

# Turkish Validity and Reliability Study of the Five-Factor Personality Types Scale among Academicians

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## ABSTRACT

The purpose of this study is to examine the validity and reliability of the Turkish form of the "The Big Five Inventory" Scale, which was developed by John & Naumann & Soto (2008), belonging to California Berkeley Personality Laboratory (John & Srivastava) (1999), in a sample of academicians. The study was conducted in February-June 2020. The sample in Turkey who work in state and private universities, research assistants, specialists, lecturers, assistant professors, associate professors and professors constitute 407 academics working in the team. The data were collected using the Sociodemographic Information Form and the Five-Factor Personality Types Scale. The structure validity of the scale was examined by factor analysis using the varimax axis rotation method. The reliability of the scale was evaluated by internal consistency, reliability coefficient and item-total score correlation; Test-retest reliability analysis was performed for time invariance. As a result of the factor analysis, five factors were found that meet 65.422% of the total variance and have an eigenvalue higher than 1. The factor loads of the items vary between 0.342-0.589. Cronbach's Alpha analysis was used to determine the internal consistency of the scale; the internal consistency coefficient for the whole scale is 0.917. The Turkish form of the Five-Factor Personality Types Scale is a valid and reliable scale that can be used to evaluate personality types in academics. Discussion: Suggestions were made in accordance with the findings.

**Keywords:** Five factor personality types, personality traits, validity, reliability, confirmatory factor analysis

## INTRODUCTION

When the methods used to determine personality are examined, it is possible to classify them as methodologically quantitative and qualitative methods. These tests, which are used in the measurement of personality, are basically tests that use indirect (projective) methods (such as the Thematic Perception Test and the Rorschach Test), which are used to interpret the person's response to non-obvious stimuli; Tests that use the direct method in which the suitability of predetermined expressions and sentences are directly determined by individuals (Ordun, 2004). In addition, tests applying the direct method, self-confidence, risk-taking, motivation for success, self-discipline, etc. It is also possible to divide into two tests that measure certain personality traits in depth and tests that use a holistic approach that measure

many characteristics together (Sommer, Korkmaz, & Tatar, 2000).

Yet, the selection of the inventory should be suitable for the purpose of the personality test (Grucza & Goldberg, 2007). In our study, the "The Big Five Inventory" scale of California Berkeley Personality Laboratory, which is the most widely used in quantitative research, was used among the tests that measure many characteristics together and use the holistic approach. The personality traits of the "The Big Five Inventory Scale" consisted of five factors: extraversion, adaptability, responsibility, emotional instability, and openness to experience. The "The Big Five Inventory" scale of California Berkeley Personality Laboratory has translated forms into Chinese, Dutch, German, English, Hebrew, Italian, Portuguese, Spanish, Swedish, Lithuanian and Turkish. Various studies, including the Turkish adaptation study of the inventory (Evinç, 2004), were conducted on different sample groups.

The objective of this study is to examine the validity and reliability of the Turkish form of the "The Big Five Inventory" Scale, which was

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developed by the California Berkeley Personality Laboratory (John & Srivastava, 1999; John & Naumann & Soto, 2008), in a sample of academicians.

## METHOD

This research is a quantitative study carried out with descriptive survey model using relational techniques.

### Population and Sampling

The universe of this study consisted of; research assistants, specialists, lecturers, assistant professors, associate professors and professors academicians that work in state and private universities in Turkey. Academicians are approximately 161,655 people (<https://istatistik.yok.gov.tr/> 2020), it is sometimes not possible to reach the entire universe due to the fact that the research covers such a wide area and because of time, cost limitations, distance and control difficulties. For this reason, a sample of 407 people calculated in line with 3% margin of error and 95% confidence interval was determined by simple random sampling method (Yamane, 2001). Thus, it was aimed to increase the representation of the selected sample on the universe.

$$n = \frac{N * t^2 * p * q}{(N - 1)d^2 + t^2 * p * q}$$

$$n = \frac{161655 * (1,96)^2 * 0,50 * 0,50}{(161655 - 1)(0,05)^2 + (1,96)^2 * 0,50 * 0,50}$$

It is because number of Academicians are 161.655;

$$n = \frac{161655 * 3,8416 * 0,25}{161655 * 0,0025 + 3,8416 * 0,25} = 383$$

According to this calculation, a sample of 383 people was found to be sufficient, and the study was performed with 407 academicians who voluntarily accepted to participate in the study.

