Development of Turkish Speaking Anxiety Scale

Mahmut Ayaz [i]
Ministry of Education

Süleyman Kasap [ii]
Van Yüzüncü Yıl University

Zafer Açar [iii]
Bingöl University

Abstract

This study aims to develop a Turkish speaking anxiety scale (TSAS) for secondary school students whose mother tongue is not Turkish. Likewise, our study aims to develop a measurement tool that will determine the effect of this difference on second language speaking anxiety, since the subjects of our study are individuals who do not receive education in their mother tongue but receive education in a second language. The scale, which was prepared during the scale development process, was applied to 368 8th grade students whose mother tongue was Kurdish and who learned Turkish later. The results of the exploratory factor analysis (EFA) showed that the 25 items in the scale were collected in three factors. These are: "Anxiety", "Reluctance" and "Inadequacy". This three-factor structure obtained as a result of the EFA analysis was confirmed by Confirmatory Factor Analysis (CFA). It is seen that these three factors contribute %43,923 to the total variance. It is seen that the factor load values of the items are between 0.375 and 0.746. Considering the item analysis results, it was concluded that the items in the scale were distinctive. In addition, as a result of ANOVA, it was revealed that students' Turkish speaking anxieties differed significantly in terms of gender, mother's knowledge of Turkish, and the language that parents wanted to be spoken at home. However, it was observed that there was no significant difference in the father's Turkish proficiency. The Cronbach's alpha reliability coefficients of this triple factor structure in the scale were calculated as 0.904, 0.829, and 0.733, respectively, and the alpha coefficient for all items of the scale was calculated as 0.927. As a result of the reliability and validity analyzes, it was concluded that the Turkish speaking anxiety scale is a reliable and valid measurement tool.

Keywords: Language Acquisition, Speech Anxiety, Bilingualism, Mother Tongue Education

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[i] **Mahmut Ayaz,** Dr., Department of Elementary Education, Ministry of Education

Correspondence: mahmutzaya@hotmail.com

[ii] **Süleyman Kasap,** Assoc. Prof. Dr., Department of English Language Education, Faculty of Education, Van Yüzüncü Yıl University, ORCID: 0000-0001-8367-8789

[iii] **Zafer Açar,** Assoc. Prof. Dr., Eastern Languages and Literature, Faculty of Science and Literature, Bingöl University, ORCID: 0000-0001-5323-9531

INTRODUCTION

First language acquisition is a process that progresses in the form of first hearing and listening, making sense of what is heard, and putting it into speech. In the next process, the individual who acquires the first language also gains reading and writing skills through education. However, when it comes to second language acquisition or learning, a different process operates compared to the first language. Second language learning can vary according to the language learned, the region or country in which one lives, and the purpose of learning. For example, learning a second language in Turkey is a compulsory process, in the case of Kurds, mostly through learning in the school environment. There are several variables that affect a person's success in learning a second language. Among these, two important variables include neurophysiological difficulties due to the stabilization of the nervous system as a result of the loss of some brain plasticity and the genetic predisposition to language learning. However, many researchers have demonstrated that the factor that most influences second language learning is the emotional component, which includes other important variables such as motivation, interest, self-esteem, and anxiety. For example, according to Lazar (2000), how we perceive and receive new information is greatly influenced by our attitude to this information. Therefore, when we start learning a foreign language, our attitudes, expectations, and fears toward this language will influence our learning process. These feelings are mainly related to previous experiences that we have fixed in memory. Spielberger (1983) defined anxiety as a personal state of tension, worry, irritability, and worry about the stimulation of the autonomic nervous system (Zheng, 2008). May (1977), on the other hand, explained anxiety as an emotional response to a threat to some values, which is the basis of an individual's existence and personality (Bekleyen, 2004: 28). While discussions about the nature of anxiety, that is, whether it is learned or innate, the interpretation that this uncertainty at the conceptual level arises from two different situations was first put forward by Cattell and Scheier (1958), then Spielberger (1966) defined anxiety; divided into two as state and trait anxiety (Özusta, 1995). Later, with the increase in research on the subject, a third type was defined as situation-specific perspectives (Bekleyen, 2004: 28). In addition, anxiety has a positive feature by preparing the individual to take action to make a decision, and it has a negative feature as making decisions will take the person out of the comfort zone and uncertain results are disturbing. This distinction is defined as facilitating and debilitating anxiety" (Alkan, Bümen, and Uslu, 2019: 1159-1160).

Due to the effect of anxiety on human behavior, as Pichette (2019: 78) stated, there has been an increase in studies focusing on foreign language anxiety in the last twenty years. In particular, it was observed that the studies focused on speaking anxiety, which is one of the four basic components of language (speaking, writing, reading and listening).

Many studies reveal a negative relationship between anxiety and academic performance in foreign language learning (Pichette, 2009: 77; Bailey, Onwuegbuzie, & Daley, 2000; Chen & Chang, 2004; Horwitz, 2001; MacIntyre & Gardner, 1991; Phillips, 1992; Sparks and Ganschow, 2007; Young, 1999a). In addition, some theories have shown anxiety as an important variable in second language acquisition in their models and theories; Like Gardner's (1982) Social Education model, Karshen's (1982) Monitor Model, and Woodrow's (2006a) Adaptive Language Model (Pichette, 2009: 78).

Studies on language anxiety or anxiety about language components in Turkey are generally referred to as foreign language anxiety or second language anxiety. In their study, Polatcan, Alyılmaz and Er (2019: 387) cited Melanlıoğlu and Demir's (2013) adaptation study for the speaking anxiety of foreigners learning Turkish, Halat (2015), Maden, Dincel and Maden (2015), Erdil (2016), Şen & Boylu (2017), Karakuş Tayşi (2018) and Polatcan's (2019) adaptations study as examples. In addition, according to Alkan, Bümen, and Uslu, (2019: 1161), the level of speaking anxiety of students learning English (Çağatay, 2015; Tüm & Kunt, 2013) and the reasons for this anxiety (Baş, 2014; Öztürk & Gürbüz, 2014; Tüm and Kunt, 2013; Yıldırım, 2007) and some attempts to eliminate speech anxiety (Atas, 2015; Han & Keskin, 2016; Hamzaoğlu, 2015; Koçak, 2010; Yalçın & İnceçay, 2013) have been to found to be examined. As it can be understood from these studies, studies on language learning

anxiety in Turkey are generally in the form of learning English as a second language (Sevim (2019: 255) or learning Turkish according to the situation of foreigners learning the second language in Turkish. Our study differs from previous studies in this respect. It is within the scope of second language anxiety of students whose mother tongue is Kurdish and who learn Turkish as a second language in Turkey.

