

Participatory Educational Research (PER)
Vol.9(4), pp. 213-230, July 2022
Available online at <http://www.perjournal.com>
ISSN: 2148-6123
<http://dx.doi.org/10.17275/per.22.87.9.4>

Id: 1082146

Teacher Candidates' Perceptions of the European Union (EU): A Scale Development Study and Perceptions Levels

Yurdal Dikmenli *

Department of Basic Education, Kırşehir Ahi Evran University, Kırşehir, Türkiye

ORCID: 0000-0003-3738-3095

Article history

Received:
03.01.2022

Received in revised form:
20.03.2021

Accepted:
26.03.2022

Key words:

European Union, Perception,
Scale Development, Perception
level

This study aimed to develop a scale to determine teacher candidates' perceptions of the European Union (EU). A descriptive survey method was used in the study, and the study group consisted of 908 teacher candidates attending the Kırşehir Ahi Evran University Faculty of Education in the fall semester of 2021-2022 academic year. The participants were selected using a convenient sampling technique. The Perception Scale of the European Union comprised 20 items and three factors: anxiety, contribution, and culture was employed as the main research tool. The Cronbach's Alpha internal consistency coefficient was calculated for the said scale as .746, which indicated scale reliability. Data were analyzed using percentage, frequency, mean, and standard deviation techniques. Additionally, t-test and ANOVA were performed to identify the differences between samples. The study results showed that the teacher candidates' anxiety levels for the European Union were high, and their perceptions of the "contribution" and "culture" factors were moderate. The analysis of perceptions of the EU and political literacy skills of the participants revealed a significant difference in the "contribution" factor but no significant difference in the "anxiety" and "culture" factors. According to the relationship between teachers' perceptions of the EU and their cultural literacy skills, there was a significant difference in the "culture" factor but no significant difference appeared in the "anxiety" and "contribution" factors.

Introduction

The historical events and developments worldwide in the 20th century were considered influential in the establishment of the EU. The European Coal and Steel Community (ECSC) was established in 1951 due to the Treaty of Paris after World War II by the six members of the community: Belgium, Federal Germany, Luxembourg, France, Italy, and the Netherlands. The community aimed to improve the Western European countries' industrial potentials, resolve the disputes between the member countries, especially between Germany and France, and create a market for coal and iron, which had strategic importance. In 1957, it became an economic community following the Treaty of Rome (European Commission, 2011). The European Economic Community (EEC) was characterized by the principle of "four

* Correspondency: dikmenliy@hotmail.com

freedoms"- creating a common market for the free movement of *persons, goods, capital, and services* between six member countries (Laursen, 1991). Thus, European countries that lost their workforce and suffered great destruction due to World War II began to heal the wounds of the war by recruiting labor from third-world countries and planting the EU's seeds (Aktaş and Öztekin, 2017).

After the Brussels Treaty was signed in 1967, the three communities (i.e., European Economic Community, European Coal-Steel Community, and European Atomic Energy Community) were unified under a single roof called the European Community (EC) that became a thriving international organization that triggered economic development. The number of members reached nine after the northern countries, Denmark, Ireland, and England joined the Union in 1973. Moreover, with a southward expansion, Greece joined in 1981, and Spain and Portugal in 1986 (Fontaine, 1992).

The general goal of international organizations is the cooperation between member states, but, as a supranational organization, the EU aims an ultimate integration. The EU initially sought economic integration, but it has gradually inclined towards political integration, which is the basis of the Union today (Kerameus, 1997). Accordingly, the legal foundations of the EU were laid with the Maastricht Treaty signed in 1992, which binds the states together. The community institutions were strengthened, and the European Union (EU) with broader responsibilities was born (Laursen, 2016). In this transformation, the member states adopted a common currency to promote functional economy and integration. The European currency, *Euro*, was officially adopted in 1995. It was introduced to the global financial markets on 1 January 1999 and was put into circulation on 1 January 2002. It started to be used by 12 member states, except Denmark, Sweden, and the United Kingdom (Dominguez, 2006). The participation of three new members, Austria, Finland, and Sweden, in the European Union in 1995 enriched the Union with their unique characteristics and provided new initiatives in Central and Northern Europe. The membership negotiations with the Greek Cypriot Administration, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia were completed in Copenhagen on 13 December 2002, and those countries joined the European Union on 1 May 2004, which was a significant expansion wave for the Union (Gateva, 2015). Bulgaria and Romania, whose membership applications were received in 1995, officially became EU members in 2007 (Renner and Trauner, 2009). The recent member was Croatia which joined the EU in 2013, and the number of EU members increased to 28. However, following the referendum held in the United Kingdom on 23 June 2016, the UK decided to leave the EU and informed the European Council on 29 March 2017, which was the first sign of contraction in the history of the EU. The United Kingdom officially left the European Union on 31 January 2020, and the number of members declined to 27 (Frennhoff Larsén and Khorana, 2020). Candidate Countries for the EU membership are Iceland, Turkey, Serbia, Montenegro, and North Macedonia. Although the establishment of the EU was associated with economic intentions, today, the ultimate expectation is to create a United European States (UES) thanks to the political, social, cultural, economic, and legal integration of European countries (Nelson and Stubb, 1998). Can the EU achieve its goal? We do not know, but several institutions and boards, such as the European Parliament, the European Commission, the Council of the EU, the European Court of Justice, the Summit of Heads of State and Government, the EU Court of Audit, the Committee of the Regions, and the European Central Bank, have been directed to serve this goal (Peterson, 1995).

