Development and Validation of a Teacher Self-Efficacy Scale for the Education of Refugee Students

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ABSTRACT

Good education is only possible with highly qualified teachers. Being aware of these competences or deficiencies is also important for teachers' professional development. In the last 15 years, refugee migration from the Middle East and Central Asia to Europe has challenged Turkey with the problem of refugee education. The aim of this research is to develop and assess a measurement tool to gauge teachers' self-efficacy perceptions towards refugee students. The validity and reliability studies of the scale with 14 items and 4 sub-factors were carried out by exploratory and confirmatory factor analysis from the pool of 45 items created as a result of literature review. A second factor analysis was conducted to see whether the data fit into the predetermined factors. In the exploratory factor analysis phase of the study, 210 primary school teachers participated. The sampling group of the confirmatory factor analysis consisted of 200 teachers. It was concluded that the developed scale is a valid and reliable scale and can be used in the field of refugee education.

Key words: Refugee Education, Teacher Self- efficacy, Scale Development

INTRODUCTION

Turkey, inheriting the imperial heritage, has been a migration point for Turkish descendants from the former empire countries since its establishment. However, in recent years, Turkey has become one of the most sensitive regions of the world in terms of migration as it is located at the crossing point of Europe and Asia (Demirhan & Aslan, 2015). Turkey has become a migration route between the problematic Middle East/Central Asia and stable Europe, as well as a center of attraction for refugees and migrants. Industry, job opportunities, and political events in the region have made migration an important issue in our country. Although migration to Turkey continues, there are newborn refugee children in our country and refugee children of educational age growing up here, so it has become inevitable to create precautionary plans that will improve the current situation and prevent problems that may occur in the coming period (Memduhoğlu & Kultas, 2018).

The most important environment for refugee children to overcome the problems they experience and integrate into the society is schools. Schools enable refugee children to increase their self-perception, discover their talents, develop their communication skills, and become psychologically healthy individuals (Kara, 2017). The problems experienced by refugee students can be diverse and vary depending on their geography, the country they live in and their social situation. However, they usually face the following problems (Nar, 2008, p. 4):

1. Language Problem: One of the most common problems of refugee students is that they do not speak the language in the country they settle in, which makes it difficult for them to continue their education.
2. Cultural Adaptation Problem: Since refugee students have grown up in a different culture, they may find it difficult to adapt to the culture in their new country. This can create difficulties especially in terms of making friends at school and developing social skills. In some cases, students may be able to speak the language orally but may lack literacy skills. This situation creates a problem when the student tries to study at higher levels.
3. Differences in Education Level: Refugee students may lag behind other students in terms of learning levels due to the different education systems in their countries. Therefore, teachers need to understand these differences and provide appropriate education to students.
4. Psychological Problems: Refugee students may have experienced traumatic events such as war, natural disasters or forced displacement. Therefore, they may find it difficult to adapt to school and focus on the learning process.
5. Financial Problems: Families of refugee students may be economically challenged, which can make it difficult for children to access and continue their education. Expenses such as school fees, books and other school supplies can be challenging for families.

The fundamental problem with refugee and migrant children seems to be their lack of literacy skills, which are necessary for education. This is also the most compelling part of the teaching process. Birman (2007) draws attention to this issue and summarizes the challenges that teachers have to face: I. Teachers should have an understanding of how their students can catch up with their peers. If they don't have enough literacy skills, they won't be able to keep up with other students. II. Teachers should work separately with the refugee students to teach them the norms of the schools so that they can meet the expectations of behavior. III. Refugee pupils may face some adjustment problems and teachers should know what to do if they do not follow the school rules. The concept of literacy is not only related to reading and writing, it also has a functional side, as a higher level of literacy means a more qualified life in society. Migrants and refugees are one of the disadvantaged groups in general society (Holm & Laursen, 2011).

The problems experienced by refugee students in terms of language in our country vary. According to some studies, pronunciation problems, vowel-consonant letter problems arising from language differences and similar problems are among the most frequently encountered problems. The process of refugee students learning a language different from their mother tongue is a challenging process and language problems encountered in this process may negatively affect their educational life. Therefore, language should be given special importance in the education of refugee students. Language education will help students adapt more quickly and effectively (Moralı, 2018). Language problems of refugee children increase their difficulties in integration processes. This situation causes children to have serious problems in making friends and communicating. Problems such as pronunciation, problems in vowel-consonant letters due to language differences also negatively affect the language learning process of refugee children.

Self- Efficacy in Teaching

Self-efficacy is a person's belief in himself/herself in accomplishing a certain task. Teachers' self-efficacy perception affects students' self-efficacy perception. When teachers increase their self-efficacy, students' perceptions of self-efficacy will also increase. Therefore, teachers need to take a series of steps to increase their self-efficacy. (Denizoğlu, 2008, p. 70).