Speaking anxiety is one of the components of language anxiety and perhaps the most prominent in research. According to Demir and Melanlıoğlu (2014: 109), speech anxiety can manifest itself as emotional (sadness, fear, anger) or physical (fast heartbeat, sweating). Several factors increase speech anxiety such as having to demonstrate speaking performance in the lesson or in the exam; fear of wrongdoing, ridicule, and consequent negative evaluation; Grammar, vocabulary, and pronunciation problems and not allowing the use of mother tongue in the foreign language class seem to increase speaking anxiety (Alkan, Bümen and Uslu, 2019).

In addition to the aforementioned speech problems of individuals living in Turkey whose mother tongue is different from Turkish, language proficiency/language level can be shown as an important factor in the formation of this anxiety. The traumatic situations experienced by Kurds in educational institutions, as in many minority communities, are the most obvious examples of this. Coşkun, Derince, and Uçarlar (2010) conducted their research on students whose mother tongue is Kurdish, who did not receive education in their mother tongue due to "communication problems, feeling of being defeated, not being able to finish school or leaving school, stigma, violence, staying silent and waiting for the bell and other". It has been shown that these children, who have not been able to gain education, have significant speaking anxiety in the second language and this reflects negatively on their education life.

In some other studies carried out on bilingual children (Kaya and Aydın 2013; Sarı, 2001; Sarı, 2002; Tulu 2009; Uçarlar and Derince, 2012; Yiğit, 2009), the problems experienced by students whose mother tongue is different from the language of instruction have been shown to differ according to their grade level. While problems such as not being able to understand what they read or listen to, not being able to express themselves and losing too much time while learning a subject in the first grade, it was stated that these students experienced problems such as lack of communication, marginalization and exposure to various types of violence in the upper grades (Yılmaz & Şekerci, 2016: 49). Likewise, the studies of Kasap (2015), Uğur (2017,) and Açar (2019) show that individuals who do not receive education in their first language mother-tongue see themselves as inadequate in terms of using their language, and they state that especially the dominant second language causes deterioration in the first language and this deterioration and inadequacy have negative effects on language attitudes.

Situations such as word mistakes made by individuals who have not received their mother tongue as the language of instruction and who are educated in a second language, low sentences, hesitations while speaking, trying to say a word or concept in the first language directly translating it into the second language can increase speech anxiety and turn it into a social phobia. Gerlinde et al. (2003: 1373) explained this situation as follows: "Individuals with social phobia experience extreme fear of being negatively evaluated by others when observed or interacting with them. As a result of these feared social situations, these individuals either avoid such situations or have to endure their distress."

Based on these findings, it can be seen that the speaking anxiety of individuals who do not receive education in the first language in the first years of their education is mostly caused by their second language deficiencies. Because such individuals, for example, are quiet and calm in a second language-educated school environment, but they can be talkative and playful at home or in first language interactive environments.

In the literature, there are bilingualism theories and models for the socio-psychological conditions of those who learn their mother tongue as a first language without receiving an education in

it, and who learn a second language compulsorily due to its status. When we look at the types of bilingualism, studies that are described as an additive and subtractive bilingualism and extending back to Lambert's (1974a, 1974b) studies; In additive bilingualism, individuals' learning a new language does not negate their first language and does not lead to a negative attitude towards the second language ;on the other hand, in subtractive bilingualism, individuals belonging to ethnolinguistic groups with low prestige have shown that their sociocultural values have lost as well as their own language and culture, as they attribute a higher value to the second language (Huguet, Vila & Llurda, 2000; Kasap, 2020). When we look at the example of Kurds in Turkey, it is possible to say that their language situation is an example of subtractive bilingualism. The fact that individuals whose mother tongue or first language is Kurdish and who are exposed to the second language compulsorily in the school environment after acquiring their mother tongue as the first language cannot reach a sufficient academic level in the first language is also reflected in their second language. This is explained by the threshold theory (Cummins, 1976, 1978a; Toukomaa & Skutnabb-Kangas, 1977). Accordingly, there are two types of thresholds, high and low (Cummins, 1976; Toukomaa & Skutnabb-Kangas, 1977). Having a lower bilingual proficiency threshold will be sufficient to avoid any negative cognitive effects, but for accelerated cognitive growth it may be necessary to reach a higher bilingual proficiency level. (Cummins1979:232). In addition, according to Cummins' developmental interdependence hypothesis (1978a, 1979, 1984), second language proficiency depends on the level of development in the first language. As stated by Cummins (1979: 232), many research findings have revealed that the preservation of first language ability will lead to cognitive benefits in the second language of minority language children.

It should be noted here that individuals whose first language is Kurdish may be able to express themselves better at home or in first language interactive environments, but what matters is academic language level and proficiency, which inadequacy in the first language shows itself in the form of failure and anxiety in the second language. Subjects in the field of cognitive psychology regarding the effect of previous learning on subsequent learning can also be explained with Schema Theory in the context of bilingualism. The concept of schema first emerged in 1911, in the work of Head and Holmes in the field of neurology. (Arbib, 1992: 1429) “Schema theory, which is a learning theory first used by Piaget in 1926, sees organized knowledge as a detailed network structure consisting of abstract structures that reveal an individual's perceptions of the world” (Özenici, 2007: 6). Schema Theory can be based on Kant's determination that “concepts can only make sense when they are related to something individuals already know”, and the concept of schema was defined by Barlett in 1932 as the repetition of past reactions or constantly working past experiences (Carrell, 1983: 1). In more recent studies, schemas have been called interacting knowledge structures. (Rumelhart and Ortony, 1977 cited by Carrell, 1983: 3).

