the worse.</i>
4	Ekonomik ve politik durumdaki değişikliklerin geleceğimi tehdit etmesinden korkuyorum. <i>I am afraid that changes in the economic and political situation will threaten my future.</i>
5	Gelecekte hedeflerimi gerçekleştiremeyeceğim düşüncesi beni rahatsız ediyor. <i>I am disturbed by the thought that in the future, I won't be able to realize my goals.</i>

and did not cause any hesitation. During the translation process, we did not encounter any of the problems described in the seminal work of Cha et al.¹³ Therefore, the 5-item FAS developed by Zaleski⁴ was successfully adapted into Turkish to provide a measurement tool for FA research in Türkiye. Table 1 presents the 5 original and translated Turkish items in the short version of the FAS.

Study Sample

The necessary permissions to conduct this research were obtained from Bahçeşehir Cyprus University Research and Publication Ethics Committee (Approval number: BAU/EK-2022/04). The research sample was comprised of white- and blue-collar employees working in different sectors (service sectors, shopping mall employees, and medium and large enterprises) in Istanbul. Before conducting the survey, the managers of the businesses in the sector were asked for permission to conduct the research. The purpose of the research was first explained to the participants, who were also assured that their anonymity would be maintained. After obtaining written consent from participants selected by convenience sampling, surveys were delivered and returned in sealed envelopes to increase data quality. Data were obtained from 431 respondents divided among 3 study stages: 47 in the first, 161 in the second, and 223 in the third. Since data were obtained from different sectors, it was impossible to determine the size of the universe. However, in cases where the number of units in the universe is unknown, the prevailing opinion is that a sample size of 384 will be sufficient with a 95% confidence interval.^{11,14,15} Demographic information for the respondents in each group is shown in Table 2.

Table 2 shows that most respondents were married ($\geq 59.57\%$), graduates ($\geq 53.36\%$), had 2-5 years of work experience ($\geq 61.49\%$), and were employees ($\geq 75.16\%$). In addition, the most common age group was 30-40 years ($\geq 40.37\%$).

Data Collection Tools

This study used the FA, Meaning of Life, Positive Future Expectation, Beck Hopelessness, and Success Anxiety Scales to test the criterion validity.

Table 2. Demographic Characteristics of Respondents

Variable	Category	GROUP 1 Stage One (n=47)		GROUP 2 Stage Two (n=161)		GROUP 3 Stage Three (n=223)	
		n	%	n	%	n	%
Sex	Female	28	59.57	80	49.69	104	46.64
	Male	19	40.43	81	50.31	119	53.36
Marital status	Single	19	40.43	64	39.75	87	39.01
	Married	28	59.57	97	60.25	136	60.99
Age (years)	<30	9	19.15	33	20.50	38	17.04
	30-40	19	40.43	65	40.37	96	43.05
	41-49	15	31.91	58	36.02	73	32.74
	>49	4	8.51	5	3.11	16	7.17
Education	High school	2	4.26	13	8.07	21	9.42
	Undergraduate	5	10.64	26	16.15	49	21.97
	Graduate	32	68.09	103	63.98	119	53.36
	Postgraduate	8	17.02	19	11.80	34	15.25
Work experience (years)	<2	5	10.64	25	15.53	42	18.83
	2-5	35	74.47	99	61.49	141	63.23
	<5	7	14.89	37	22.98	40	17.94
Job position	Administrator	7	14.89	40	24.84	28	12.56
	Employee	40	85.11	121	75.16	195	87.44

FA, future anxiety; FAS, future anxiety scale

FA Scale: The short version of the scale developed by Zaleski comprises 5 items,⁴ answered on a 7-point Likert-type scale that ranges from 0 (strongly disagree) to 6 (strongly agree). The Cronbach's α for the FAS was calculated as 0.833, and the McDonald's ω coefficient¹⁶ as 0.835.

Success Anxiety Scale: This scale was developed by Albert and Haber¹⁷ and adapted into Turkish by Kapıkıran.¹⁸ It comprises 19 items answered on a 5-point Likert-type scale from 1 (never) to 5 (always). The Cronbach's α was calculated as 0.782, and the McDonald's ω coefficient as 0.784.

Positive Future Expectation Scale: This scale assesses positive expectations for the future and was developed by İmamoğlu.¹⁹ It comprises 5 items answered on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's α was calculated as 0.765, and the McDonald's ω coefficient as 0.767.