Self-efficacy refers to a person's self-confidence and perception of their own abilities. This concept is researched in different fields such as psychology, medicine, sport and education. Especially in the field of education, the operation of their and their self-efficacy beliefs for themselves is quite important. This operation is carried out in order to increase the self-confidence of the person, to enable him/her to make more attempts and to ensure his/her safety in reaching the abduction (Bıkmaz, 2004). Self-efficacy belief affects personal motives, decisions and motivation. People with a high perception of self-efficacy are more confident in taking more initiatives, coping with challenging tasks and achieving protection. Therefore, self-efficacy perception is an important factor to see one's being. In order to increase the perception of self-efficacy, it is important for the person to have experiences that

will increase his/her self-confidence, to receive positive feedback and to seek goals for self-improvement.

Teachers with weak self-efficacy during the execution of education and training activities may experience negative emotions such as stress, tension and dissatisfaction when compared to their colleagues with strong self-efficacy (Yılmaz & Gürçay, 2011). From this point of view, it is thought that self-efficacy perception will contribute to understanding and improving teacher behaviors related to education and training of refugee students.

Purpose of the Research

The purpose of this study is to develop a valid and reliable measurement tool to measure self-efficacy perceptions about teaching refugee students. The research questions are the following:

1. What are the explanatory and confirmatory factor analysis results of the Teacher Self-Efficacy Scale for the Education of Refugee Students?
2. What is the reliability test result of the Teacher Self-Efficacy Scale for the Education of Refugee Students?
3. What are teachers' Self-Efficacy perceptions for the Education of refugee students?
4. Do gender, age, education level, school type, or teaching branch explain teachers' perceptions for the education of refugee students?

METHOD

Research Model

This study is designed as a scale development research. According to DeVellis (2003), there are 8 stages of scale development.

1. What is to be measured should be clearly determined. The theoretical structure of the variable to be measured and related variables should be revealed in detail.
2. An item pool should be created.
3. The third stage involves deciding on the format of the measurement tool.
4. The items should be reviewed by experts.
5. Item validity is ensured.
6. The scale is applied.
7. The items are evaluated.
8. The scale is finalized.

Procedure

The steps for the scale development study are discussed in this section. Before the scale was developed, an extensive literature research was conducted on what self-efficacy is and how to prepare a self-efficacy scale and existing self-efficacy scales were examined (Akkoyunlu & Kurbanoğlu, 2003; Cansüngü Koray, 2003; Morgil et al., 2004; Yaman et al., 2004). The existing self-efficacy scales were used as a guide in the preparation of the self-efficacy scale to be used in the study. In order to develop a scale on refugee students and self-efficacy, the theoretical framework was determined by reviewing the relevant literature. Based on the information obtained, a question pool of 45 items was created.

When developing a scale, one of the techniques generally used to obtain information about content validity, which reveals that the items to be included in the scale are sufficient in terms of both quality and quantity on behalf of the situations to be measured with the scale, is to obtain expert opinion (Büyüköztürk, 2006).

The question pool created for the *Teacher Self-Efficiency Perception Scale for the Education of Refugee Student*s was presented to the opinion of the faculty members of the Department of Educational Sciences and the results were evaluated. The items of the scale whose trial form was created were given to experts in the field of measurement and evaluation and their opinions on the comprehensibility of the questions related to the scale items, the way of answering, the quality, the instruction, the usefulness, what they understood from the questions, and their suitability for the purpose were taken in detail. In the light of these opinions, the pre-test form was shaped. The Turkish expressions of the items that needed to be corrected were brought to the most appropriate form by consulting Turkish language experts. Thus, a 45-item scale draft was obtained. During the preparation of the instructions,

the opinions of measurement and evaluation and field experts were also taken, and the scale was organized in a five-point Likert format. The instructions and printing of the scale were made accordingly. The rating is made and scored as "Does not define at all (1), defines a little (2), defines moderately (3), defines well (4), defines very well (5)".

Participants

The research universe consists of teachers working in public and private schools affiliated to the Ministry of National Education, and the sample of the research consists of teachers working in a western city of Turkey. While determining the sample of the research, the criterion sampling method was used. Due to the subject of the research, the criterion was that the teachers should have taught refugee students either in the year of the research or in previous years and should be working in a primary, secondary, or high school affiliated to the Ministry of National Education. Data collection was terminated when the diversity expected to be represented in the research sample was reached. The sampling of the research is shown in Table 1.