Based on this, it can be said that the academic proficiency of bilingual individuals in the first language will be reflected in the second language, and an education supported by previous knowledge will contribute positively to the development of children cognitively.

The sample of our study is individuals between the ages of 13-15 whose mother tongue is Kurdish, who cannot receive education in their own language and who learn Turkish as their second language. In this context, our study revealed that the inadequacies of middle school students whose mother tongue is Kurdish are reflected in the second language, and in this sense, it manifests itself in the form of speaking anxiety in the second language, especially at the point of speaking.

METHOD

Research Pattern

This study was designed according to the scanning model, which is one of the research methods. The survey model is research that uses relatively larger samples than other types of research, in which characteristics such as participants' views on a topic or an event, interests, abilities, and

attitudes are revealed. The purpose of these studies is to make a description of the research situation by taking a picture of the current situation (Fraenkel & Wallen & Hyun, 2012).

Study Group

The study group of the research consists of 368 secondary school students studying in the 8th grade and learning Turkish later in the province of Ağrı, one of the Eastern Anatolian provinces of Turkey, in the 2020-2021 academic year. In this study, the participants were determined according to the homogeneous sampling technique, which is one of the purposive sampling methods and techniques. Purposeful sampling provides the opportunity to conduct in-depth research by selecting information-rich situations according to the purpose of the research (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2009). The reason for choosing the province of Ağrı in the research is that it is a Kurdish-speaking province to a large extent. In addition, since middle school 8th-grade students are at an age that is accepted as the age of transition to adolescence, it is thought that individuals at this age have reached the level where they can fully understand what they read (Dey, Newell and Moulds , 2018), and therefore they have been chosen 58. 2% (n= 214) of the students participating in the study were male and 41.8% (n=154) were female. Descriptive information about the students participating in the research is given in Table 1.

Table 1. Descriptive information about the participants of the study

Variable	Category	N	%
Gender	Male	214	58.2
	Girl	154	41.8
Does the mother speak Turkish?	Yes	269	73.1
	No	99	26.9
Does the father speak Turkish?	Yes	360	97.8
	No	8	2.2
Language spoken at home	Turkish	73	19.8
	Kurdish	295	80.2
Your mother and father at home for you what language does he want you to speak?	Turkish	165	44.8
	Kurdish	203	55.2
Total		368	100

Preparation of data collection tool

The Turkish speaking anxiety scale was conducted to determine the anxiety levels of secondary school students whose mother tongue is not Turkish and who did not receive any education in their mother tongue, and who learned Turkish later. For this purpose, the literature was scanned to create the items to be included in the scale. The prepared item pool consisted of 40 items. It was submitted to the opinion of experts in the field (two assessment and evaluation, classroom education, science education and psychological counseling and guidance, n=5) in order to determine whether the items in the item pool, which was converted into a draft form, would measure the Turkish speaking anxiety of secondary school students appropriately and to determine their linguistic intelligibility. For each item, the experts were asked to mark one of the options "appropriate", "unsuitable, remove" and "correct not appropriate". In line with the suggestions from the field experts, necessary corrections were made and a form consisting of 36 items was created. The prepared form consists of the categories “ Never ” (1), “ Rarely ” (2), “ Sometimes ” (3), “ Often ” (4), and “ Always ” (5). Accordingly, the high score obtained from the scale indicates that Turkish speaking anxiety is high.

Process of preparing data for analysis

The data collected using the data collection tool prepared within the framework of the study were analyzed according to some assumptions suitable for the analysis of the factors. These are: sample size, missing data, normality, linearity, extreme values and structure of R matrix and adequacy of R matrix. First of all, the suitability of the sample size for factor analysis should be examined. There is no consensus among researchers about the sample size for factor analysis (İlhan & Çetin, 2014).

However, in the literature, it is necessary to apply 3-6 times as many participants as the number of items in the scale for factor analysis, it is argued that 200 participants are suitable for factor analysis, and it is very good if 500 participants are applied (Cattell, 1978). The structure of the factor becomes more evident as the number of participants increases, but this is accepted when it reaches 5 times the total number of items (Stevens, 2002; Gorsuch, 1983). 368 students participated in this study and when the data were compared with the data collected from the students, no missing data was found. To test the normality and linearity of the data set, it was checked whether the total scores were evenly distributed. Skewness and kurtosis coefficients were examined by performing normality tests. The z-scores of each variable were checked to determine whether there were outliers in the data set. It was observed that the z-scores of the variables were in the range of ± 3.00. By calculating Mahalanobis distances, it was checked whether all variables were outliers in multiple variables. All variables were examined and it was concluded that there were no extreme values in the data set. In order to control the factorability of R, the KMO (Kaiser-Meyer-Olkin) value and Bartlett's Test results were examined. The KMO value was found to be .84, and the result of the Bartlett test (x^2=1631.837, $p<0.01$), which tests multivariate normality, was also significant. Considering this result, it can be said that the data are suitable for factor analysis.