Beck Hopelessness Scale: This scale assesses emotional, motivational, and cognitive factors. It was developed by Beck²⁰ and adapted into Turkish by Seber.²¹ It comprises 20 items, 11 of which are true and 9 are false. Each correct answer is denoted by 1, and each incorrect answer is denoted by 0. The arithmetic mean obtained for each individual constitutes their Beck Hopelessness score. The Cronbach's α for this scale was calculated as 0.810, and the McDonald's ω coefficient as 0.815. If the measurement has binary elements, the reliability coefficient can also be evaluated with Kuder-Richardson 20 (KR-20). The KR-20 value calculated for this scale was 0.810.

Meaning of Life Scale: This scale was developed by Steger²² to measure the meaning of life, and was adapted into Turkish by Demirdağ and Kalafat.²³ It comprises 10 items answered on a 7-point Likert-type scale ranging from 1 (absolutely disagree) to 7 (absolutely agree). The

Cronbach’s α was calculated as 0.818, and the McDonald’s ω coefficient as 0.823.

Statistical Analysis

Data analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 23.0 (IBM SPSS Corp.; Armonk, NY, USA) and IBM SPSS AMOS version 21.0 statistical programs. The data were first summarized using descriptive statistics (mean, standard deviation (SD), frequency, and percentage). Information about the respondents’ demographic characteristics were also obtained. The skewness and kurtosis were assessed, and the Kolmogorov–Smirnov normality test was applied; all variables were normally distributed. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed to evaluate the factor structure of the short-form FAS. Pearson’s product–moment correlation coefficient (r) was used to examine the relationships between variables (FA, Success Anxiety, Positive Future Expectation, Beck Hopelessness, and Meaning of Life). Linguistic, criterion, and structural validity were examined to test the scale’s validity. Cronbach’s α , combined reliability (CR), McDonald’s ω (and KR-20 for the Beck Hopelessness Scale) and item–total statistics, which are indicators of internal consistency, were calculated. A test–retest was performed to assess the reliability of each scale. The significance level for this study was set at the type I error rate ($\alpha=0.05$).

Results

First Stage

The first stage of the study assessed the linguistic validity of the translated and adapted FA scale. To do this, the Turkish and English forms of the scale were administered 16 days apart to 47 respondents who were fluent in both Turkish and English. The Pearson’s r value for the results from the 2 forms is shown in Table 3. The correlation analysis showed a strong positive correlation between the results from the original English and the translated Turkish versions of the short-form FAS ($r=0.781\text{--}0.821$), thus demonstrating linguistic validity for the translated and adapted versions.

Second Stage

The second stage of the study applied the translated Turkish version of the short-form FAS to 161 respondents to assess its factor structure, criterion validity, and reliability.

Validity Analysis (EFA): Exploratory factor analysis was performed to determine the scale’s factor structure. Factor analysis is used to determine which theoretical constructs lie under a given dataset, and to what extent these constructs represent the original variables. Exploratory factor analysis can also be used to investigate correlations between the observed variables and model these relationships

Table 3. Correlation of the Results from the English and Turkish Short-Form FAS

Item	Version	n	Mean	SD	r	P
FA1	Turkish	47	4.17	1.29	0.802	<.001
	English	47	4.05	1.15		
FA2	Turkish	47	3.85	1.46	0.821	<.001
	English	47	3.77	1.33		
FA3	Turkish	47	4.11	1.19	0.810	<.001
	English	47	4.44	1.21		
FA4	Turkish	47	4.28	1.17	0.799	<.001
	English	47	4.36	1.10		
FA5	Turkish	47	3.35	1.16	0.781	<.001
	English	47	3.53	1.14		

FA, future anxiety; FAS, future anxiety scale.

with one or more latent variables. However, it is first necessary to test whether the dataset is suitable for EFA. For this purpose, the Kaiser–Meyer–Olkin (KMO) sampling adequacy test and Bartlett’s sphericity test were conducted. These tests are widely used to determine the strength of relationships and the factorability of variables. The KMO test provides information on sample adequacy, while Bartlett’s test provides information on whether the dataset has molded relationships. A significant KMO test value of ≥ 0.5 and Bartlett’s test P value $< .05$ indicate the data are suitable for factor analysis.¹¹

In the EFA performed on the varimax rotation axis, factors with an eigenvalue >1 were combined into a single factor. The KMO sampling adequacy value was 0.833, and the χ^2 value for Bartlett’s sphericity test was 312.798 ($P < .001$), thereby demonstrating the suitability of the data for factor analysis. The factor analysis results are shown in Table 4.

These show that the Turkish version of the short-form FAS has a single-factor structure that explains 62% of the variance. The factor loads varied between 0.763 and 0.836 for the various items. High factor loads indicate that each item is well represented by the relevant factor.¹¹

A scree plot was created to cross-validate the factor structure (Figure 1). This showed a substantial decline from the first factor, confirming the single-factor structure of the Turkish version of the short-form FAS.