Table 1. Frequency and percentage values of demographic characteristics of the participants in the factor analysis

	Exploratory Factor Analysis		Confirmatory Factor Analysis	
	Frequency	Percent	Frequency	Percent
Sex				
Female	107	53.5	108	51.4
Male	93	46.5	102	48.6
Experience at the school				
0-5 years	118	59	107	51
6-10 years	48	24	52	24.8
11-15 years	15	7.5	22	10.5
16 and more	19	9.5	29	38.7
Education				
Bachelor's	171	85.5	178	84.8
Postgraduate	29	14.5	32	15.2
Teaching branch				
Classroom Teaching	73	36.5	110	52.4
Branch Teaching (Religion, English)	127	63.5	100	47.6
Career Step				
Teacher	84	42	70	33.3
Expert Teacher*	98	49	118	56.2
Head Teacher*	18	9	22	10.5
In-service Training				
Yes	56	28	120	57.1
No	144	72	90	42.9
Professional Seniority				
Less than 5 years	9	4.5	5	2.4
6-10 years	54	27	46	21.9
11-15 years	44	22	32	15.2
16-20 years	33	16.5	53	25.2
21 years and more	60	30	74	35.2
Total	200	100	210	100

Turkish Ministry of Education has classified the teachers according to their teaching experience, education level and after a proficiency test.

In the study, two stages were planned as scale development and determination of refugee student competencies and the responses to the items in the final version of the scale were analyzed with the data set consisting of the data of 297 people who stated that they wanted to take part in the second stage of the study. The demographical information about that group is given in Table 2.

Descriptive analyses of demographic characteristics (gender, professional seniority, length of time in the school, educational status, major, career stage, in-service training status) and items in the data collection tools were examined with frequency and percentage distributions. Frequency and percentage distributions are useful for clearly presenting and defining the existing situation. When data are presented in a table, they can be displayed in a holistic way. In this way, various meanings can be obtained from the data and general conclusions can be drawn (Büyüköztürk, 2006, p. 21).

\When Table 2 is analyzed, 51.5% of the teachers who participated in the last part of the study were women and 48.5% were men. 53.5% of the participants have been teaching between 1-5 years, 24.6% between 6-10 years, 10.1% between 11-15 years, 11.8% 16 years and more. In terms of branch status, 46.1% were classroom teachers and 53.9% were branch teachers. Regarding the educational status of the participants, 86.2% of them are undergraduate graduates and 13.8% of them are postgraduates. In terms of the career level of the teachers participating in the study, 36.4% were teachers, 53.2% were expert teachers, and 10.4% were head teachers. In terms of in-service training on refugee students, 47.1% of the participants received in-service training,

Table 2. Study group of the research

		Frequency	Percent
Sex	Female	153	51.5
	Male	144	48.5
Experience at this school	0-5 years	159	53.5
	6-10 years	73	24.6
	11-15 years	30	10.1
	16 and upper	35	11.8
Education	Bachelor's	256	86.2
	Post-Graduate	41	13.8
Teaching branch	Classroom Teacher	137	46.1
	Branch	160	53.9
Title	Teacher	108	36.4
	Expert Teacher	158	53.2
	Head Teacher	31	10.4
In-Service Training	Yes	140	47.1
	No	157	52.9
Professional Seniority	Lower than 5 years	9	3
	6-10 years	72	24.2
	11-15 years	52	17.5
	16-20 years	66	22.2
	21 and more	98	33
	Total	297	100

52.9% did not receive in-service training. 3% of the participants have been teaching for less than 5 years, 24.2% for 6-10 years, 17.5% for 11-15 years, 22.2% for 16-20 years and 33% for more than 21 years.

Data Collection Tools

The research data were collected with the "Personal Information Form", "Language Expert Opinion Form", "Field Expert Opinion Form" and "Scale Draft Item List" developed by the researchers. In the second stage of the research, the scale, which was tested for validity and reliability, was applied.

The data were collected in a western Turkish province through Google Forms platform in 2023. In the research, the voluntary participation form was taken online from the participants. The control question was placed in the questionnaire to make sure that all questions were read.

Data Analysis

In the development process of the scale, the correlations of the responses of the language experts and the Maximum Likelihood approach using the oblimin rotation method were used in the exploratory factor analysis phase. In the second part of the study, normality tests, Cronbach's Alpha reliability test, Mann Whitney U and Shapiro Wilk comparison tests were used. The data were analyzed using Jamovi 2.3.21 and SPSS 20 package programs.

Ethical Considerations

In alignment with the overarching commitment to ethics, this study stringently adhered to all provisions delineated in the "Higher Education Institutions Scientific Research and Publication Ethics Directive." A voluntary participation form was obtained from the adult participants, and it was explained that they could withdraw from the study if they wished. The ethical permissions required for the research were obtained from the ethics committee of the university to which the researchers were affiliated.