Analysis of Data

In the research, it was tried to ensure content validity by interviewing 5 different experts from the field. In this way, content validity rates and indices were calculated. Then, statistical analyzes were made so as to determine the characteristics of the measurements by applying TSAS to the participant group. By using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), the construct validity of the scale was examined and the factor structure of the scale was revealed. While applying EFA and CFA in the test development process, different versions are applied, but when the sample size is sufficient, it is recommended to apply EFA with half of the data and CFA with the other half, and this approach is frequently used in the test development process (Henson & Roberts, 2006). Since the sample size was sufficient in this study, it was decided to apply EFA with the data of 168 participants and CFA with the remaining part. In this study, the 36-item scale was applied to 368 participants. While performing exploratory factor analysis, correlation values between dimensions were examined by using the direct oblimin rotation technique and it was seen that there was a low correlation between dimensions. As a result, it was decided that the sub-dimensions of the scale were independent of each other. When performing factor analysis, it is recommended to use the varimax method for sub-dimensions that are independent and when the relationship between sub-dimensions is low (Tabachnick & Fidell, 2007). One of the advantages of the maximum probability factor analysis estimation method is that it provides an opportunity for statistical evaluations on how better factor analyzes can be made in order to rearrange the relations between the indicators in the data set (Cokluk, Şekercioğlu, & Büyüköztürk, 2016). For this reason, "principal components analysis" was used as the factorization method and the "varimax" method, which is one of the vertical rotation methods, was used as the factor rotation method while performing EFA. The reliability of the scale was tried to be ensured by calculating the Cronbach Alpha internal consistency coefficient and item-total correlations for the whole scale and each of its sub-dimensions. However, within the scope of the scale's criterion validity, the difference between the scores of the 27% upper group and 27% subgroup from the total scale was analyzed with the t-test for independent groups. In order to test the validity in another way, it was examined whether the total scores of the participants whose distribution was homogeneous between the classes differed according to their gender, whether the mother knew Turkish, whether the father knew Turkish or not, and the language that the parents wanted to be spoken at home. In order to determine the appropriate test, the normality of the distribution was checked first. It was concluded that the total score of the scale showed a normal distribution for all variables ($p>.05$). Therefore, the significance of the difference between the total scores of the participants according to the mentioned variables was tested by using ANOVA, one of the parametric methods used for unrelated measurements. In addition, the data collection tool was collected in writing and the analysis of the data; It was made with the help of the SPSS 25 package program and LISREL 8.7 program.

RESULTS

In this section, validity and reliability information about “Turkish speaking anxiety scale” is given.

Scope Validity

For all the items of the Turkish speaking anxiety scale, the opinions of 5 different field experts were taken, CVR's were calculated based on these opinions and the form was created. When half of the experts on the item give an opinion of "Suitable", it will be CVR=0, when more than half of the experts give an opinion of "Suitable", CVR>0, and when less than half of the experts give an opinion of "Suitable", it will be CVR<0. It is argued that the content validity criterion should be at least 0.99 for 5 field experts (Veneziano & Hooper, 1997). The content validity index (CGI) is obtained over the total CVR averages of the items that are significant at the $\propto$ =.05 level and that will be included in the final form (Yurdugül, 2005). In line with the opinions of the experts, it was seen that 8 items out of 40 were insufficient to measure the Turkish speaking anxiety of secondary school students. According to the opinions of the experts, 4 of the 8 items were changed based on the content validity rates; 4 of them are out of form. After these items expressed in this context were removed from the test, the CGI was recalculated and the calculated value was found to be sufficient.

After the arrangement, an intelligibility study was conducted with a small group to test the intelligibility of the Turkish speaking anxiety scale. Thus, the level of agreement of the items on the scale of the students who responded to the scale and the opinions of the students for each item were taken. Finally, before the scale was applied, it was reproduced in written form and applied face to face to the students on a voluntary basis. The pre-application of the scale was completed with the collected data. After the preliminary application study was completed, the pilot application was started.

Construct validity

EFA and CFA were conducted to determine the construct validity of the Turkish speaking anxiety scale (TCLS).

Exploratory Factor Analysis (EFA)

Exploratory factor analysis was performed to determine the item factor loads of the items in the Turkish speaking anxiety scale and to determine the construct validity of the scale. Before starting the exploratory factor analysis, the data were calculated with the Kaiser-Meyer-Olkin (KMO) coefficient and the Barlett Sphericity test to evaluate their suitability.

As a result of the exploratory factor analysis, it was seen that the items with an eigenvalue greater than 1 were collected in 10 factors. It is seen that the items collected in 10 factors explain 64,420% of the scale. In the literature, it is suggested that factor loads should be above 0.30 in EFA analysis findings (Floyd & Widaman, 1995; Tabachnick & Fidell, 2007). Accordingly, items with a factor load of 0.30 and below were excluded from the analysis. Accordingly, 7 items with a factor load of .30 or less were excluded from the analysis. As a result of EFA, it was seen that 3 items were overlapped. Also, item 5 was not included in the analysis because the item-total correlation was less than 0.30. In EFA analysis, items having between 0.20-0.30 values can be included in the analysis when necessary, however values less than 0.20 should not be included in the analysis (Büyüköztürk, 2017). Considering the purpose of the study and the results of the EFA, it was decided to collect the items in three factors. The characteristics of the items related to repeated EFA results are presented in Table 2. The eigenvalues obtained as a result of the EFA analysis and the percentages of total variance explained are given in Table 2 and the scree line graph result is shown in Figure 1.

Table 2. Explanatory Factor Analysis and Disclosed Eigenvalue Results

	EFA eigenvalue results	Total variance explained
Dimension I	7,498	18,519
Dimension II	1.888	15.071
Dimension III	1.594	10.333