Validity Analysis (Criterion Validity): The Meaning of Life, Positive Future Expectation, Beck Hopelessness, and Success Anxiety Scales were used to assess the criterion validity for the Turkish version of the short-form FAS. The relationships between the Turkish version of the

Table 4. Factor Structure and Loads for the Turkish Version of the Short-form FAS

Number	Statement	Factor Load
1	I am afraid that the problems which trouble me now will continue for a long time.	0.778
2	I am terrified by the thought that I might sometimes face life’s crises or difficulties.	0.788
3	I am afraid that in the future, my life will change for the worse.	0.836
4	I am afraid that changes in the economic and political situation will threaten my future.	0.770
5	I am disturbed by the thought that in the future, I won’t be able to realize my goals.	0.763
Eigenvalue		3.102
Explained variance		62.030

FAS, future anxiety scale.

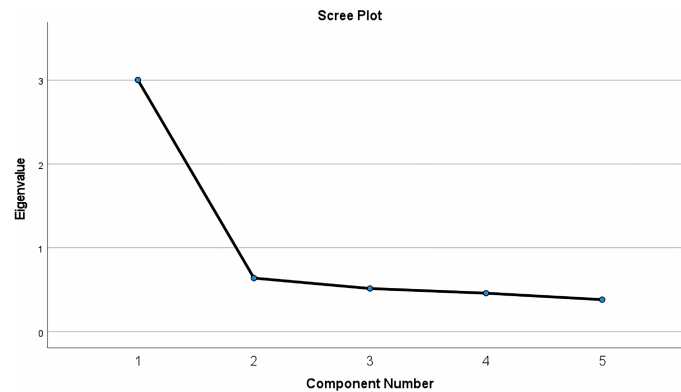


Figure 1. Exploratory factor analysis scree plot.

short-form FAS and these scales were examined by correlating the respondents' scores for the various scales.

Scores for the Turkish version of the short-form FAS were positively correlated with scores for the Beck Hopelessness ($r=0.625$, $P<.001$) and Success Anxiety ($r=0.574$, $P=.002$) Scales, and negatively correlated with scores for the Meaning of Life ($r=-0.664$, $P=.014$) and Positive Future Expectation ($r=-0.741$, $P<.001$) Scales. These findings confirm the criterion validity for the Turkish version of the short-form FAS.

Reliability Analysis: The composite reliability (CR) and internal consistency values were assessed to determine the reliability of the Turkish version of the short-form FAS. The Cronbach's α value for internal consistency was 0.846, the CR value was 0.866, and the McDonald's ω coefficient was 0.851. Since the calculated values were all >0.7 , the scale was deemed reliable.¹¹

Third Stage

The third stage of the study applied the Turkish version of the short-form FAS to 223 respondents in order to assess its structural validity and to cross-check its validity and reliability.

Validity Analysis (CFA): After determining the scale's factor structure, CFA was performed to confirm its structural validity and determine whether it is compatible with the data obtained. Confirmatory factor analysis is based on the assumption that the data is normally distributed, and hence, we first evaluated the data distribution (Table 5).

Table 5. Normality Tests for Data Distribution

Item	Mean	SD	Skewness	Kurtosis
FA1	4.11	1.22	-0.620	-0.025
FA2	3.99	1.30	-0.748	-0.239
FA3	3.66	1.43	-0.357	-0.658
FA4	4.22	1.36	-0.811	0.070
FA5	3.97	1.36	-0.535	-0.460

FA, future anxiety.

The kurtosis and skewness values were found to vary between -0.811 and 0.070 across items. According to Tabachnick and Fidell,²⁴ data are normally distributed when the kurtosis and skewness values are between -1.5 and $+1.5$. The Kolmogorov-Smirnov normality test also confirmed the normal distribution of the FAS total scores ($P=.179$). Together, these findings show that the data from the Turkish short-form FAS was normally distributed.

After confirming the normal distribution of data, CFA was performed to assess the scales' structural validity. As recommend by Li,²⁵ a diagonally weighted least squares estimation was used for CFA, as shown in Figure 2.