RESULTS

Construct Validity (Exploratory Factor Analysis)

Principal component analysis was conducted to determine the construct validity of the Teacher Self-Efficacy Perception Scale for the Education of Refugee Students. In this analysis, Keiser-Meyer-Olkin (KMO) and Bartlett Sphericity test results provided information about whether the data set was suitable for factor analysis. The factor properties of the data were defined with the Maximum Likelihood method and oblimin rotation methods (Büyüköztürk, 2013; Özdamar, 2013). Details of these tests are given below:

1. KMO value was found to be .931 for the overall scale. When we look at the items included in the scale, it varies between .780 and .973. Since a value above .50 indicates sampling adequacy, this sample group was found to be sufficient.

2. Bartlett's test results were found as [χ2 =10970; *SD*=990, *p*<.01] for 200 people in the test group. This significant result showed that factor analysis could be performed on this sample.

When the principal components analysis results of the scale are analyzed, it is seen that i32, i12, i35, i28, i29, i25, i14, i7, i8, i15, i18 have values under more than one factor, i1, i3, i4, i5, i6, i9, i10, i11, i13, i17, i21, i19,i23, i24, i25, i30, i31, i38, i39, m41, m42 were excluded from the scale because they had low factor values or were grouped under a different factor that could not be summed. The factor loadings of the remaining 14 items ranged between.459 and.909. The resulting 4-factor scale explains 72.4% of the total variance. The variance explained according to the factors is given in Table 3.

The correlation between the factors is presented in Table 4. According to this, all factors are positively correlated with each other. The highest correlation is between factors 2 and 3 (.711), while the lowest correlation is between factors 3 and 4 (.423).

The oblimin method can be used to obtain a more understandable and simple structure over the factors that are seen to be related to each other (Rennie, 1997). Oblimin rotation method was also used in this study. The factor loadings of the items analyzed with the Maximum Likelihood method are given in Table 5.

The screeplot graph prepared according to the eigenvalues and explanatory values of the factors is as follows. After the 4th factor, it is seen that the explanatory power follows a horizontal course.

Reliability analyses of the scale showed that Cronbach Alpha value was.93. Item total correlation values are given in Table 6.

Since the internal consistency coefficient was.93, it can be considered that the scale measures a single construct. According to the results of the exploratory factor analysis, since the scale had a 4-factor structure, Cronbach's Alpha test was applied separately for these 4 factors. The results are given in Table 7.

When Table 7 is examined, it is seen that the reliability values of all 4 factors vary between.79 and.92. According to the Tukey test result, while Factors 1 and 2 were not summable, Factors 3 and 4 were found to be summable. The overall scale gave a summable value (*p* >.05).

According to these values, the final version of the scale is presented in Table 8.

Confirmatory Factor Analysis

Confirmatory factor analysis was used to see the statistical confirmation of the structure of the scale. The model after the analysis is given in Figure 2.

When Figure 2 is analyzed, Chi-Square and degrees of freedom were calculated for the model formed by the data

Table 3. Factors, factor loadings and variance

Factor Nr.	Factor Loadings	Explained Variance	Total Variance
1	2.98	21.3	21.3
2	2.78	19.9	41.1
3	2.40	17.2	58.3
4	1.96	14.0	72.3

Table 4. Inter-factor correlations

	1	2	3	4
1. Pedagogical Competences	—	0.691	0.676	0.523
2. Organizing teaching		—	0.711	0.482
3. Helping with adaptation			—	0.423
4. Building relationships with stakeholders				—

Table 5. Factor loadings of the items

	Factor				
	1.Pedagogical Competences	2. Organizing teaching	3.Helping with adaptation	4. Building relationships with stakeholders	Uniqueness
i36	0.778				0.158
i40	0.756				0.340
i37	0.727				0.190
i16	0.716				0.261
i27		0.871			0.127
i29		0.834			0.126
i34		0.640			0.181
i2		0.432			0.651
i26			0.892		0.160
i20			0.750		0.238
i33			0.695		0.254
i44				0.869	0.127
i43				0.718	0.556
i45				0.602	0.507

Table 6. Item total correlations

Item Nr.	Item-Total Correlations
i36	.80
i16	.78
i37	.81
i40	.69
i27	.79
i29	.81
i34	.84
i2	.55
i26	.71
i20	.75
i33	.74
i43	.39
i44	.68
i45	.55

Figure 1. Screeplot Graphics

Figure 2. Confirmatory Factor Analysis

set (n=210) used for confirmatory factor analysis and x2= 186.639 (df=71, p<.01) and the result (X^2/df) was found as 2.61. This value, which is below 3, indicates a perfect fit (Jöreskog & Sörbom, 1993; Kline, 2005).