### Collection of Data

California Berkeley Personality Lab "Researchers are free to use for non-commercial research purposes." (<https://www.ocf.berkeley.edu/~johnlab/bfi.htm>, 2018) "The necessary permission was given regarding the scale by accessing the internet page. Communication was established via e-mail and the necessary permission was obtained for the adaptation of the scale. The scale will be answered on a voluntary basis, the participants were informed about the study and the informed consent of the participants was obtained.

In the collection of research data, the Sociodemographic Information Form created by the researchers by examining the relevant literature and the "The Big Five Inventory" Scale of the California Berkeley Personality Laboratory whose Turkish validity and reliability were examined were used.

### Sociodemographic Information Form:

There are expressions to determine the demographic characteristics of academicians. While (1) female, (2) male scales were used to determine gender of the participants; In determining the age, the classification of (1) 21-26 years old, (2) 27-31 years old, (3) 32-37 years old, (4) 38-43 years (5) 44 and over was used. For marital status (1) single, (2) married; For the level of education, (1) undergraduate, (2) master's, (3) doctoral classifications were used. (1) Vocational school, (2) college (3) faculty for the unit of study; (1) lecturer / lecturer (2) research assistant (3) doctor lecturer (4) associate professor (5) professor scales were used for the title. (1) 1-5 years, (2) 6-10 years, (3) 11-15 years, (4) 16 years and above for the year of employment and profession; for management status (1) Manager, (2) Not Manager; For the type of university served, there were expressions to determine (1) the State, (2) the Foundation.

### Five Factor Personality Types Scale:

It is a 44-item, five-point Likert-type scale developed by (John, Naumann & Soto, 2008), introduced by the California Berkeley Personality Laboratory (John & Srivastava, 1999) to determine the personality traits of academics. The score for each item varies between 1 (strongly disagree) and 5 (strongly agree).

In the original form of the scale, there are five sub-dimensions: "extraversion, compatibility, responsibility, emotional instability (neuroticism) and openness to experience". Evaluation is made on sub-dimensions instead of total score. The scores of the sub-dimensions are calculated by taking the average score of the items in the sub-dimensions. Accordingly, the average score that can be obtained from the sub-dimensions is between 1-5. High score average indicates that personality trait of that sub-dimension is high.

## FINDINGS

In this part, findings and comments obtained as a result of the analysis made in accordance with the purpose of the research are encapsulated.

Table 1. Distribution of Participants According to their Demographical Features

Gender	f	%
Male	224	55
Female	183	45
Age	f	%
21-26	13	3,2
27-31	74	18,2
32-37	101	24,8
38-43	92	22,6
44 and over	127	31,2
Marital Status	f	%
Married	298	73,2
Single	109	26,8
Title	f	%
Lecturer	80	19,7
Res. Ass.	95	23,3
Dr. Lecturer	113	27,8
Assoc. Prof.	58	14,3
Professor	61	15
Education Status	f	%
Yükseklisans	107	26,3
Doctoral	300	73,7
Work Unit	f	%
Vocational School	71	17,4
College	23	5,7
Faculty	313	76,9
Vocational Service Period	f	%
1-5 Years	94	23,1
6-10 Years	99	24,3
11-15 Years	57	14
16 Years and over	157	38,6
Institution Experience	f	%
1-5 Years	97	23,8
6-10 Years	102	25,1
11-15 Years	53	13
16 Years and over	155	38,1
Administration Status	f	%
Manager	91	22,4
Not Manager	316	77,6
Working University Type	f	%
State	376	92,4
Foundation	31	7,6
Total	407	100

When the distribution of the academicians participating in the research according to their demographic characteristics is examined, 55% were male, 24.8% were between the ages of 32-37, 73.2% were married, 27.8% were Dr. Lecturer, 73.7% had a doctorate, 38.6% had been in the profession for more than 16 years, 38.1% worked in the same institution for more than 16 years, 77.6%

did not work as an Manager and 92%, It was specified that 4 of them were working at the state university.