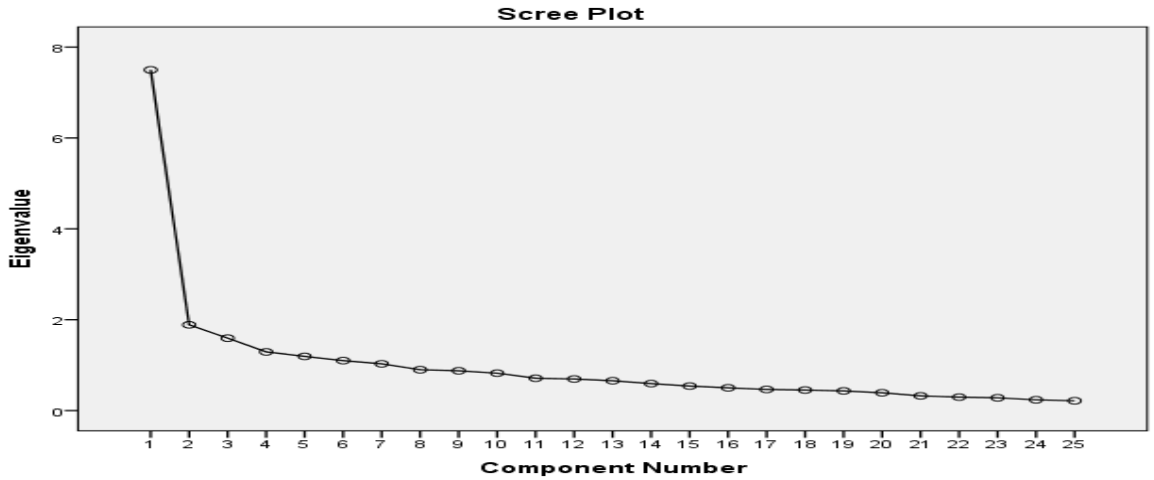

Figure 1. Line Chart

When Table 2 was examined, it was concluded that the items were collected in three factors as a result of the EFA analysis. The first factor of the scale explained 18,519 of the total variance, the second dimension explained 15.071% of the total variance, and the third dimension explained 10.333% of the total variance. It is seen that the three-factor items obtained from the scale as a result of EFA explained 43,923% of the total variance.

Table 3. Factors and factor loads resulting from EFA

Factor 1 (Anxiety) Cronbach Alpha=0.904 Variance Explained= 18.519%			
	Factor Load		
	one	2nd	3
21. I get nervous when speaking Turkish in class.	.606		
26. I worry when the teacher asks questions in class.	.567		
27. I am afraid of making mistakes when speaking Turkish.	.623		
30. I am not willing to participate in class activities or discussions because I do not speak Turkish well.	.654		
31. Some Turkish words I know do not come to mind when speaking in class.	.634		
32. I get nervous when speaking in front of a native Turkish speaker.	.746		
33. When speaking Turkish, I feel I fall behind of my friends.	.613		
34. I am very afraid that the teacher will ask me questions in the lesson because I do not express myself well in Turkish.	.593		
35. I hesitate to ask my teacher questions because my Turkish is not good.	.700		
36. When I explain a subject in class, I think that my teacher and fellow students will not be able to understand me well.	.579		
Factor 2 (reluctance) Cronbach Alpha=0.829 Explained variance=15.071 %			
	Factor Load		
	one	2nd	3
4. I do not want to talk about a subject in Turkish in front of the class.		.523	
5. I do not understand some Turkish words my teacher uses.		.625	
6. I don't want to come forward to explain something.		.576	
7. Some words my teacher uses are unfamiliar to me.		.667	
8. When speaking Turkish, I often pause to use the appropriate word.		.561	
9. I often pause between words while speaking.		.545	
10. I find it difficult to form long sentences.		.531	
12. I am reluctant to participate in classroom drama activities due to my lack of Turkish.		.640	
13. Because my Turkish is not good, I prefer to remain silent in class.		.538	

Factor 3 (insufficiency) Cronbach Alpha=0.733 Explained variance=10.333%			
	Factor Load		
	one	2nd	3
1. I can't speak Turkish fluently.			.698
2. I think my Turkish speaking level is not good.			.551
11. I do not feel sufficient speaking Turkish in front of the 11th class.			.581
16. When speaking Turkish, I would like to ask short questions and give short answers.			.375
18. I think that there are problems with my Turkish accent due to the influence of my mother tongue.			.519
23. When speaking, I think first in my mother tongue and then translate it into Turkish.			.589
TOTAL VARIANCE ANNOUNCED %	43,923%		

As a result of factor analysis, it was decided that the scale should have a three-factor structure. Table 3 shows the items and factor loads. The first factor was named " Anxiety ", the second factor " reluctance " and the third factor " insufficiency", considering the content and theoretical structures of the items revealed as a result of the EFA analysis. The first factor explains 18,519 % of the total variance and consists of 10 items. The factor loads of the items that make up this sub-dimension range from 0.567 to 0.746. The second factor explains 15,071 % of the total variance and consists of 9 items. The factor loads of the items that make up this sub-dimension range from 0.523 to 0.667. The third factor explains 10,333 % of the total variance and consists of 6 items. Factor loadings of the items constituting this sub-dimension ranged from 0.375 to 0.698. In this study, items with factor loading values of 0.30 and above were evaluated (Büyüköztürk, 2010).

When these three factors are evaluated together, it is seen that the items on the scale explain 43,923% of the total variance. It was observed that there was a low correlation between the correlation coefficients between the sub-dimensions of the scale. As a result of the correlation between dimensions, the correlation between the first and second sub-dimensions was calculated as 0.299. The correlation between the first and the third sub-dimension was calculated as 0.267. The correlation between the second and the third sub-dimension factor was calculated as 0.264. According to these findings, it was concluded that the sub-dimensions were independent of each other. Therefore, in the factor analysis study, it was seen that the application of vertical rotation was appropriate. Therefore, Varimax, one of the vertical rotation methods, was applied. The correlation coefficients between the scale sub-dimensions are presented in Table 4.

Table 4. Correlation Coefficients Between Factors

Factors	**Anxiety**	**Reluctance**	**Insufficiency**
Anxiety	1.00	0.299	0.267
Reluctance		1.00	0.264
Insufficiency			1.00

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was applied to test the accuracy of the structure consisting of 25 items and three sub-dimensions obtained as a result of exploratory factor analysis. The fit index values for TSAS are given in Table 4 The chi-square, chi-square/degree of freedom, and goodness-of-fit indices calculated when this construct was tested are presented in Table 5. In addition, the table includes the evaluation criteria accepted for indexes according to Schermelleh-Engel, Moosbrugger, and Müller (2003).

Table 5. DFA Results of the Three-Dimensional Implicit Structure Established with CFA

Model	**÷²**	**÷²/sd**	**NNFI**	**NFI**	**CFI**	**RMSEA**
Three-Factor Structure	541.87	2.01	0.95	0.91	0.95	0.07
Criteria		3.0	≥0.95	≥0.95	≥0.95	≤0.08

When Table 5 is examined, it is seen that the CFA model fit values of the three-factor structure are in the appropriate range.