Another value considered in confirmatory factor analysis is the RMSEA value. The RMSEA value is expected to be below.05. However, due to the difficulty of finding this value in social sciences, it is said that values of.08 and below can be accepted (Browne & Cudeck, 1993; Hu & Bentler, 1999). In the analysis conducted for this scale, the RMSEA value was found to be.08. This revealed that the structure was verifiable.

CFI (comparative fit index) and IFI (incremental fit value) values of.95 and above indicate good fit (1990; Çokluk et al., 2008; Hu & Bentler, 1999). In this study, CFI value was.95 and IFI2 value was.95. These results revealed that the four-factor scale structure was confirmed in the confirmatory factor analysis.

Evaluation of Teachers' Responses to Scale Scores According to Demographic Data

In the second part of the study, it was aimed to conduct a descriptive screening study using the scale and to use the effectiveness of the scale. The data of the teachers who volunteered among the individuals in the scale development phase were re-evaluated.

Based on the results presented in Table 9, teachers feel themselves adequate in determining the readiness levels of refugee students. The mean of this question is the highest with 4.09. This result shows that teachers are able to determine at which level refugee students are and which learning outcomes they need. Teachers feel themselves most inadequate in communicating with the parents of refugee students. The mean of this question is the lowest with 3.03. This result shows that teachers cannot or have difficulty in providing adequate communication environment with the parents of refugee students. The question that shows the most difference among teachers is the question of following professional
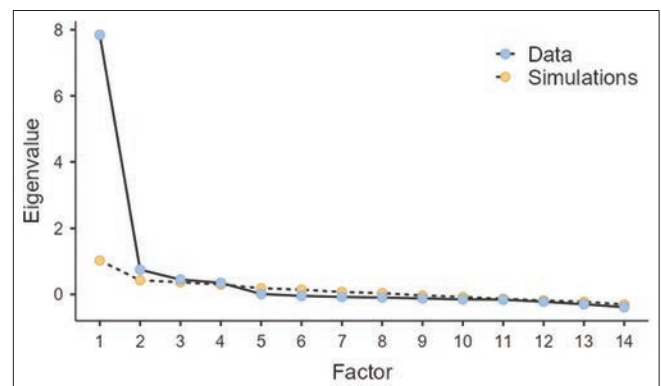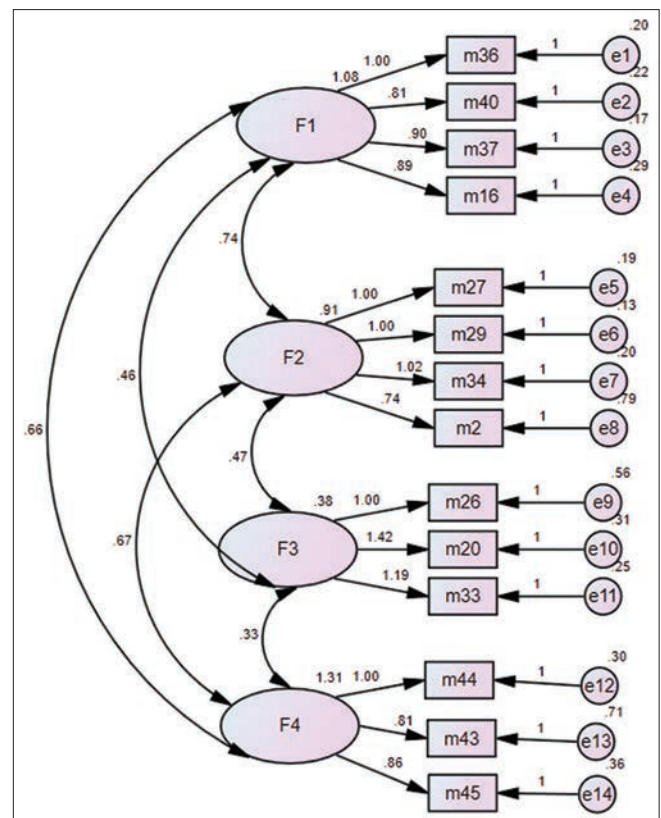
publications in order to teach refugee students. The standard deviation of this question is the highest with 1.27. This result shows that teachers have different levels of knowledge and interest in this subject. The question that shows the least difference among teachers is the question of ensuring that refugee students adopt the rules in the school during their adaptation process. The standard deviation of this question is the lowest with.92. This result shows that teachers have a common opinion on this issue.

Normality tests showed that the data were not normally distributed in all groups. Therefore, it was decided to apply nonparametric tests. Firstly, it was tried to see how teachers' gender affects their self-efficacy perceptions.