#### Validity and Reliability Analyses:

The results of the validity-reliability analysis of the scale are presented in the tables below.

Table 2. Statistics Related to Five Factor Personality Types Scale Items

Item No	Item Deleting Average	Item Extinguishment Variance	Item Total Correlation	Item Deleting Reliability Coefficient
Item 1	167,430	331,872	0,449	0,915
Item 2	167,300	334,177	0,409	0,915
Item 3	166,890	338,200	0,387	0,915
Item 4	167,230	327,299	0,549	0,913
Item 5	167,300	333,244	0,486	0,914
Item 6	167,220	328,672	0,501	0,914
Item 7	166,980	333,994	0,405	0,915
Item 8	166,970	336,169	0,395	0,915
Item 9	167,600	330,147	0,483	0,914
Item 10	167,130	333,554	0,469	0,914
Item 11	167,500	330,123	0,500	0,914
Item 12	167,530	333,540	0,377	0,915
Item 13	166,710	337,347	0,403	0,915
Item 14	167,600	328,422	0,460	0,914
Item 15	167,270	334,072	0,474	0,914
Item 16	167,570	330,921	0,495	0,914
Item 17	167,250	333,722	0,392	0,915
Item 18	167,100	338,855	0,303	0,916
Item 19	167,650	329,621	0,491	0,914
Item 20	167,330	334,184	0,424	0,915
Item 21	167,660	329,426	0,459	0,914
Item 22	166,960	334,045	0,401	0,915
Item 23	167,050	334,998	0,412	0,915
Item 24	167,620	331,073	0,455	0,914
Item 25	167,330	334,782	0,441	0,915
Item 26	167,520	332,423	0,421	0,915
Item 27	167,200	331,140	0,468	0,914
Item 28	166,910	337,738	0,389	0,915
Item 29	167,260	326,797	0,551	0,913
Item 30	167,240	334,085	0,429	0,915
Item 31	167,690	332,288	0,408	0,915
Item 32	167,290	337,095	0,329	0,916
Item 33	166,960	336,767	0,434	0,915
Item 34	167,500	333,118	0,443	0,915
Item 35	167,610	335,928	0,376	0,915
Item 36	167,410	332,036	0,441	0,915
Item 37	167,400	335,561	0,350	0,916
Item 38	167,220	336,687	0,410	0,915
Item 39	167,570	331,566	0,428	0,915
Item 40	167,390	336,026	0,397	0,915
Item 41	167,390	335,977	0,368	0,915
Item 42	167,320	332,983	0,468	0,914
Item 43	167,260	337,745	0,350	0,915
Item 44	167,430	337,122	0,352	0,915

**Cronbach's Alpha= 0,917**

When Table 2 was examined, it was suggested that there was no item below 0.30 in the five factor personality types scale, in this case, it was decided that it was not necessary to remove the item from the scale. Cronbach's Alpha analysis was used to determine the internal consistency of the scale; if

this value approaches 1, it means that the reliability is high (Liu, 2003, Güzel & Candan & Evin & Gencil, 2015). In this case, it was found that the reliability level of the scale was high ( $\alpha = 0,917$ ).

After this step, the relationship between the variables and the total scale was examined. In this

context,  $r >$  indicates the compatibility of the relationship data set at level 30 to factor analysis. Looking at Table 3, it is seen that the relationship between the scale items and the total scale meets the criterion in question. In Table 3, it was determined that the relationships between the

items and the total scale were statistically significant between 0.342-0.589. These findings show that the correlation of the items in the scale with the total score is sufficient and there is no problem in terms of consistency in the items.