With the Tanzimat (reforms) period, Turkey became the only Muslim country that turned to the West. The rapid expansion of the European Community (EEC) in ten years during the



post-Cold War period drew the attention of both other European countries and Turkey. Therefore, the Turkish government applied to the community on 31 July 1959. Until the 1960s, Turkey became a member of the Council of Europe, OECD, and NATO, leading organizations aiming at political, economic, and military cooperation and integration in Europe (Özer, 2009). Turkey-EU negotiations underwent the preparatory, transition, and final stages, under the stipulations of the Ankara Agreement. The preparatory stage mainly focused on the institutional harmonization with the EU *acquis* between 1963-1970. In the transition period of 1980-2005, the walls between the adversary bipolar world were demolished, which partially built a global peace and moderated the EU's approach to Turkey, of which full membership application to the EU was accepted. On 6 March 1995, the Association Council approved Turkey's membership into the customs union that came into being on 1 January 1996 (Armaoğlu, 2010). Turkey's candidacy for full membership was accepted at the Helsinki Summit on 10-11 December 1999 (Rumford, 2001). Finally, the official membership negotiations began on 3 October 2005, under 35 chapters, and they have still not been completed yet (Erhan and Akdemir, 2016). During Turkey's long journey with the EU that began in 1959, significant changes and transformations have occurred in Turkish people's perceptions of the European Union, mainly due to the pretty short full candidacy and membership negotiations of other member and candidate countries compared to Turkey's adventure. The prolonged membership negotiations, which have lasted more than half a century, have led to negative perceptions of the EU. It should be noted that the variables and reasons behind the changes in Turkish people's perception of the EU are a projection of the EU's attitudes towards Turkey and Turkish people. Unlike previous studies on the perception of the EU in Turkey, this scale development study would contribute to the literature as it assessed teacher candidates' perceptions of the EU according to the changing conjuncture in the geography field. The studies on the perception of the European Union in the literature variably focused on certain social backgrounds or fields. For example, Erhan, Genç, and Dağcı Sakarya (2011) specifically explored the EU perceptions and the political party dimension. Many studies focused on university students' perceptions of the EU (e.g., Alkan, 2013; Göral, Özdemir, Yurtkoru, & Dartan, 2014; Karakuzu & Limon, 2017; Karakuzu, Aktoprak, Erk & Limon, 2015; Akdemir, 2017; Bozkurt, 2018; Efe, Kemahlı Garipoğlu, Kızıl and Bibar, 2021). Göral, Dartan, and Yurtkoru (2021) explored academics' perceptions regarding Turkey-EU relations. Almost all of the studies have been conducted in the fields of international relations, political science, and public administration. However, in their study in the geography field, Aksoy and Koç (2012) used a different data collection tool, a mute map of Europe, to determine university students' EU perceptions.

Considering the prolonged negotiations of Turkey's membership in the EU and the changing conjuncture, we wondered teacher candidates' perceptions of the EU. We developed a scale to determine the perceptions of the EU and the relevant variables, which is thought to make an essential contribution to the literature. The study is also essential as it is the first scale development study in the field.

Sub-Problems

- (1) Is the Perceptions Scale towards the European Union a valid and reliable instrument?
- (2) What are teacher candidates' perceptions of the EU?
 - (a) Do teacher candidates' perceptions of the EU differ by gender?
 - (b) Do teacher candidates' perceptions of the EU differ by department?
 - (c) Do teacher candidates' perceptions of the EU differ by political literacy level?
 - (d) Do teacher candidates' perceptions of the EU differ by cultural literacy levels?

Method

Research Design

This scale development study adopted a descriptive survey model to determine teacher candidates' perceptions of the EU using *The Perception Scale of the European Union*. Descriptive surveys objectively describe a past or present situation (Cohen, Manion & Morrison, 2000).

Study Group

The study group consisted of 892 teacher candidates (662 female and 230 male) attending the Ahi Evran University Faculty of Education in the fall semester of the 2021-2022 academic year. An easy sampling method was adopted while selecting the study group. The participants were selected using a convenient sampling technique that allows accessible and low-cost sampling (Gravetter & Forzano, 2012). The distribution of students by department and grade level is presented in Table 1 below.

Table 1. Teacher Candidates' Distribution by Departments and Grade Levels

Department	Grade Level				Total
	1	2	3	4	
Primary School Education	52	44	55	51	202
Social Studies Education	41	53	43	58	195
Turkish Education	41	34	42	36	153
Preschool Education	50	45	39	53	187
Mathematics Education	51	37	31	36	155
Total	235	213	210	234	892

Data Collection Tools

The researcher developed the *Perception Scale of the European Union* after a thorough literature review and development of an item pool. Although there are many instruments such as the *EU Perception Scale* (Alkan, 2013), the *Adapted Version of European Union Identity Scale* (Altunay and Tonbul, 2013), and the *Perception Scale of Turkey-EU Relations* (Göral, Dartan, & Yurtkoru, 2021) in the literature, no valid and reliable measurement tool measured students' perceptions of the European Union. In this sense, a focus group study conducted with 12 volunteer education faculty students from different grade levels ensured the scale's content validity. A brainstorming activity was performed in which the keyword of "the EU membership" was written on the board, and students were asked to express the associations. The mind map drawn at the end of the activity was reviewed with the students, similar concepts were grouped, and irrelevant concepts were discussed and eliminated, which yielded the final version. In the second session, the concepts in the mind map were discussed in detail, the expressions were converted into perception statements, and an item pool was created accordingly. In the third session, the statements in the item pool were reviewed, and after removing similar, ambiguous, and irrelevant items, a draft item pool including 32 items was created. The draft item pool was revised by four academics with doctoral degrees: one guidance and counseling expert, one measurement and evaluation expert, one social studies education expert, and one language expert. Necessary corrections were made considering the experts' feedback, and the 28-item trial scale was sent to the experts for a final revision in which content validity, perception statements, and comprehensibility were checked. Then, the items were arranged in a 5-point Likert type scale ranging between "I strongly disagree" and "I strongly agree."



Personal Information Form

The researcher prepared a Personal Information Form including five items to determine the personal characteristics of teacher candidates, such as gender, department, political literacy level, and cultural literacy level. The following explanation on political literacy items was given to teacher candidates: political literacy was measured in three levels as low, moderate, and high. Low-level political literacy refers to the "recognition" dimension. That is, if you know basic concepts about politics, basic human rights, and social, political, and civic institutions, you have low-level political literacy. A moderate level of political literacy is called the "affective" dimension. If you have a good command of national and international issues, can make assessments, understand and appreciate the historical and cultural heritage and develop political attitudes, you have a moderate level of political literacy. High-level political literacy is characterized by the "skill" dimension. That is, if you are a member of non-governmental organizations and political parties, are involved in administrative tasks, and can offer solutions to the problems, you have a high-level political literacy". The participants were asked to choose the most suitable option for them.