According Table 10, out of the four variables, the Mann-Whitney U test result is significant (*p* <.05) for the variables of "helping with adaptation" and "building relationships

Table 7. Cronbach's alpha values of sub-scales

Subscale	Cronbach's Alpha	Source of the Variance	Sum of Squares	Mean Squares	*F*	*SD*	*p*
1. Pedagogical Competences	.92	Nonadditivity	4.104	4.104	14.70	1	.00
2. Organizing teaching	.89	Nonadditivity	2.331	2.331	6.72	1	.01
3. Helping with adaptation	.90	Nonadditivity	.806	.806	3.53	1	.06
4. Building relationships with stakeholders	.79	Nonadditivity	2.38	2.38	3.49	1	.06
Total	.93	Nonadditivity	1.13	1.13	2.01	1	.15

Table 8. Final version of the scale after explanatory factor analysis

Factor 1		Pedagogical Competences
Old Item Nr.	**New Item Nr.**	**Item**
i36	i1	I can identify which pedagogical strategies can be used to make course outcomes accessible to refugee students.
i40	i2	I have sufficient training to teach in a classroom with refugee students.
i37	i3	I can choose appropriate teaching tools and materials for the classes with refugee students.
i16	i4	I do not have any difficulties in teaching the curriculum with refugee students.
Factor 2	**Organizing teaching**	
i27	i5	I can make my refugee students focus on the lesson.
i29	i6	I have difficulties in identifying the academic needs of my refugee students.
i34	i7	I can identify academic differences among refugee students.
i2	i8	I can organize assessment tools for my refugee students.
Factor 3	**Helping with adaptation**	
i26	i9	I can determine the readiness levels of my refugee students.
i20	i10	I can motivate refugee students who do not show interest in lessons.
i33	i11	I can ensure that refugee students adopt the rules of the school during their school adaptation process.
Factor 4	**Building relationships with stakeholders**	
i44	i12	I can establish an adequate communication environment with the parents of refugee students.
i43	i13	I follow professional publications in order to teach refugee students.
i45	i14	I inform the parents in my class about teaching refugee students.

Table 9. Item statistics

	Mean	Std. Deviation	N
I can identify which pedagogical strategies can be used to make course outcomes accessible to refugee students	3.48	1.13	297
I have sufficient training to teach in a classroom with refugee students	3.78	.95	297
I can select appropriate teaching tools and materials for refugee students in classrooms with refugee students	3.70	1.04	297
I do not have difficulties in teaching the curriculum with refugee students	3.44	1.06	297
I can make my refugee students focus on the lesson	3.67	1.04	297
I have difficulties in identifying the academic needs of my refugee students	3.69	1.02	297
I can identify academic differences among refugee students	3.80	1.07	297
I can organize assessment tools for my refugee students	3.25	1.27	297
I can determine the readiness levels of my refugee students	4.09	.94	297
I can motivate refugee students who do not show interest in lessons.	3.90	1.03	297
I can ensure that refugee students adopt the rules of the school during their school adaptation process	3.95	.92	297
I follow professional publications in order to teach refugee students.	3.25	1.27	297
I can establish an adequate communication environment with the parents of refugee students.	3.03	1.29	297
I inform the parents in my class about teaching refugee students.	3.34	1.19	297

with stakeholders" This means that there is a statistically significant difference between the two genders for the two factors. In these factors, male teachers perceived themselves as more competent than female teachers. For the other two variables, the Mann-Whitney U test result is not significant (p >.05). This means that there is no statistically significant difference between the two genders for these three factors.

Mann-Whitney U test was used to see the effect of teachers' undergraduate or postgraduate education on the sub-dimensions of self-efficacy perceptions.

According to the data given in the Table 11, as a result of the analysis using Mann-Whitney U test, a statistically significant difference was found between the teachers in the sub-dimensions of "pedagogical competencies" and "building relationships with stakeholders" (p <.05). In these two sub-factors, it was observed that undergraduate teachers had higher self-efficacy perceptions than graduate teachers. There was no statistically significant difference between the teachers in the sub-dimensions of "organizing teaching" and "helping with adaptation" (p >.05).

According to the Table 12, a significant difference was found between the self-efficacy of teachers with different branches only in terms of the "pedagogical competencies" (p<.05). This result shows that classroom teachers consider themselves more competent in refugee education than branch teachers. No significant difference was found for other sub-dimensions (p>.05).