**Table 3. Item and Total Scale Correlation Values of Five Factor Personality Types**

Item No	r	P	Item No	r	p
Item 1	0,490	0,000**	Item 23	0,421	0,000**
Item 2	0,542	0,000**	Item 24	0,464	0,000**
Item 3	0,538	0,000**	Item 25	0,443	0,000**
Item 4	0,532	0,000**	Item 26	0,387	0,000**
Item 5	0,504	0,000**	Item 27	0,586	0,000**
Item 6	0,464	0,000**	Item 28	0,523	0,000**
Item 7	0,453	0,000**	Item 29	0,507	0,000**
Item 8	0,483	0,000**	Item 30	0,531	0,000**
Item 9	0,449	0,000**	Item 31	0,496	0,000**
Item 10	0,446	0,000**	Item 32	0,589	0,000**
Item 11	0,423	0,000**	Item 33	0,482	0,000**
Item 12	0,436	0,000**	Item 34	0,472	0,000**
Item 13	0,443	0,000**	Item 35	0,519	0,000**
Item 14	0,508	0,000**	Item 36	0,504	0,000**
Item 15	0,371	0,000**	Item 37	0,506	0,000**
Item 16	0,394	0,000**	Item 38	0,462	0,000**
Item 17	0,504	0,000**	Item 39	0,476	0,000**
Item 18	0,418	0,000**	Item 40	0,467	0,000**
Item 19	0,431	0,000**	Item 41	0,415	0,000**
Item 20	0,435	0,000**	Item 42	0,434	0,000**
Item 21	0,342	0,000**	Item 43	0,408	0,000**
Item 22	0,450	0,000**	Item 44	0,390	0,000**

\*\* $p < 0.01$

For determining the appropriateness of the Five Factor Personality Types scale data set to the factor analysis, KMO value, Barlett Sphericity test and the relationships between variables were taken as basis (Tabachnick & Fidel, 2014; Huck, 2012; Kemani,

Grimby - Ekman, Lundgren, Sullivan & Lundberg, 2019). The fact that the KMO value is greater than 60 indicates that factor analysis can be made over the data (Eroğlu, 2008; Büyüköztürk, 2009; Huck, 2012).

**Table 4. KMO and Bartlett Sphericity Test Results of the Five Factor Personality Types Scale**

	Statistic	Value
<b>KMO Sampling Sufficiency</b>		0,919
	Chi-Square Value ( $\chi^2$ ):	13107,194
<b>Barlett Sphericity Test</b>	Degrees of Freedom (sd):	946
	Significance Value (p):	0,000

As it is monitored in Table 4, the fact that the KMO sample sufficiency value is 0.919 and the Barlett sphericity test is significant at the  $p < 0.01$  significance level indicates that the sample size is suitable for factor analysis and the data are obtained from multivariate normal distribution (Kan & Akbaş, 2005). In the next process, AFA, Principal Component Analysis was used for factor extraction, and the varimax perpendicular rotation method, one of the vertical rotation methods, was

preferred to determine how the factors would be rotated (Can, 2017). Factor load values of 0.45 or more were taken as a criterion in deciding whether or not to leave the items in the scale (Kline, 2014; Büyüköztürk, 2009). In addition, the load value of the items under a single factor was also taken into account. As a result of the factor analysis in the scale of 44 items, it was observed that a 5-factor structure that explains 65.422% of the total variance occurred.

Table 5. Eigenvalue of the Sub-Dimensions of the Five-Factor Personality Types Scale and the Explained Variance

Components	Beginning Eigenvalue			Total of Squares of Charges After Rotation		
	Total	Variance%	Cumulative %	Total	Variance %	Cumulative %
1	9,767	22,199	22,199	6,050	13,750	13,750
2	6,421	14,593	36,791	6,045	13,739	27,489
3	5,004	11,373	48,164	5,878	13,359	40,848
4	3,873	8,803	56,968	5,544	12,601	53,449
5	3,720	8,454	65,422	5,268	11,973	65,422

The Five-Factor Personality Types Scale exhibits a 5-factor structure with an eigenvalue much more than 1.00. The first factor alone accounts for 13,750% of the total variance; It was determined that the second factor alone explains 13.739% of the total variance, the third factor alone accounts for 13.359% of the total variance, the fourth factor alone accounts for 12.601% of the total variance, and the fifth factor alone explains 11.973% of the total variance. The total variance they explained for the whole scale is 65.422%. It is considered

sufficient for the variance explained for social sciences to be between 40% and 60% (Scherer, Wiebe, Luther & Adams, 1988; Erođlu, 2008). In this case, it can be said that the total variance is quite sufficient.