Table 6. T-test Values Obtained from CFA for TKSS

Item No.	t	Item No.	t	Item No.	t
ANXIETY1	10.93*	ANXIETY10	7.82*	RELUCTANCE9	6.19*
ANXIETY2	11.42*	RELUCTANCE1	5.39*	INSUFFICIENCY1	6.06*
ANXIETY3	11.19*	RELUCTANCE 2	6.03*	INSUFFICIENCY2	7.38*
ANXIETY4	10.47*	RELUCTANCE 3	8.72*	INSUFFICIENCY3	9.03*
ANXIETY5	7.57*	RELUCTANCE 4	7.71*	INSUFFICIENCY4	3.16*
ANXIETY6	10.68*	RELUCTANCE 5	4.25*	INSUFFICIENCY5	6.86*
ANXIETY7	9.73*	RELUCTANCE 6	8.14*	INSUFFICIENCY6	10.08*
ANXIETY8	11.79*	RELUCTANCE7	9.99*		
ANXIETY9	12.24*	RELUCTANCE8	8.69*		

*p<.01

When Table 6 is examined, the t-test values of the first dimension are between 7.57 and 12.24, between 4.25 and 9.99 for the second dimension, and between 3.16 and 10.08 for the third dimension. It can be seen that values between if the t value found is greater than 2.58, it is significant at the .01 level, and if it is greater than 1.96, it is significant at the .05 level (Jöreskog & Sörbom, 2000; Kline, 2011). The t-test values obtained as a result of CFA were found to be significant at the .01 level for all items of the scale. Byrne (2010), if the t value is not significant; either it is considered that the number of participants is low or it is commented that items should be removed from the model. Since the t value of the scale items was significant, it was thought that the number of participants in the study was sufficient. Therefore, it was understood that no item needed to be removed from the model.

It was seen that the three-dimensional structure that emerged as a result of the EFA analysis was confirmed as a result of the CFA analysis. It was seen that the structure created by considering the literature research was statistically confirmed. The model created as a result of DFA is given in figure 2.

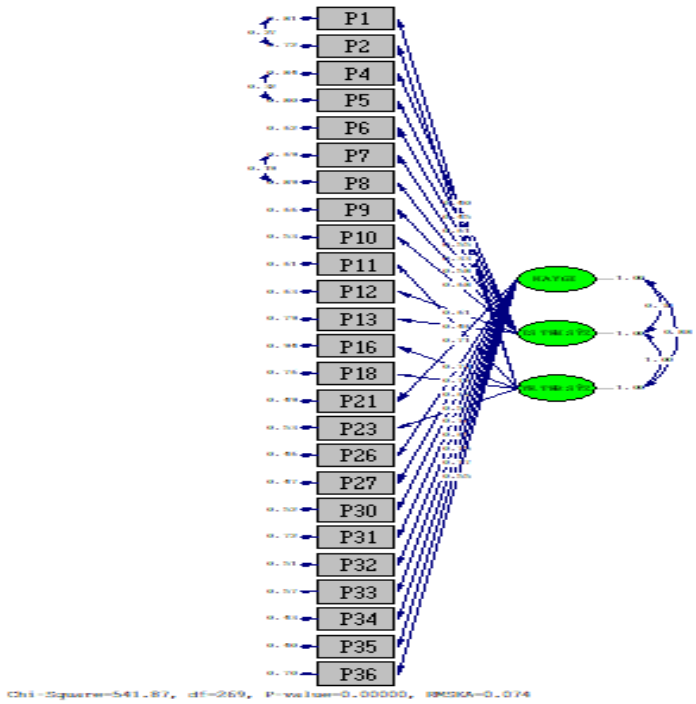

Figure 2. Measurement Model of TSAS

Reliability

In this study, since it was seen that the factor loads of the items were not equal (congeneric measurement) and the scale was not unidimensional, McDonalds reliability coefficient was calculated for the sub-dimensions of the scale and the whole scale (Lucke, 2005), and this coefficient was obtained by DFA. The McDonald's coefficient (known as "congneric reliability) of the subscale dimensions in the Turkish speaking anxiety scale were respectively .90, .82 and .73, and the McDonald's ω coefficient for all items of the scale was .92. Considering McDonald's ω obtained in the scale, it can be concluded that the reliability coefficient is high. According to these findings, it was concluded that the scale is a reliable measurement tool.

Item analysis

The corrected total correlation was calculated to determine the predictive power of the total score and to determine the item discrimination. In addition, 27% lower-upper groups were compared.

Table 7. TSAS Item Analysis Results

Item No. new	Old	When Item Is Removed scale alpha	Corrected Item Total Correlation	Average	Standard deviation	Skewness
ANXIETY1	21	.923	.644	1.85	1.22	1.30
ANXIETY2	26	.923	.649	2.10	1.29	.98
ANXIETY3	27	.923	.649	2.01	1.28	1.06
ANXIETY4	30	.924	.614	1.94	1.28	1.16
ANXIETY5	31	.924	.594	2.14	1.25	.82
ANXIETY6	32	.924	.620	1.84	1.20	1.34
ANXIETY7	33	.924	.589	1.73	1.23	1.59
ANXIETY8	34	.923	.665	1.76	1.21	1.48
ANXIETY9	35	.922	.698	1.80	1.23	1.41
ANXIETY10	36	.925	.524	2.09	1.34	.971
RELUCTANCE1	4	.926	.474	2.18	1.47	.89
RELUCTANCE2	5	.926	.475	2.19	1.22	.78
RELUCTANCE3	6	.925	.543	2.04	1.36	1.04
RELUCTANCE4	7	.925	.540	2.14	1.22	.82
RELUCTANCE5	8	.927	.426	2.33	1.34	.74
RELUCTANCE6	9	.925	.562	2.05	1.19	.99
RELUCTANCE7	10	.923	.647	1.93	1.21	1.13
RELUCTANCE8	12	.924	.608	1.89	1.24	1.17
RELUCTANCE9	13	.925	.533	1.97	1.35	1.07
INSUFFICIENCY1	one	.928	.398	2.37	1.53	.66
INSUFFICIENCY2	2nd	.924	.574	1.91	1.33	1.29
INSUFFICIENCY3	11th	.923	.645	2.01	1.41	1.13
INSUFFICIENCY4	16	.929	.328	2.70	1.51	.33
INSUFFICIENCY5	18	.925	.517	2.04	1.27	1.00
INSUFFICIENCY6	23	.924	.609	2.07	1.13	1.00

*p<.005

Data in Table 7 are examined, the 27% item-total correlation results of the lower and upper groups range from .524 to .698 in the first factor, between .426 and .647 in the second factor, and between .328 and .609 in the third factor. It is accepted that a total item correlation of .30 and above is sufficient for the interpretation of the items used to distinguish the features to be measured (Büyüköztürk, 2010; Erkuş, 2012). All items of the scale meet this value. Therefore, according to the results of the item analysis, it can be said that all of the items in the scale are distinctive.