According to the Table 13, competency perceptions of the teachers who received in-service training are higher than the teachers who did not receive in-service training in terms of

Table 10. Mann whitney u test for the change in teachers' self-efficacy perceptions towards teaching refugee students according to gender

Sub-Scale	Gender	N	Mean Rank	Total Rank	U	Z	p
1. Pedagogical Competences	Female	153	148.59	22734.00	10953	.086	.93
	Male	144	149.44	21519.00			
2. Organizing teaching	Female	153	140.95	21565.00	9784	-1.67	.09
	Male	144	157.56	22688.00			
3. Helping with adaptation	Female	153	135.32	20704.00	8923	-2.85	.00
	Male	144	163.53	23549.00			
4. Building relationships with stakeholders	Female	153	137.70	21068.00	9287	-2.35	.01
	Male	144	161.01	23185.00			

Table 11. Mann whitney u test for the change in teachers' self-efficacy perceptions towards teaching refugee students according to education

Sub-Scale	Education	N	Mean Rank	Total Rank	U	Z	p
1. Pedagogical Competences	Bachelor's	256	153,50	39297,00	4095	-2.27	.02
	Post-Graduate	41	120,88	4956,00			
2. Organizing teaching	Bachelor's	256	146.19	37423.50	4527	-1.41	.15
	Post-Graduate	41	166.57	6829.50			
3. Helping with adaptation	Bachelor's	256	148.46	38005.50	5109	-.27	.78
	Post-Graduate	41	152.38	6247.50			
4. Building relationships with stakeholders	Bachelor's	256	153.18	39213.00	4179	-2.10	.03
	Post-Graduate	41	122.93	5040.00			

Table 12. Mann whitney u test for the change in teachers' self-efficacy perceptions towards teaching refugee students according to branch

Sub-Scale	Teaching	N	Mean Rank	Total Rank	U	Z	p
1. Pedagogical Competences	Classroom	137	172.29	23604.00	7769.00	-4.349	.00
	Branch	160	129.06	20649.00			
2. Organizing teaching	Classroom	137	153.97	21093.50	10279.50	-.925	.35
	Branch	160	144.75	23159.50			
3. Helping with adaptation	Classroom	137	155.90	21358.50	10014.50	-1.291	.19
	Branch	160	143.09	22894.50			
4. Building relationships with stakeholders	Classroom	137	154.52	21169.50	10203.50	-1.032	.30
	Branch	160	144.27	23083.50			

Table 13. Mann whitney u test for the change in teachers' self-efficacy perceptions towards teaching refugee students according to in-service training status

Sub-Scale	In-service training	N	Mean Rank	Total Rank	*U*	*Z*	*p*
1. Pedagogical Competences	Yes	140	170.72	23900.50	7949.50	-4.13	.00
	No	157	129.63	20352.50			
2. Organizing teaching	Yes	140	180.61	25286.00	6564.00	-6.00	.00
	No	157	120.81	18967.00			
3. Helping with adaptation	Yes	140	177.05	24786.50	7063.50	-5.35	.00
	No	157	123.99	19466.50			
4. Building relationships with stakeholders	Yes	140	178.71	25019.00	6831.00	-5.66	.00
	No	157	122.51	19234.00			

Table 14. Mann whitney u test for the change in teachers' self-efficacy perceptions towards teaching refugee students according to their career step

	Ranks				
	Segments	N	Mean Rank	Chi-Square	Sig.
1. Pedagogical Competences	Teacher	108	123.77	18.56	.00
	Expert Teacher	158	158.08		
	Head Teacher	31	190.60		
2. Organizing teaching	Teacher	108	141.61	1.26	.53
	Expert Teacher	158	153.02		
	Head Teacher	31	154.27		
3. Helping with adaptation	Teacher	108	120.15	22.15	.00
	Expert Teacher	158	170.00		
	Head Teacher	31	142.47		
4. Building relationships with stakeholders	Teacher	108	152.71	14.36	.00
	Expert Teacher	158	136.58		
	Head Teacher	31	199.40		

"organizing teaching", "helping with adaptation" and "building relations with stakeholders". This result shows that in-service training contributes to the education of refugee students.

According to the test results (Table 14), there is no statistically significant difference between the medians of the competencies of "organizing teaching" according to the career steps of the teachers ($p > .05$). However, there is a statistically significant difference between the median of "building relationships with stakeholders", "helping with adaptation", "building "pedagogical competencies" ($p < .05$). According to the results, the highest efficacy perceptions are found in expert teachers. As the level of teaching increases, the perception of efficacy increases.

Based on the significance values in the Table 15 we can say that there is a statistically significant difference according to professional seniority in "pedagogical competences", "helping adaptation" and "building relationships with stakeholders" dimensions among the four sub-dimensions related to teachers' self-efficacy ($p < .05$). In the other dimension (organizing teaching) no statistically significant difference was found according to professional seniority ($p > .05$). When the rank averages were analyzed, it was seen that for pedagogical competencies, as the number of years of service increased, teachers saw themselves as educationally competent, and teachers who

were new in the profession had higher scores in communicating with educational stakeholders. In the sub-dimensions of the scale, it can be said that teachers with 16-20 years of service have high perceptions of professional self-efficacy.