The following explanation on cultural literacy items was suggested to the teacher candidates: Cultural literacy levels were measured in three levels as low, moderate, and high. Low-level cultural literacy is the "recognition" dimension. That is, if you know the basic cultural concepts and interrelations and can distinguish material and moral values; then you have low-level political literacy. A moderate level of cultural literacy refers to the "affective" dimension. That is, if you have sympathy for the national culture, value and protect the cultural heritage, and respect different cultures, you have a moderate level of cultural literacy. Lastly, high-level cultural literacy stands for the "skill" dimension. If you pay attention to keeping the national culture alive, strive to transfer our cultural values to the present and future, and seek ways to enrich your cultural and intellectual knowledge, you have a high level of cultural literacy. The participants were asked to mark the most appropriate option for them.

Data analysis

Before the factor analysis was performed to ensure the structural validity of the scale, KMO and Bartlett tests were performed on the data from the pilot application to reveal whether the data was suitable for factor analysis. Then, exploratory factor analyzes were carried out; The factorization of the scale factors was checked by principal components analysis, and factor loads were also measured using the Varimax vertical rotation technique. The item discrimination power of the items in the scale was tested with the independent sample t-test. The scale's validity and item-total correlations were checked with the Pearson's r test. Item discrimination was tested, checking the differences between top and bottom groups of 27%. Internal consistency and stability tests were performed to determine the scale's reliability. Cronbach's alpha reliability coefficient, the correlation between two halves, Spearman-Brown formula, and Guttman split-half reliability formula were used to determine the internal consistency. The test-retest method was applied for the consistency of the scale. In the second stage of the analysis, factor scores were calculated. Since the number of items in the factors was different, the scores were converted into standard scores, in which the lowest score was 20 and the highest 100.

Findings

Findings Regarding the Scale Validity

The construct validity, item-total correlations, and discrimination values were calculated to ensure the scale validity, and the findings are presented below.

Construct Validity

Tatlidil (2002) points out the data suitability for factor analysis. In this sense, Kaiser-Meyer-Olkin (KMO) and Bartlett tests were performed to determine the possibility of making exploratory factor analysis. Accordingly, if the KMO measure is between 0.70 and 0.80, the data set is "moderate"; if it is between 0.80 and 0.90, it is "good," and if it is above 0.90, it is "perfect" for factor analysis. The values below 0.50 is "unacceptable" (Field, 2000; Russell, 2002). However, the Bartlett test values considered the unit matrix of the correlation, suggest that the null hypothesis was rejected at the 0.05 significance level (Büyüköztürk, 2002; Eroğlu, 2008). In this study, the KMO measure was 0.872, and Bartlett value was $\chi^2=5944,537$; $df=378$ ($p=0.000$), signifying the data suitability for factor analysis. Besides, common factor variances were between .343 and .745, which indicated item suitability as well.

Additionally, exploratory factor analyzes were conducted; the factorization of the scale factors was checked by principal components analysis, and factor loads were measured using the Varimax vertical rotation technique. Factor analysis is used to determine whether items in a scale can be divided into fewer factors (Balcı, 2009; Carmines & Zeller, 1982). The principal component analysis is a frequently used factorization technique (Büyüköztürk, 2002; Carmines & Zeller, 1982). In principal components analysis, the items with a factor loading below 0.40 and without at least 0.100 difference between their loads in two factors should be removed from the instrument (Büyüköztürk, 2002). The factor distributions of the items by factor loads revealed six factors with an eigenvalue above 1. However, since most items were collected under three factors with larger eigenvalues, factor analysis was started with three factors. Accordingly, the varimax vertical rotation technique was used, and eight items were gradually removed from the scale because the item loadings were below 0.30 and spread over different factors. Expert opinion was sought again to ensure the content validity after removing eight items. Following the feedback, the final version of the scale comprised 20 items, and factor analysis was re-performed on these items.

The 20 items in the final version of the scale were grouped under three factors. The KMO value of the 20-item scale was 0.872, and Bartlett values were $\chi^2=4456,732$ $df=9190$ $p<0.001$. Factor loads are the primary criterion for evaluating factor analysis results (Balcı, 2009; Eroğlu, 2008; Gorsuch, 1983). High factor loading indicates that a variable can be grouped under the given factor (Büyüköztürk, 2002). The unrotated factor loads of the 20 items were between 0.304 and 0.703, but the rotated loads were between .446 and .852. The explanation of at least 40% of the general variance is considered sufficient in social sciences (Büyüköztürk, 2002; Eroğlu, 2008; Kline, 1994; Scherer, Wiebe, Luther, & Adams, 1988). The scale items and factors explained 44.99% of the total variance. After checking the semantic integrity of the items, the factors were labeled as "Anxiety," "Contribution," and "Culture." The scree plot (Figure 1) shows the factor structure drawn according to the eigenvalues. A high acceleration decline was seen in the first three factors, implying significant contribution to the variance, but it decreased in other factors, referring equal contribution to the variance (Büyüköztürk, 2002; Eroğlu, 2008).



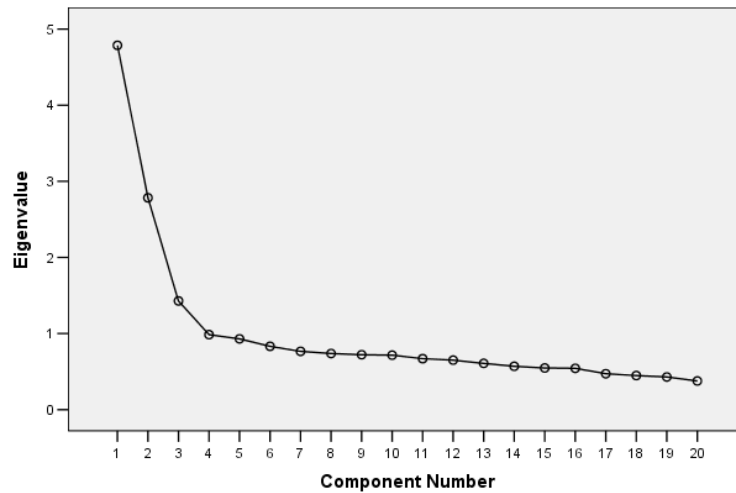


Figure 1. Scree plot graph (eigenvalues of the factors).

The findings regarding the item loadings, eigenvalues, and variance explanation amounts of the factors are presented in Table 2.