Another point evaluated to verify the factor structure in question is the scree plot test chart of the scale. In the graphic below, it is obviously seen that the break occurs after the fifth dimension and that all items provide logical integrity in terms of factor structures.

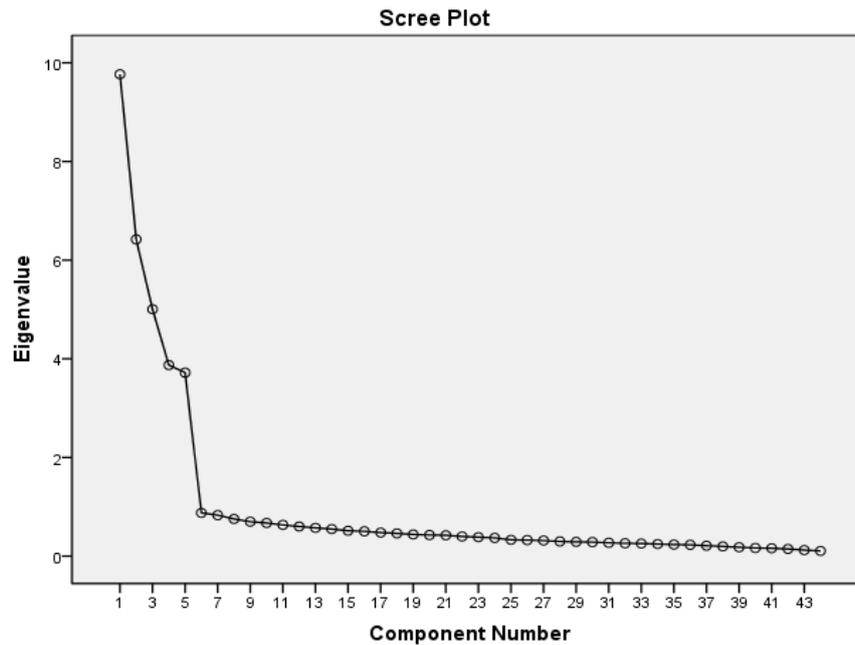


Figure 1. Slope Plot of the Five-Factor Personality Types Scale

To determine which factor the items in the scale are under; the factor load value, which reveals the relationship between the item and the factor, was examined.

Table 6 presents the factor structure and factor load values after rotation. While evaluating the findings in the table, it was taken into account that the factor load value was  $> .45$  (Çokluk, Şekerciođlu & Büyüköztürk, 2012) and the difference between the two factor load values was at least  $> .10$

(Büyüköztürk, 2009). As seen in the table, factor load values vary between 0.655 and 0.931. In addition, since the differences between factor load values are  $> .10$ , it was observed that there is no overlap between factors. As a result, no problematic item was found in terms of the evaluated criteria; Item extraction was not required according to the distances of the items under the factors and the level of their factor loadings.