The independent sample t-test" was employed to provide the additional evidence of construct validity of the scores of the 27% lower and upper groups of the participants and to determine the difference between their total scores.

For this purpose, 27% of the data obtained from 524 prospective teachers was divided into two groups as lower and upper groups. The t test results according to the group statistics of each item and the scores of each group from the scale are given in Table 8.

Table 8. Item Analysis Results Based on 27% Sub-High Groups of TSAS

Matter	group	$\bar{X}$	t	p	Matter	group	$\bar{X}$	t	p
one	Upper	3.03			18	Upper	2.92		
	Lower	1.48	8.49	.00		Lower	1.33	10.48	.00
2nd	Upper	2.84			21	Upper	2.88		
	Lower	1.07	11.76	.00		Lower	1.13	12.31	.00
4	Upper	2.97			23	Upper	3.35		
	Lower	1.28	9.95	.00		Lower	1.32	12.66	.00
5	Upper	2.86			26	Upper	3.21		
	Lower	1.53	8.86	.00		Lower	1.25	14.09	.00
6	Upper	2.94			27	Upper	3.12		
	Lower	1.17	11.93	.00		Lower	1.19	13.86	.00
7	Upper	3.02			30	Upper	2.99		
	Lower	1.41	11.26	.00		Lower	1.07	14.42	.00
8	Upper	2.98			31	Upper	3.08		
	Lower	1.58	8.76	.00		Lower	1.37	12.32	.00
9	Upper	2.93			32	Upper	2.80		
	Lower	1.29	12.19	.00		Lower	1.05	13.90	.00
10	Upper	3.00			33	Upper	2.70		
	Lower	1.15	13.47	.00		Lower	1.04	11.77	.00
11th	Upper	3.24			34	Upper	2.89		
	Lower	1.04	15.32	.00		Lower	1.00	14.43	.00
12	Upper	2.89			35	Upper	2.96		
	Lower	1.08	13.30	.00		Lower	1.04	14.58	.00
13	Upper	3.01			36	Upper	3.02		
	Lower	1.19	12.08	.00		Lower	1.26	11.93	.00
16	Upper	3.39							
	Lower	1.85	8.55	.00					

When Table 8 is examined, it is seen that there is a significant difference between the scores obtained from the lower and upper groups ($p<.05$). In addition, it is seen that the arithmetic averages of the students in the upper group are higher than the arithmetic averages of the students in the lower group. In addition, it is seen that there is a significant difference between the upper group and the lower group. Therefore, it was concluded that the items were distinctive.

Additionaly, in order to determine construct validity of the scale, the scale was applied to 8th-grade students studying in different schools. Table 9 shows the results of one-factor analysis of variance (One-Way ANOVA) in an unrelated sample to determine whether the items differ according to the students ' gender, whether the mother speaks Turkish, whether the father speaks Turkish, the language spoken at home, and the language that the parents want to be spoken at home.

Table 9. ANOVA results of the total scores of 8th-grade students in TSAS according to the gender of the students, whether the parents know Turkish or not, the language spoken at home and the language the family wants to be spoken at home.

Variables	Groups	N	$\bar{X}$	ss	F	p	η2
Gender	Boy	216	53.00	18.57	14.73	.000	.03
	Girl	152	45.96	15.36			
Does the mother speak Turkish?	Yes	269	48.46	17.29	8.72	.003	.02
	No	99	54.52	17.90			
Does Dad Speak Turkish?	Yes	360	50.08	17.62	.007	.931	
	No	8	50.62	19.79			
What Language Does Your Family Want You To Speak With You At Home?	Turkish	165	47.81	17.62	5.051	.02	.01
	Kurdish	203	51.94	17.48			

When Table 9 is examined, it is seen that there is a significant difference between the 8th-grade students' speaking anxiety and their gender, F (1, 367) =14.73, p<.05. That is, male students ($\bar{X}$=53) have more Turkish speaking anxiety than female students ($\bar{X}$=45.96). It is seen that there is a significant difference between the Turkish speaking anxiety of 8th-grade students and their mothers' level of knowing Turkish, F (1, 367) =8.72, p<.05. That is, those whose mothers do not speak Turkish ($\bar{X}$=54.52) seem to have higher Turkish speaking anxiety than those whose mothers speak Turkish ($\bar{X}$=48.46). It is seen that there is no significant difference between the Turkish speaking anxiety of 8th-grade students and their fathers' Turkish proficiency, F (1, 367) =.007, p>.05. That is, the anxiety of speaking Turkish of those whose fathers do not speak Turkish ($\bar{X}$=50.62) does not seem to differ significantly from those whose fathers speak Turkish ($\bar{X}$=50.08). It is seen that there is no significant difference in Turkish speaking anxiety among those whose fathers do not speak Turkish ($\bar{X}$=50.62) than those whose fathers speak Turkish ($\bar{X}$=50.08). It is seen that there is a significant difference between the Turkish speaking anxiety of 8th-grade students and the language that parents want their children to be spoken at home, F (1, 367) =5.051, p<.05. That is, students whose parents want their children to speak Kurdish as a language at home ($\bar{X}$=51.94) have higher Turkish speaking anxiety than students whose parents want their children to speak Turkish ($\bar{X}$=47.81).