Table 2. Factor analysis results by factors

Items	Com. Var.	F1	F2	F3
I1. I do not believe that the EU has a positive attitude towards Turkey's membership.	.498	.692		
I2. I think EU countries manipulate the policies in Turkey by using its membership procedures as an excuse.	.478	.687		
I3. I think some of the EU countries have hostile attitudes towards Turkey.	.453	.655		
I4. I think some EU countries (such as Greece and the Greek Cypriot Administration) will impose hardship on Turkey.	.418	.643		
I5. I believe that the EU countries ignore Turkey's interests because they do not extradite the offenders to Turkey.	.413	.640		
I6. I believe that some EU countries' attrition campaigns and negative political discourses on Turkey have negatively influenced the membership process.	.400	.621		
I7. I do not believe that the EU keeps its promises to Turkey.	.379	.612		
I8. I believe that EU countries support terrorist activities in Turkey.	.389	.598		
I9. I do not believe that EU countries pay special attention to sensitive issues in Turkey, such as terrorist organizations or the so-called Armenian Genocide.	.346	.577		
I10. I think there are mutual conflicts because the EU tries to manipulate Turkey's foreign policy.	.347	.575		
I11. Turkey's prolonged membership adventure proves the member countries' insincere towards Turkey.	.322	.566		
I12. I do not think the EU accepts Turkey as a European country.	.304	.516		
I13. I believe that my welfare will be greater if Turkey becomes a member of the EU.	.640		.797	
I14. I believe that everything will be better if Turkey becomes a member of the EU.	.572		.739	
I15. I think unemployment will decrease if Turkey becomes a member of the EU.	.537		.730	
I16. I am sure that Turkey will be a stronger country if it becomes a member of the EU.	.430		.640	
I17. I think Turkey's membership will contribute significantly to the security of the EU.	.307		.519	
I18. To me, the EU symbolizes development.	.320		.446	
I19. I think EU membership will damage the family institution in Turkey.	.742			.851
I20. I think EU membership will negatively affect Turkish cultural norms and values.	.703			.823

Eigenvalues	4.644	2.632	1.722
Explained variance	23.222	13.161	8.609

As seen in Table 2, the anxiety factor had 12 items with the factor loading between 0.516 and 0.692. The factor's eigenvalue was 4.644 and explained 23.22% of the variance. The contribution factor included six items with the factor loading between 0.446 and 0.797. The eigenvalue was 2.632 and explained 13.16% of the variance. The culture factor had two items with the factor loading between 0.823 and 0.851. The factor's eigenvalue was 1.722 and explained 8.60% of the variance.

Item-Factor Correlations

The items were tested by calculating the correlations between item and factor scores. Table 3 shows the item-factor correlations below.

Table 3. Item-factor correlations

F1 Anxiety		F2 Contribution		F3 Culture	
I	r	I	r	I	r
1	.684	13	.764	19	.889
2	.670	14	.720	20	.885
3	.661	15	.701		
4	.631	16	.658		
5	.637	17	.515		
6	.614	18	.574		
7	.620				
8	.623				
9	.586				
10	.583				
11	.572				
12	.522				

n=892; **=p<.001

As seen in Table 3, the item-test correlations varied from 0.522 to 0.684 for the first factor, from 0.515 to 0.764 for the second factor; and from .885 to .889 for the third factor. Each item had a significant and positive correlation with the overall factor ($p < 0.000$).

Item Discrimination

The discrimination power of the items was evaluated according to the rank order of the scores, from largest to smallest. The item analysis was conducted using the differences between top and bottom groups of 27% (241 participants), and the independent group t values were calculated. Table 4 presents the t values and discrimination power of the items.

Table 4. Discrimination power of the items

F1 Anxiety		F2 Contribution		F3 Culture	
I	t	I	t	I	t
1	18.670	13	8.851	19	5.865
2	18.160	14	4.326	20	7.305
3	18.656	15	6.503		
4	16.822	16	5.683		
5	17.730	17	10.429		
6	16.819	18	3.824		
7	16.841				
8	16.717			F1	37.146
9	15.487			F2	10.331
10	15.178			F3	7.410
11	15.078			FT	48.582
12	11.693			*df: 480; p<.001	

As seen in Table 4, the independent sample t values ranged from 4.326 to 18.670. The t value of the total scores was 48.582 and varied between 7.410 and 37.146 for the factor scores. Statistical significance was set at $p < 0.001$. In this sense, the overall scale and items had high discrimination power.

Findings Regarding the Reliability of the Scale

Internal Consistency Level

The scale consistency was examined using Cronbach's Alpha, two congruent halves, the Spearman-Brown formula, and the Guttman split-half reliability formula. Reliability analysis results are summarized in Table 5 below.

Table 5. Consistency analysis results

Factor	Number of items	Two congruent halves correlation	Spearman-Brown	Guttman Split-Half	Cronbach's Alpha
Anxiety	12	.714	.833	.833	.850
Contribution	6	.560	.718	.713	.731
Culture	2	.573	.728	.728	.728
Total	20	.537	.683	.672	.746

As seen in Table 5, for the scale, the two congruent halves correlation was .537; Spearman-Brown reliability coefficient was .683; Guttman Split-Half value was .672; and Cronbach's Alpha reliability coefficient was .746. For the factors, the two congruent halves correlation were between .573 and .714; Spearman-Brown values between .718 and .833; Guttman Split-Half values between .713 and .833; and Cronbach's Alpha values between 0.728 and 0.850. The results proved the reliability of the scale.

Scale Reliability

The scale reliability was assessed using the test-retest method. The 20-item final version of the scale was re-administered to 35 students four weeks later. The differences in the scores obtained in both applications were evaluated for both each item and the overall scale. The findings are summarized in Table 6 below.

Table 6. Test-retest results

F1 Anxiety		F2 Contribution		F3 Culture	
I	r	I	r	I	r
1	.627**	13	.547**	19	.321*
2	.582**	14	.501**	20	.327*
3	.597**	15	.440**		
4	.611**	16	.339*		
5	.617**	17	.324*		
6	.508**	18	.412**		
7	.701**				
8	.498**			F1	.727**
9	.412**			F2	.603**
10	.375*			F3	.598**
11	.312*			FT	.737**
12	.308*				

n= 892; *= $p < 0.05$ **= $p < 0.001$

As seen in Table 6, the test-retest coefficients for each item varied between 0.321 and 0.701, which indicated a significant and positive relationship. The test-retest coefficients for factors ranged from .598 to .727, which was .737 for the overall scale. The results similarly indicated statistically significant and positive correlations and reliability.