Table 6. Factor Load Values Related to Five Factor Personality Types Scale

Items	Factor					Reliability Level
	1	2	3	4	5	
12. I initiate an argument with other people.	0,690					<b>0,935</b>
37. Sometimes I am rude to other people.	0,767					
42. I like to cooperate with others (with others or other employees).	0,789					
17. I have a forgiving nature.	0,793					
27. I have a cold and indifferent nature.	0,804					
32. I am thoughtful and gentle with almost everyone.	0,816					
2. I tend to seek misdemeanor in other people.	0,837					
22. I'm generally reliable.	0,856					
7. I am helpful not selfish	0,877					
35. I prefer routine work.		0,655				
44. I am interested in art, music and literature, I have knowledge about them		0,685				
40. I like reasoning, using mind games.		0,721				
15. I am smart, I think deeply.		0,724				
41. I have little artistic interest.		0,726				
20. I have a wide imagination.		0,750				
30. I value artistic and aesthetic structures.		0,792				
25. I am creative.		0,802				
10. I am curious about different things.		0,804				
5. I'm different, someone with new ideas		0,885				
26. I have an assertive personality.			0,783			<b>0,946</b>
31. Sometimes I'm shy.			0,791			
11. I am full of energy.			0,822			
16. I am very enthusiastic and enthusiastic.			0,822			
21. I tend to be quiet.			0,850			
36. I am extroverted, social, friendly.			0,854			
6. I'm introverted, timid.			0,855			
1. I am a talkative person.			0,931			
38. I make plans and carry out my plans.				0,707		
8. I am a little inconsiderate and negligent.				0,729		
43. I'm distracted quickly				0,729		<b>0,918</b>
23. I tend to be lazy.				0,736		
18. I tend to be messy.				0,738		
13. I am a reliable person.				0,786		
28. I work diligently until my mission is over.				0,811		
33. I do my work effectively and well.				0,833		
3. I do my job properly and completely.				0,844		
29. I can be grumpy, capricious.					0,711	
34. I behave calmly in tense situations.					0,719	
39. I get angry easily.					0,762	
24. I am emotionally balanced, not easily upset.					0,770	<b>0,923</b>
9. I am comfortable, I cope well with stress.					0,789	
19. I am very worried (in the face of events).					0,813	
14. I can be nervous (in the face of events).					0,824	
4. I am depressed, melancholy					0,895	

According to Table 6, when the items collected under factor 1 were examined, it was decided that it would be appropriate to call factor 1 "Adaptability". The reliability analysis ( $\alpha = 0.935$ ) of the compatibility personality type dimension was

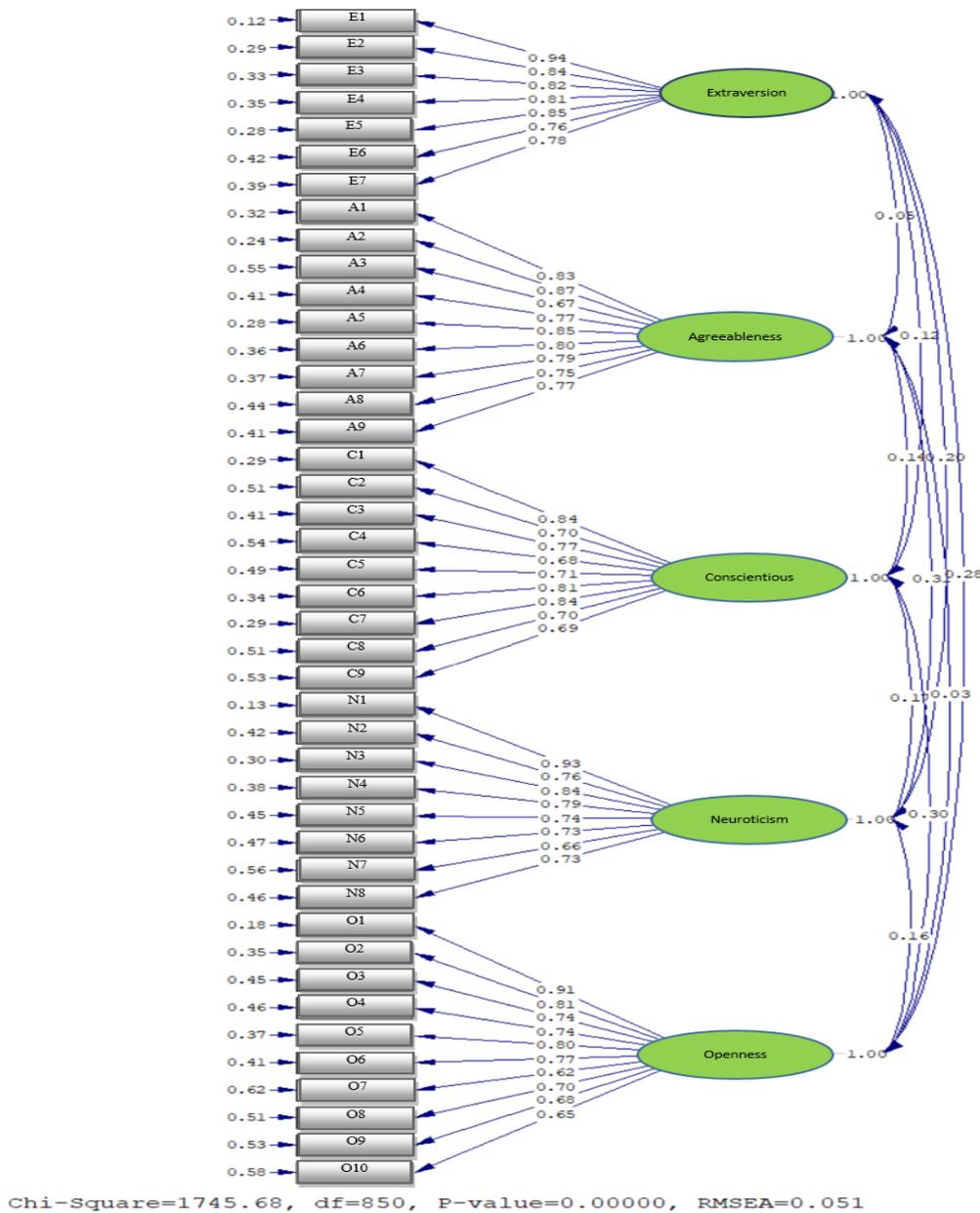
found to be at a high level. When the items under factor 2 were examined, it was decided that it would be appropriate to call factor 2 "Openness to Experience". It was determined that the result of the reliability analysis ( $\alpha = .921$ ) of the Openness to