In the CFA, the χ^2/df value was <5 , the goodness of fit index (GFI) was >0.90 , the comparative fit index (CFI) was >0.92 , the normed fit index (NFI) was >0.90 , the Tucker-Lewis index (TLI) was >0.90 , and the root-mean-square error of approximation (RMSEA) was <0.07 , indicating the values are a good fit.²⁶

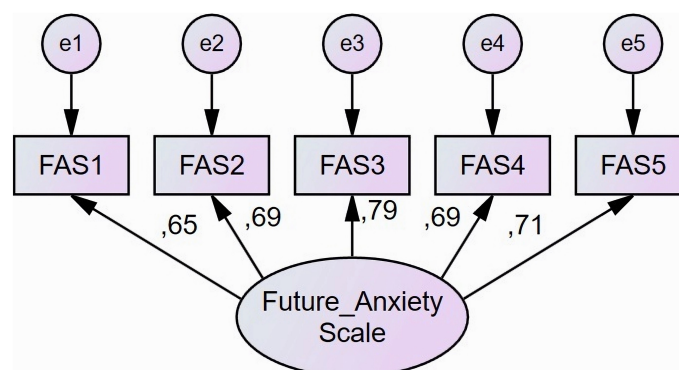


Figure 2. CFA diagram. CFA, confirmatory factor analysis.

The CFA results show that the Turkish version of the short-form FAS has sufficient fit indices without needing modification, and also has unidimensional structural validity²⁶ minimum discrepancy function (CMIN)=15.703, $df=5$, $\chi^2/df=3.183$, GFI=0.988, CFI=0.973, NFI=0.986, TLI=0.965, and RMSEA=0.067 ($P=.007$).

Validity Analysis (Criterion Validity): The third stage of the study used the Meaning of Life, Positive Future Expectation, Beck Hopelessness, and Success Anxiety Scales. The relationship between the Turkish version of the short-form FAS and these scales was examined by correlating the respondents' scores with scores from the various scales in order to assess its criterion validity. The respondents' scores for the Turkish version of the short-form FAS correlated positively with their scores for the Beck Hopelessness ($r=0.639$, $P<.001$) and Achievement Anxiety ($r=0.610$, $P=.001$) Scales. Moreover, they correlated negatively with scores for the Meaning of Life ($r=-0.701$, $P=.010$) and Positive Future Expectation ($r=-0.756$, $P=.002$) Scales. These findings confirm the criterion validity for the Turkish version of the short-form FAS.

Reliability Analysis (Internal Consistency): To assess the reliability of the Turkish version of the short-form FAS, the CR, internal consistency, and item-total statistical values were calculated, as well as a test-retest with a 2-week interval. The Cronbach's α value, which indicates internal consistency, was 0.833, the CR value was 0.834, and the McDonald's ω coefficient was 0.835. The item-total statistics are shown in Table 6.

Table 6 shows that the item-total correlation coefficients were all ≥ 0.32 , meaning that no item needs to be removed from the scale.²⁷ In addition, the Cronbach alpha was calculated as 0.833. The Cronbach α value increased regardless of which item was deleted, demonstrating the reliability of the Turkish version of the short-form FAS.

Reliability Analysis (Test-Retest): Similar to previous studies,^{28,29} the test-retest reliability was examined with the intraclass correlation coefficient (ICC). This analysis showed excellent test-retest reliability ($ICC=0.795$, $P<.001$).³⁰ Additionally, the paired t -test found no difference between the two time points. Hence, these findings show that the scale provides consistent and reliable results over time.

Demographic-Related Differences: The scores of male participants were significantly higher than those of females (Cohen's $d=0.334$, $t=2.416$, $P=.001$). No other significant relationships were observed between any of the demographic variables and scores from the Turkish short-form FAS (all $P>.05$).

Table 6. Item-Total Statistics for the Turkish Version of the Short-Form FAS

Item	Mean	SD	Adjusted Item-Total Correlation	Cronbach α if Item Deleted
FA1	4.00	1.30	0.595	0.811
FA2	3.70	1.43	0.616	0.805
FA3	3.63	1.44	0.699	0.781
FA4	4.08	1.39	0.617	0.804
FA5	3.76	1.39	0.639	0.798

FA, future anxiety; FAS, future anxiety scale.

Discussion

This study translated and adapted the 5-item FAS into Turkish and assessed its validity and reliability. The first stage of the study assessed the linguistic validity of the translated and adapted scale. In the second stage, we assessed its factor structure, criterion validity, and reliability. The third stage of the study assessed its structural validity and also cross-checked its validity and reliability.

Our results indicate that the Turkish version of the short-form FAS has good psychometric properties, and all hypotheses were supported. In addition, the respondents were from a geographic area with different cultural characteristics (Istanbul). This means the 5-item FAS provides similar results across different cultures, suggesting that it can be used in diverse cultural environments in future scientific studies.