Findings Regarding Teacher Candidates' Perceptions of the EU

The participants' perceptions of the EU are presented in Table 7 below.

Table 7. Teacher candidates' perceptions of the European union

Factors	n	\bar{X}	Sd	Min.	Max.
Anxiety		78.8	11.5	40	100
Contribution	892	63.9	13.8	20	100
Culture		57.9	20.3	20	100

As shown in Table 7, teacher candidates' "anxiety" scores ranged between 40 and 100, and the mean score was (\bar{X})=78.8, which revealed that the participants had a high level of anxiety. The participants' perception scores on the "contribution" factor ranged between 20 and 100, and the mean score was (\bar{X})=63.9, which pointed out a moderate level of perception on the contributions of the EU. The "culture" factor scores varied between 20 and 100, and the mean score was (\bar{X})=57.9. Accordingly, it can be inferred that teacher candidates had some concerns about the harmful effects of the EU membership on Turkish culture. The findings regarding the participants' perceptions of the EU by gender are summarized in Table 8 below.

Table 8. The perceptions of the EU by gender

Factors		n	\bar{X}	Sd	t	df	p
Anxiety	Female	662	46.9	6.6	-2.072		0.03
	Male	230	48.1	7.6			
Contribution	Female	662	18.9	3.9	-2.499	890	0.01
	Male	230	19.8	4.8			
Culture	Female	662	5.8	1.9	1.190		0.23
	Male	230	5.7	2.1			

As seen in Table 8, we found significant differences in the perceptions of the EU by gender:



“anxiety” ($t_{(2-890)} = -, -2,072; p>0,05$) and “contribution” ($t_{(2-890)} = -, -2,499; p>0,05$). However, it was not meaningful for the “culture” factor. The significance in both factors was in favor of male participants who showed a higher level of anxiety and expectation of contribution than female participants. Table 9 summarizes the findings regarding the participants’ perceptions of the EU by the department.

Table 9. The Perceptions of the EU by departments

Departments	n	Anxiety		Contribution		Culture	
		X	Sd	X	Sd	X	Sd
Primary School Education	202	79.5	11.5	63.2	13.9	59.9	19.2
Social Studies Education	195	77.7	11.1	65.7	12.8	56.8	20.3
Turkish Education	153	80.9	11.2	63.7	15.2	57.5	21.1
Preschool Education	187	78.3	12.2	64.9	13.8	55.9	21.8
Mathematics Education	155	77.5	11.2	61.7	13.3	59.5	18.8

Table 9 shows the differences in the scale and factor scores by departments. The variance analysis and LSD post hoc test results are summarized in Table 10 below.

Table 10. The Differences in the perceptions of the EU by department

		Sum	of	Mean	F	P	LSD
		Squares	df	Square			
Anxiety	Betw. Gr.	1351.773	4	337.943	2.581	.036	Between Turkish and social studies education; and between preschool and mathematics education
	Witing Gr.	116141.899	887	130.938			
	Total	117493.672	891				
Contribution	Betw. Gr.	1703.600	4	425.900	2.239	.043	Between social studies and mathematics education
	Witing Gr.	168697.134	887	190.188			
	Total	170400.735	891				
Culture	Betw. Gr.	2178.843	4	544.711	1.324	.259	-
	Witing Gr.	365025.641	887	411.528			
	Total	367204.484	891				

The perception analysis by departments pointed out significant differences in “anxiety” [$F_{(4-857)} = 2,581, p<0,05$] and “contribution” [$F_{(4-887)} = 2,239, p<0,05$] factors, except for the “culture” factor. The results of the LSD test performed to determine the source of the differences showed it was in favor of the Turkish education department students for the “anxiety factor.” For the “contribution factor,” the statistically significant difference between the Social Studies and Mathematics Education departments was in favor of the teacher candidates at the Department of Social Studies Education. Thus, it can be inferred that the teacher candidates at the Turkish education department had significantly more concerns about EU membership than those at the departments of Social Studies, Preschool, and Mathematics education. Also, the perceptions of the teacher candidates at the Department of Social Studies education towards the contribution of the EU membership were significantly higher than those studying at the mathematics education department. However, we found no significant difference in the culture factor by the department. Table 11 presents the findings regarding the participant perceptions of the EU by political literacy.

Table 11. Teacher Candidates' Perceptions of the EU by Political Literacy

Departments	N	Anxiety		Contribution		Culture	
		X	Sd	X	Sd	X	Sd
Low	233	77.7	11.6	63.3	14.4	58.5	20.1
Medium	583	78.9	11.2	63.5	13.3	57.8	19.5
High	76	80.4	13.5	69.1	14.7	56.9	26.6

As shown in Table 11, there were differences in the mean scores in all factors. Accordingly, as the political literacy levels increased, the participant's perceptions of the “anxiety” and “contribution” factors increased as well. However, we observed a decline in the "culture" factor scores. The LSD post hoc test results performed to determine whether the differences were statistically significant are summarized in Table 12 below.

Table 12. The Differences in Teacher Candidates' Perceptions of the EU by Political Literacy

		Sum Squares	of df	Mean Square	F	P	LSD
Anxiety	Betw. Gr.	448.782	2	224.391	1.704	.182	
	Witing Gr.	117044.890	889	131.659			-
	Total	117493.672	891				
Contribution	Betw. Gr.	2185.580	2	1092.790	5.775	.003	Between high group and medium and low group
	Witing Gr.	168215.155	889	189.218			
	Total	170400.735	891				
Culture	Betw. Gr.	163.227	2	81.613	.198	.821	
	Witing Gr.	367041.258	889	412.870			-
	Total	367204.484	891				

As shown in Table 12, there was a significant difference only in the “contribution” factor [$F_{(2-889)} = 5,775, p < 0,05$], but it was not meaningful in the factors of “anxiety” and “culture”. The LSD test results revealed that the significance favored those with high political literacy levels. Therefore, it can be suggested that the perceptions of the teacher candidates with a high level of political literacy towards the contributions of the EU membership were significantly higher than those with a medium and low level of literacy skills. Table 13 summarizes the teacher candidates' perceptions according to their cultural literacy.