Experience dimension was at a high level. When the items collected under factor 3 were examined, it was decided that it would be appropriate to call factor 3 "Extroversion". It was determined that the result of the reliability analysis ( $\alpha = .946$ ) of the extroversion dimension was at a high level. When the items collected under factor 4 were examined, it was decided that it would be appropriate to name factor 4 as "Responsibility". It was determined that the reliability analysis ( $\alpha = .918$ ) result of the responsibility dimension was at a high level. When the items collected under factor 5 were examined,

it was decided that it would be appropriate to name factor 5 as "Emotional Imbalance". It was determined that the reliability analysis ( $\alpha = .923$ ) result of the dimension of responsibility was at a high level.

Based on these findings, it can be said that the coefficients of the scale are sufficient in terms of sub-dimensions and overall (Singh, 2007; Büyükoztürk, 2009).

In Figure 2, the CFA model obtained as a result of the CFA analysis conducted to test the five factor personality types scale factor structure is included.



Extroversion, Adaptability, Responsibility, Emotional Imbalance, Openness to Experience  
 Figure 2. Five Factor Personality Types Scale Path Diagram

When Figure 2 is examined, it can be said that the factor structure of the five factor personality types scale obtained as a result of AFA is also confirmed by DFA findings in terms of item statistics (Bandalos & Finney, 2010). Accordingly, the factor loading values of the items vary between 0.62 - 0.93. These values can be evaluated as medium and high factor loadings. On the other hand, the values for the multiple correlations square (R<sup>2</sup>) vary between 0.38-0.86. In this context, it can be stated that the R<sup>2</sup> value is in medium and high context (Kline, 2014). The t values, which are the expressions of the statistical significance level of the relations between the items and the latent variables, were found to be significant at the  $p < .01$

level and all values were found to be greater than 2.58.

In Table 7, five factor personality types scale goodness of fit values are presented. Accordingly, since  $X^2 / df$  and RMSEA values are in the desired criteria, no modification was required. On the other hand, the chi-square value is a statistic that is affected by the sample size, and the ratio to the degree of freedom (df) should be considered rather than whether it is meaningful when viewed alone. In this context, if the  $X^2 / df$  ratio is less than 3; It is understood that the model is acceptable in perfect fit (Brown, 2014; Meydan & Şeşen, 2015; Seçer, 2015). It can be said that the goodness of fit values confirm the five factor personality types scale.