It is recommended to use the eta-square (η2) correlation coefficient to determine the effect size (Büyüköztürk, 2017). The effect size takes a value between 0.00 and 1.00. It is interpreted as a small effect between 0.01 and 0.06, a medium effect between 0.06 and 0.14, and a large effect 0.14 and upper (Büyüköztürk, 2017; Cohen, 1988). In this study, the effect size between 8th-grade students' Turkish speaking anxiety and their gender was found to be .03, the effect size of their mothers to know Turkish was .02, and the effect size of the language they wanted to be spoken at home was .01. In this case, it can be said that the effect size obtained in this study has a small effect.

CONCLUSION AND DISCUSSION

Language anxiety in general and speaking anxiety in particular is a phenomenon that can affect the education life of individuals who try to learn a second language after acquiring the first language. This subject has been studied in the literature in the world and in Turkey mostly as foreign language learning anxiety and its components, speaking, listening, reading or writing anxiety. On the other hand, this study is a scale development study developed to measure the second language speaking anxiety of individuals who acquire their mother tongue (Kurdish) and learn their second language (Turkish) in the school environment since it is the official language. In this respect, our study will be one of the first studies in this category in Turkey. It aims to develop a measurement tool in order to obtain valid and reliable measurements of Turkish speaking anxiety of 8th-grade secondary school students whose mother tongue is Kurdish and who learned Turkish later. While developing TSAS, a pool of 40 items was created. In order to ensure the content and face validity of the scale, four expert opinions were obtained. The created item pool was turned into a draft consisting of 40 items. Items in the scale; It was applied to 8th-grade students with a five-point Likert-type rating of Always (5) → Never (1). CFA and EFA analyzes were used to determine the construct validity of TSAS. According to the result obtained in the EFA analysis, it was seen that the items had a three-factor structure. The scale consisted of 25 items and it was seen that these items explained 43,923% of the total variance. Considering the content and theoretical structures of the items obtained as a result of EFA, the first factor was named Anxiety, the second factor was Reluctance and the third factor was Inadequacy. DFA was used to test the three-dimensional structure obtained as a result of the EFA analysis. As a result of CFA, it was seen that the fit indices of the three-dimensional structure of TSAS were appropriate. Values of 35% or more of the variance rate explained in the EFA was taken as a criterion. It is understood that the CFA fit indices for values of 0.35 and above are appropriate. For these reasons, it was concluded that TSAS provided construct validity according to the results of EFA and CFA. According to the result obtained from the TSAS, the internal consistency reliability of the result of the scale was tested with the method (Cronbach's Alpha reliability coefficient), and the item-total correlations were examined. For the criterion validity of the data obtained from the scale, the difference between the total scale scores of the 27% upper-lower groups was analyzed using the independent sample t-test.

McDonald's ω coefficient reliability of the measurements was calculated as .90 in the Anxiety to the student, .82 in reluctance, 0.73 in the insufficiency, and .92 for the whole scale. Liu (2003) points out that the internal consistency coefficients are .70 and above as evidence that the scale can be qualified as reliable.

For the reliability of the measurements, it is accepted that the reliability coefficient is .70 and above (Fornell & Larcker, 1981; Tezbaşaran, 1997; Nunnaly & Bernstein, 1994).

Item analysis was performed to reveal the predictive power of the total score of the items obtained from the TSAS and to determine the item discrimination levels. While performing the item analysis, the 27% lower and upper groups were compared and the corrected item-total correlation was examined. As a result of the item analysis, the corrected item-total correlation results were found to be between .524 and .665 in the Anxiety sub-dimension, between .426 and .647 in the second factor, the Reluctance sub-dimension, and between .398 and .645 in the third factor, Inadequacy sub-dimension. In addition, the t-value for the differences between the 27% upper group and the 27% lower group of the scores obtained from the scale was found to be significant for all items on the scale. According to these results, it was concluded that all the items of the TSAS were distinctive. According to the findings obtained in the research, it was revealed that TSAS would make valid and reliable measurements in determining the Turkish speaking anxiety of secondary school students.

In the light of the data obtained from the variables of the scale we developed; There is a significant difference between 8th grade students' Turkish speaking anxiety and their gender, that is, male students' Turkish speaking anxiety is higher than female students, and there is a statistically significant difference between students' Turkish speaking anxiety and their mothers' level of knowing Turkish. Likewise, it was concluded that there was a significant difference between the Turkish speaking anxiety of these students and the language that the parents wanted their children to speak at home, that is, the students whose parents wanted their children to speak Kurdish at home had a higher Turkish speaking anxiety than the students who wanted their children to speak Turkish. Whereas, there is no significant difference between the Turkish speaking anxiety of these students and their fathers' Turkish proficiency;

Among the variables of our study, gender, mothers' Turkish proficiency, fathers' Turkish proficiency, and the language that parents want their children to be spoken at home, which we could find in the literature, on similar variables -mostly those related to foreigners' Turkish learning anxiety- were examined; It is seen that there are different results regarding the effect of gender variable on anxiety. According to Sevim (2019), there are studies where there is no significant difference in gender level, as well as studies (Aktaş, 2018; Boylu & Çangal, 2015; Erdil, 2016; Özdemir, 2013; Sevim, 2014; Tunçel, 2014; Yılmaz, 2018).), which determined that female students are more anxious than male students (Karçiç & Çetin, 2015). In addition, in the study of Polatcan, Alyılmaz, and Er (2019), in the scale adaptation study of Melanlıoğlu and Demir (2013) for the speaking anxiety of foreigners learning Turkish, speaking anxiety is not related to the personal characteristics of individuals and it is seen as a situation in the skill dimension; In the studies conducted by Erdil (2016) and Halat (2015), it was understood that there was no significant relationship between students' gender, age, and the number of foreign languages they knew.

Based on these results; We suggest that the scale developed by our study to measure the second language speaking anxiety of Kurdish-Turkish bilingual students can be applied in many settlements in Turkey with similar conditions, and can also be applied to foreign students who have settled in Turkey through immigration or asylum in recent years and are educated in schools in Turkey.

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