Table 13. Teacher candidates' perceptions of the EU by cultural literacy

Departments	N	Anxiety		Contribution		Culture	
		X	Sd	X	Sd	X	Sd
Low	113	78.2	12.1	63.2	13.8	61.1	20.3
Medium	662	79.1	11.2	63.6	13.9	58.1	19.9
High	117	81.2	12.1	66.2	13.3	54.3	21.8

As understood from Table 13, there were differences in the mean scores in three factors. As the cultural literacy levels increased, their perceptions of “anxiety” and “contribution” factors also increased but decreased in the “culture” factor. The LSD post hoc test results are presented in Table 14.

Table 14. The Difference in Teacher Candidates' Perceptions of the EU by Cultural Literacy

		Sum of Squares	df	Mean Square	F	P	LSD
Anxiety	Betw. Gr.	874.955	2	437.478	3.335	.036	-
	Witing Gr.	116618.717	889	131.180			
	Total	117493.672	891				
Contribution	Betw. Gr.	744.874	2	372.437	1.952	.143	-
	Witing Gr.	169655.861	889	190.839			
	Total	170400.735	891				
Culture	Betw. Gr.	2682.416	2	1341.208	3.271	.038	Between high group and low group
	Witing Gr.	364522.068	889	410.036			
	Total	367204.484	891				

Table 14 shows a significant difference only in the “culture” factor [$F_{(2,889)} = 3,271, p < 0,05$]. The results of the LSD test performed to determine the source of the significance indicated that it was between the teacher candidates with high cultural literacy and those with medium and low literacy, and it was in favor of those with high cultural literacy. The results implied that the perceptions of the teacher candidates with high cultural literacy towards the negative impacts of the EU on Turkish culture were significantly lower than those with medium and low-level literacy skills.

Conclusion and Discussion

In this study, we developed *The Scale for Perceptions of the EU* to explore teacher candidates' perceptions of the European Union. It was a five-point Likert-type scale consisting of 20 items grouped under three factors: “Anxiety” (12 items), “Contribution” (6 items), and “Culture” (2 items). Although there were only two items under the “culture” factor, the original value of the factor was 1.722, and the explained variance was 8.6. On the other hands there is a high correlation between items. Raubenheimer, (2004) has suggested varying numbers of item per factor ranging three to five for representing each factor. But Yong and Pearce (2013) emphasized that factor with 2 variables is only considered reliable when the variables are highly correlated with each another ($r > .70$). The “culture” factor with two items was also necessary for content validity.

The tool's validity was examined with two methods of factor analysis and distinctiveness. Item-total correlations were calculated to check the consistency between items and factors. The results showed that the scale items and factors were effective in this sense. Besides, item discrimination was checked by the differences between top and bottom groups of 27% and was shown to be high; in other words, the items were distinctive. The Cronbach's Alpha reliability coefficient was calculated .746 for the overall scale; .850 for the “anxiety”; .731 for the “contribution” and .728 for the “culture” factor, which showed that the factors and the overall scale could make consistent measurements.

It was concluded that teacher candidates had much anxiety about the EU membership, and also their perceptions of “contribution” and “culture” factors were at a moderate level. It can be assumed that the participants thought that the EU membership would have moderate negative impacts on Turkish culture. The majority of the participants thought that the EU was not trustworthy and fair towards Turkey and would never accept Turkey as a member of the EU even if Turkey met all the conditions (Yazgan and Aktaş, 2012; Bozkurt, 2018), which might be the reason for high anxiety among the participants. Besides, the lack of information about the EU might have led to negative and anxious appraisals of the EU.

In the study, male teacher candidates had higher anxiety and contribution levels than female

candidates. Baldwin (1995) emphasized similar contributions and concerns in their study, suggesting that the Central and Eastern European countries wanted to join the EU mainly due to long-term stability and welfare opportunities. We found no significant difference in the “culture” factor by gender. The male teacher candidates had a high level of perception in both “anxiety” and “contribution” factors, which might indicate their dilemma. Those participants might have believed that Turkey's membership in the EU would bring economic benefits, but they still had concerns about the membership. However, in their study, Aksoy and Koç (2012) found no effect of gender on the perceptions of the EU. The differences in findings between studies might result from using a mute map of the European Union as a data collection tool in the current study.

We found significant differences in the “anxiety” factor between the teacher candidates studying at the Turkish education department and other departments, and it was in favor of the teacher candidates from the Turkish education department. Nevertheless, there was a significant difference in the “contribution” factor between the participants from the social studies education department and mathematics education department, and it was in favor of the social studies education department students. In light of the findings, it can be indicated that the teacher candidates at the Turkish education department had significantly higher anxiety about the EU membership than those at the departments of social studies, preschool, and mathematics education. Additionally, the perceptions of the participants at the social studies department teaching towards the contribution/benefits of the EU were significantly higher than those at the mathematics education department. There was no significant difference in the “culture” factor between departments, which can be interpreted that the department variable did not affect the perceptions of cultural factors.

According to the teacher candidates' perceptions of the EU by their political literacy skills, there was a significant difference only in the “contribution” factor. The significant difference in this factor was in favor of the teacher candidates with high political literacy. Thus, it can be assumed that the participants' perceptions with a high level of political literacy towards the benefits of the EU membership were significantly higher than those with a medium and low level of literacy skills. Akdemir (2017) reached similar findings suggesting that 21% of the participants stated that the lack of democracy in Turkey was the biggest obstacle to Turkey's membership. 36.7% of the students from Kafkas University stated that Turkey's membership in the EU would improve human rights and democracy in Turkey (Efe, Kemahlı Garipoğlu, Kızıl and Bihar, 2021). The rate of the supporters was 53.4% in Erzincan Binali Yıldırım University (Efe and Kemahlı Garipoğlu, 2016). The studies conducted in European Union countries also showed that the EU was often criticized for democracy deficit (Desmet, van Spanje, and de Vreese, 2015). Mass media tools affect citizens' perceptions of democracy because the media and interpersonal communication are the primary political information sources in EU politics (Beck, Dalton, Greene, & Huckfeldt, 2002; Esser & Strömback, 2014). It can be said that the media and foreign discourses play a role in the negative perception of human rights and democracy in Turkey.