Table 7. Five Factor Personality Types Scale Goodness of Fit Values

Fit Criteria	$X^2/df$	P	RMSEA	CFI	GFI	AGFI	NNFI	NFI	RMR	SRMR
	2,05	,000	0,051	,970	,930	,910	,970	,940	,040	,048
Acceptable Fit			0.05 ≤	0.90	0.90	0.85 ≤	0.90	0.90 ≤ NFI	0.05 ≤	0.05 ≤
Criteria Limitations	≤5	<0.05	RMSEA ≤	≤CFI ≤	≤GFI ≤	AGFI ≤	≤NNFI ≤	≤ 0.95	RMR ≤	SRMR ≤
			0.10	0.95	0.95	0.90	0.95		0.10	0.10

For a model to be acceptable as a whole, the reported goodness of fit indices must be within acceptable limits. It is seen that the values of the fit index obtained as a result of DFA fall within acceptable fit indices. It was determined that the  $X^2 / df$  value, which is the most important fit index value, fell to the perfect fit range with 2.05, and the RMSEA value to the acceptable fit range with 0.0511.

#### RESULT, DISCUSSION AND SUGGESTIONS:

This study was conducted to determine the validity and reliability of the Turkish form of the "The Big Five Inventory" Scale, developed by John & Naumann & Soto (2008), belonging to the California Berkeley Personality Laboratory (John & Srivastava (1999), in order to determine the personality types of individuals, in the sample of academicians.

The fact that the Kaiser-Meyer-Olkin sample sufficiency value is 0.919 and the Barlett sphericity test is significant at the  $p < 0.01$  significance level indicates that the sample size is suitable for factor analysis and that the data are obtained from multivariate normal distribution.

Factor analysis was conducted using the varimax axis rotation method to examine the construct validity of the scale. As a result of the factor analysis, five factors were found that meet 65.422% of the total variance of the Five Factor Personality Types Scale.

One of the methods to reveal the reliability of a scale is to evaluate the internal consistency. It was

stated that the Cronbach alpha coefficient should be calculated to evaluate the internal consistency of the scale (Karakoç & Dönmez 2014). In this study, the Cronbach alpha coefficient for the whole scale was determined to be 0.9286. The Cronbach alpha coefficients of the sub-dimensions were found as "extraversion ( $\alpha = 0.935$ ), compatibility ( $\alpha = 0.921$ ), responsibility ( $\alpha = 0.946$ ), emotional instability (neuroticism) ( $\alpha = 0.918$ ) and openness to experience ( $\alpha = 0.923$ )".

One of the methods performed to evaluate the internal consistency of a scale is item analysis. Item-total score correlation coefficient shows the relationship between each item and the total value, and the factor load value of  $r > 0.30$  indicates the compatibility of the data set for factor analysis (Gözüm & Aksayan; 2002). In this study, the relationships between the items and the total scale were found to be statistically significant between 0.342 and 0.589. These findings show that the correlation of the items in the scale with the total score is sufficient and there is no problem in terms of consistency in the items.

It can be said that the factor structure of the five factor personality types scale obtained as a result of EFA is confirmed by CFA findings in terms of item statistics. Accordingly, the factor loading values of the items vary between 0.62-0.93. It is seen that the fit index values obtained as a result of CFA fall within acceptable fit indices. It was determined that the  $X^2 / df$  value, which is the most important fit index value, fell to the perfect fit range with 2.05,

and the RMSEA value to the acceptable fit range with 0.0511.

In result of the validity and reliability analyzes conducted in this study, it can be said that the Turkish version of the Five-Factor Personality Types Scale is a valid and reliable tool that can be used to determine personality types in academics.

The determination of personality types that affect the relationships of individuals with other people will help to eliminate the problems experienced in interpersonal relationships. If the top management discovers the personality types of the personnel and coordinates with the institution, it will help to eliminate the problems experienced in corporate relations.

Institutional and individual coordination is crucial in the academic and scientific development of higher education organizations. The encouragement, social, success and self-realization tendency or traditional, dependent, affirmative, opposing, competitive, perfectionist and power tendency within the institution influences the academicians and determines the working environment. It is thought that this study will enable new studies to determine the institutional culture and institutional commitment of academicians. Besides, applying an international scale will allow comparison of similar studies.

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