The 5 items in the short-form FAS indicate the anxieties that exist in an individual's life. In psychology, an individuals' fears are categorized as micro and macro.³¹ Micro fears reflect the fears about themselves and their close relationships, while macro fears reflect their fears about the external environment (societal and global). Similarly, the cognitive dimension of FA can be categorized according to its associated area of life. In this context, the FAS mainly assesses an individual's general (macro) fears. In other words, with the exception of the last item, the scale items do not measure a specific area in the individual's life. However, unlike the last item, the items include a narrower framework of concerns about realizing one's goals. This result is important in terms of compatibility with the literature describing how FA arises from an individual's macro-level fears about the distant future.

With regard to criterion validity, our findings showed that FAS scores were positively correlated with scores for the Beck Hopelessness and the Success Anxiety Scales, and negatively correlated with scores for the Meaning of Life and the Positive Future Expectation Scales. Based on these findings, we conclude that FA is similar to the fear of failure, which Atkinson³² defined as the inadequacy of efforts to reach a desired state. In other words, individuals with high FA can be expected to feel more hopeless toward achieving their ideals and goals, and to experience more fear of failure. Moreover, the scale items are thought to be compatible with some studies³³⁻³⁵ that support a cognitive component for FA.

It has been suggested that the FAS can be applied to individuals who have psychosomatic problems or who are likely to face a stressful life experience, such as a student who will take an exam, a patient who will have an operation, or an individual making a significant career decision.⁴ In this context, the Turkish version of the short-form FAS could be helpful for future scientific studies aimed at diagnosing psychological issues related to fear of the future. Finally, the FAS could complement the widely used Negative Future Scale in future studies.

Our study translated and adapted the 5-item FAS into Turkish, thereby facilitating FA research in Turkey. In this context, the scale provided in the Appendix should assist researchers studying this subject. However, it is essential to note that this study had some limitations specific to research in Social Sciences. The results were limited to data obtained from the sample of respondents working in different sectors (service sectors, shopping mall employees, and medium and large enterprises) in Istanbul at 3 different times. Therefore, future studies will need to generalize the developed scale by applying it to employees

from different sectors and sizes. Furthermore, the data were obtained only by a face-to-face survey method. Future studies should consider different data collection methods, including online surveys. In addition, it will be important to determine FA according to demographic characteristics, such as age, sex, marital status, and education level.

Availability of Data and Materials: Data and materials will be shared by e-mail if the reader requests.

Ethics Committee Approval: The ethical committee approval was received from the Ethics Committee of the Bahçeşehir University (Approval number: BAU/EK-22/04, Date: June 28, 2022).

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Appendix.

Five-Item Future Anxiety Scale (Turkish Version)

Aşağıdaki ifadeler geleceğe yönelik tutumlarınızla ilgilidir. Lütfen dikkatlice okuyunuz. Verilen bir ifade sizin tutumunuzu doğru bir şekilde tanımlıyorsa, Aşağıdaki ölçekte “6” rakamını işaretleyiniz. Eğer verilen ifade, tutumunuzun doğru bir açıklaması değilse, “0”ı işaretleyin. Her bir ifade, tutumunuzu farklı bir dereceye kadar yansıtabilir. Böylesi bir durumda bakış açınızı en doğru şekilde tanımlayan sayıyı işaretleyiniz. İfadelerin “Doğru” veya “Yanlış” cevabı yoktur. Tüm cevaplar, samimi oldukları sürece değerlidir. Bu akademik araştırma amaçlıdır ve verileriniz 3. şahıslarla kesinlikle paylaşılmayacaktır.

0—Kesinlikle Yanlış; 1-Yanlış; 2- Kısmen Yanlış; 3-Söylemesi Zor;
4—Kısmen Doğru; 5—Doğru; 6—Kesinlikle Doğru

Madde Nu.	Maddeler	Kesinlikle Yanlış	Yanlış	Kısmen Yanlış	Söylemesi Zor	Kısmen Doğru	Doğru	Kesinlikle Doğru
1	Şu anda beni rahatsız eden sorunların daha uzun süre devam etmesinden korkuyorum.	0	1	2	3	4	5	6
2	Bazen hayatın krizleri veya zorluklarıyla karşılaşabileceğim düşüncesi beni çok korkutuyor.	0	1	2	3	4	5	6
3	Gelecekte hayatımın daha da kötüye gitmesinden korkuyorum.	0	1	2	3	4	5	6
4	Ekonomik ve politik durumdaki değişikliklerin geleceğimi tehdit etmesinden korkuyorum.	0	1	2	3	4	5	6
5	Gelecekte hedeflerimi gerçekleştiremeyeceğim düşüncesi beni rahatsız ediyor.	0	1	2	3	4	5	6