According to the relationships between participants' perceptions of the EU and their cultural literacy levels, there was a significant difference only in the “culture” factor. The perceptions of the teacher candidates with high cultural literacy towards the negative impacts of the EU on Turkish culture were significantly lower than those with medium and low-level literacy skills. As the cultural literacy levels of the teacher candidates increased, they had less anxiety, fear, and delusion and had a positive perception that the sense of belonging to Europe would shape the Turkish identity. EU membership might help resolve the paradox of Turkish



identity that can be traced in geographical and historical factors (Nas, 2001). From a similar perspective, the economic and political dimensions played more critical roles in the formation of an EU perception in India than the social and cultural dimensions, and this power was attributed to the media and agencies (Jain & Pandey, 2010). The economic and religious similarity of the EU member states, and geographical proximity might be a reason for the concerns of teacher candidates with medium and low cultural literacy. In their study, Akdemir (2017) reached similar findings: 35% of the participants stated that religious differences would be the biggest problem in Turkey's membership process. Yazgan and Aktaş (2012) also observed that most participants expressed that if Turkey became a member of the EU, it might lead to cultural corruption in Turkish society and family. In this sense, it can be suggested that the concept of *universal culture* can be understood with only a high level of cultural literacy, and the European Union membership would not be perceived as a threat to culture thanks to cultural literacy skills that appreciate intercultural relations and interactions. Those worried about the EU's negative impacts on culture acknowledge the EU as an imperialist and Christian club that would have cultural conflicts with Turkey (Tonus, 2015; Dikmenli and Altay, 2021). In a study by Efe, Kemahlı Garipoğlu, Kızıl, and Bibar (2021) on the Kafkas University students' perceptions of the EU, 48.7% of the students did not see themselves as a part of European civilization, and the most hesitations about the cultural impact of the EU might have stemmed from the EU's negative attitudes towards Turkey and its prolonged but still incomplete membership. It is also true for the new generations in southeast Europe, where many young people have been still waiting for an EU membership (Jović, 2018). This situation might change the perceptions of the EU membership due to prolonged boredom and disappointment. For instance, three fundamental aspects- political, economic, and cultural- have shaped Bosnia-Herzegovinian's perceptions of the EU (Akdemir, 2018), which underlined the importance of cultural factors in the EU perceptions along with other factors.

Suggestions

- *The Perception Scale of the European Union* can be used as a data collection instrument in future research. It is recommended to conduct validity and reliability studies to apply it to different samples and grade levels.
- It would be very meaningful and practical to improve living standards, human rights, and freedoms in Turkey because they are the immediate demands of Turkish people, rather than being a member of the EU.
- Since foreign policy goals cannot be achieved without the support of the public, it is recommended to inform the public accurately about the social, cultural, economic, and political benefits of the European Union membership and to get the support of the Turkish people.
- As the cultural and political literacy skills improve, the concerns about the EU decrease, so it is recommended to prepare cognitive, affective, and operational activities to improve the literacy skills of university students.

References

- Alkan, M. N. (2013). *University students' perception of the European Union in Turkey*. Ankara: Konrad-Adenauer-Stiftung.
- Akdemir, E. (2017). Anadolu üniversitesi iktisat fakültesi uluslararası ilişkiler bölümü öğrencilerinin Avrupa birliği algısı [Anadolu university faculty of economics

- international relations department students' perception of the European union]. *Journal of Open Education Applications and Research*, 3(1), 9-38.
- Akdemir, E. (2018). European union perception of Bosnia and Herzegovina's people. *Journal of Balkan Research Institute*, 7(1), 1-30.
- Aksoy, B. & Koç, H. (2012). The Perception of the European union in the mind map of students having education in Turkey. *Journal of National Education*, 42(196), 107-123.
- Aktaş, M. & Öztekin, S. (2017, 23-30 Nisan). *European union's migration policies*. Third Sarajevo International Conference, Sarajevo: Bosnia and Herzegovina, Conference Proceedings Book, 203-217.
- Altunay, E. & Tonbul, Y. (2013). The Adaptation of the European union identity scale into Turkish. *Academic Sight International Refereed Online Journal*, 36, 1-20.
- Armaoğlu, F. (2010). *20. Yüzyıl siyasi tarihi [20th century political history]*. İstanbul: Alkım Yayınevi.
- Balcı, A. (2009). *Sosyal bilimlerde araştırma: yöntem, teknik ve ilkeler [Research in social science: methods, techniques and principles]*. Ankara: Pegem.
- Baldwin, R. E. (1995). The eastern enlargement of the European union. *European Economic Review*, 39(3-4), 474-481.
- Beck, P. A., Dalton, R. J., Greene, S. & Huckfeldt, R. (2002). The Social calculus of voting: interpersonal, media and organizational influences on presidential choices. *American Political Science Review*, 96(1), 57-73.
- Bozkurt, E. (2018). In the light of recent developments perception of European union in Turkey. *Journal of Economics and Administrative Sciences University of Ataturk*, 32(2), 267-288.
- Büyüköztürk, Ş. (2002). *Sosyal bilimler için veri analizi el kitabı [Data analysis handbook for social sciences]*. Ankara: Pegem.
- Cohen, L., Manion, L. & Morrison K. (2000). *Research methods in education* (5th Edition). London: Routledge Falmer.
- Carmines, E. G. & Zeller, R. A. (1982). *Reliability and validity assessment*. 5th printing. Beverly Hills: Sage Publications Inc.
- Desmet, P., Van Spanje, J. & de Vreese, C. (2015). Discussing the democratic deficit: effects of media and interpersonal communication on satisfaction with democracy in the European union. *International Journal of Communication*, 9, 3177-3198.
- Dikmenli, Y. & Altay, O. (2021). Analysis of teachers' views towards European union. *Journal of Education, Theory and Practical Research*, 7(1), 87-97.
- Dominguez, K. M. (2006). The European central bank, the euro, and global financial markets. *Journal of Economic Perspectives*, 20(4), 67-88.
- Efe, H. & Kemahlı Garipoğlu, F. (2016). *Erzincan üniversitesi öğrencilerinin avrupa birliği algısı [European union perception of Erzincan university students]*. Ankara: Siyasal Kitabevi.
- Efe, H. Kemahlı Garipoğlu, F., Kızıllı, M. & Bibar, D. (2021). Perception of Kafkas university students about the European union. *International Journal of Social Sciences Academy*, (5), 382-407. DOI: 10.47994/usbad.831173.
- Erhan, Ç. & Akdemir, E. (2016). An account of the first ten years of the Turkey-European union negotiations, (2005-2015). *Bilig*, (78), 7-35.
- Erhan, Ç., Genç, Ö. & Dağcı Sakarya, Z. (2011) *Siyasî partilerin Avrupa birliği'ne bakışı [Views of political parties on the European union]*. Ankara: Ankara Üniversitesi Yayınları.

- Eroğlu, A. (2008). *Faktör analizi [Factor analyses]*. In: Kalaycı, Ş. (ed), *Spss uygulamalı çok değişkenli istatistik teknikleri [Statistics techniques with multi variable in spss applications]*, Ankara: Asil Publishers.
- Esser, F. & Strömback, J. (2014). *Mediatization of politics: understanding the transformation of western democracies*. London, UK: Palgrave Macmillan.
- European Commission (2011). *History of the European union 1945-59* (2022, January 30) Retrieved from (https://europa.eu/european-union/about-eu/history/1945-1959_en).
- Field, A. (2000). *Discovering statistics using spss for windows*. London: Thousand Oaks-New Delhi: Sage Pub.
- Fontaine, P. (1992). *Europe in ten lessons*. Office for Official Publications of the European Communities, Luxembourg.
- Frennhoff Larsén, M. & Khorana, S. (2020). Negotiating Brexit: A clash of approaches? *Comparative European Politics*, 18(5), 858-877.
- Gateva, E. (2015). *European union enlargement conditionality*. Basingstoke: Palgrave Macmillan. Springer.
- Gorsuch, R. L. (1983). *Factor analysis*. 2nd ed., Hillsdale, NJ: Lawrence Erlbaum Associates.
- Göral, E., Özdemir, L., Yurtkoru, E. S. & Dartan, M. (2014). *The perception of university students towards the European Union: an evaluation of surveys conducted in 2004 and 2014 at the Marmara University*. İstanbul: Marmara University European Union Institute Publications.
- Göral, E., Dartan, M. & Yurtkoru, E. S. (2021). A Survey on the perception of Turkey-EU relations among academics at Marmara university. *Marmara University European Community Institute Journal of European Studies*, 29(1), 87-115.
- Gravetter, F. & Forzano, L. (2012). Selecting research participants. *Res. Methods Behav. Sci*, 125-139.
- Jain, R. K., & Pandey, S. (2010). The European union in the eyes of India. *Asia Europe Journal*, 8(2), 193-209. <https://doi.org/10.1007/s10308-010-0258-7>
- Jović, D. (2018). Accession to the European union and perception of external actors in the Western Balkans. *Croatian International Relations Review*, 24(83), 6-32. <https://doi.org/10.2478/cirr-2018-0012>
- Karakuzu, T., Aktoprak, S., Erk, Ç. & Limon, İ. (2015). A Comparative study on the European union perception among vocational school students: The Case of Trakya university Uzunköprü vocational school. *Electronic Journal of Vocational Colleges*, 5(5),155-163.
- Karakuzu, T. & Limon, İ. (2017). An Empirical study on changes in EU perception. *Academic Perspective Journali*, 61, 912-925.
- Kerameus, K. D. (1997). Symposium: civil procedure reform in comparative context political integration and procedural convergence in the European union. *The American Journal of Comparative Law*, 45(4), 919-930.
- Laursen, F. (1991). EFTA countries as actors in European integration: the emergence of the European Economic Area (EEA). *International Review of Administrative Sciences*, 57(4), 543-555.
- Laursen, F. (2016). The founding treaties of the European union and their reform. *In Oxford Research Encyclopedia of Politics*. Retrieved from: <https://oxfordre.com/politics/view/10.1093/acrefore/9780190228637.001.0001/acrefore-e-9780190228637-e-151?result=3&rskey=40JXMJ> (2022, January 16) <https://doi.org/10.1093/acrefore/9780190228637.013.151>
- Kline, P. (1994). *An easy guide to factor analysis*. London and New York: Routledge.
- Nas, Ç. (2001). Turkish identity and the perception of Europe. *Marmara University European Community Institute Journal of European Studies*, 9(1), 177-189.

- Nelson, B. & Stubb, A. (1998), *The European Union: Readings on the Theory and Practice of The European Integration*. Boulder, Colorado: Lynne Rienner Publishers.
- Özer, M. A. (2009). Turkey on the threshold of full membership to the European union. *Journal of Management and Economics*, 16 (1), 89-105.
- Peterson, J. (1995). Decision-making in the European Union: Towards a framework for analysis. *Journal of European public policy*, 2(1), 69-93.
- Raubenheimer, J. (2004). An item selection procedure to maximise scale reliability and validity. *SA Journal of Industrial Psychology*, 30(4), 59-64. Retrieved from <https://hdl.handle.net/10520/EJC89023>
- Renner, S. & Trauner, F. (2009). Creeping EU membership in south-east Europe: the dynamics of EU rule transfer to the Western Balkans. *Journal of European integration*, 31(4), 449-465. <https://doi.org/10.1080/07036330902919988>
- Rumford, C. (2001). Human rights and democratization in Turkey in the context of EU candidature. *Journal of European Area Studies*, 9(1), 93-105.
- Russell, D. W. (2002). In search of underlying dimensions: the use (and abuse) of factor analysis. *Personality and Social Psychology Bulletin*, 28, 1629–1646.
- Scherer, R. F., Wiebe F. A., Luther, D. C. & Adams J. S. (1988). Dimensionality of coping: factor stability using the ways of coping questionnaire, *Psychological Reports* 62(3), 763-770.
- Tatlidil, H. (2002). *Uygulamalı çok değişkenli istatistiksel analiz [Applied multivariate statistical analysis]*. Ankara: Akademi Matbaası.
- Tonus, Ö. (2015). Are Perceptions of the EU in Eskişehir different from nationwide public opinion? *Ankara Journal of European Studies*, 14(2), 49-83. https://doi.org/10.1501/Avraras_0000000223
- Yazgan, H. & Aktaş, A. (2012). Public opinion in Turkey-European union relations: The Case of Çankırı. *Çankırı Karatekin University Journal of the Faculty of Economics & Administrative Sciences*, 2(2), 1-23.
- Yong, A. G. & Pearce, S. (2013). A Beginner's Guide to Factor Analysis: Focusing on Exploratory Factor Analysis. *Tutorials in Quantitative Methods for Psychology*, 9, 79-94. <https://doi.org/10.20982/tqmp.09.2.p079>