According to Table 16, a significant difference was observed in the dimensions of "pedagogical competence", "helping with adaptation" and "building competencies with stakeholders" ($p < .05$). Teachers who have been at the school for 11-15 years consider themselves more competent in these dimensions. Again, it was understood that the scores of teachers who were new to the school were relatively low. There was no significant difference in the dimension of organizing teaching ($p > .05$), so there is no significant difference between the groups.

DISCUSSION

"Teacher Self-Efficacy Scale for the Education of Refugee Students" is a measurement tool that consists of four sub-dimensions, developed to measure teachers' perceptions of self-efficacy levels for their education of refugee students in their classrooms. "Pedagogical Competences" aims to measure how teachers see themselves while teaching refugee students in their classrooms. There are 4 items in this sub-dimension.

Table 15. Mann whitney u test for the change in teachers' self-efficacy perceptions towards teaching refugee students according to their experience

			Ranks		
	Segments	**N**	**Mean Rank**	**Chi-Square**	***p***
1. Pedagogical Competences	Lower than 5 years	9	136.11	7.18	.12
	6-10 years	72	135.12		
	11-15 years	52	141.39		
	16-20 years	66	171.71		
	21 and more	98	149.12		
2. Organizing teaching	Lower than 5 years	9	143.50	4.80	.30
	6-10 years	72	153.13		
	11-15 years	52	147.33		
	16-20 years	66	165.42		
	21 and more	98	136.31		
3. Helping with adaptation	Lower than 5 years	9	117.11	13.38	.01
	6-10 years	72	133.29		
	11-15 years	52	138.26		
	16-20 years	66	180.19		
	21 and more	98	148.16		
4. Building relationships with stakeholders	Lower than 5 years	9	182.94	9.88	.04
	6-10 years	72	165.26		
	11-15 years	52	148.34		
	16-20 years	66	156.67		
	21 and more	98	129.13		

Table 16. Mann whitney u test for the change in teachers' self-efficacy perceptions towards teaching refugee students according to time at the same school

			Ranks		
	Segments	**N**	**Mean Rank**	**Chi-Square**	***p***
1. Pedagogical Competences	Lower than 5 years	159	147.12	14.01	.00
	6-10 years	73	125.71		
	11-15 years	30	183.00		
	16-20 years	35	176.99		
2. Organizing teaching	Lower than 5 years	159	147.88	.55	.90
	6-10 years	73	149.47		
	11-15 years	30	159.17		
	16-20 years	35	144.40		
3. Helping with adaptation	Lower than 5 years	159	136.77	9.09	.02
	6-10 years	73	157.10		
	11-15 years	30	182.73		
	16-20 years	35	158.74		
4. Building relationships with stakeholders	Lower than 5 years	159	151.08	10.40	.01
	6-10 years	73	154.09		
	11-15 years	30	172.48		
	16-20 years	35	108.79		

The items in this sub-dimension are:
- I can identify which pedagogical strategies can be used to make course outcomes accessible to refugee students.
- I have sufficient training to teach in a classroom with refugee students.
- I can choose appropriate teaching tools and materials for the classes with refugee students.

- I do not have any difficulties in teaching the curriculum with refugee students.

The highest score that can be obtained from this sub-dimension is 20, and the lowest score is 4. A high score indicates that the level teachers' self- efficacy perceptions about their pedagogical competences while teaching refugee students is high.

The second dimension of the scale is called "Organizing Teaching" and includes the following 4 items:

- I can make my refugee students focus on the lesson.
- I have difficulties in identifying the academic needs of my refugee students.
- I can identify academic differences among refugee students.
- I can recognize assessment tools for my refugee students.

The highest score that can be obtained from this sub-dimension is 20, and the lowest score is 4. A high score indicates that the teachers think they are effective while recognizing their teaching for the refugee students at their classrooms.

The third dimension of the scale is called "Helping with Adaptation" and includes the following 3 items:

- I can determine the readiness levels of my refugee students.
- I can motivate refugee students who do not show interest in lessons.
- I can ensure that refugee students adopt the rules of the school during their school adaptation process.

The highest score that can be obtained from this sub-dimension is 15, and the lowest score is 3. A high score indicates that the teachers think they are effective while helping their refugee students to adapt the culture and setting of the school.

The fourth dimension of the scale is called "Building relationships with stakeholders" and includes the following 3 items:

- I can establish an adequate communication environment with the parents of refugee students.
- I follow professional publications in order to teach refugee students.
- I inform the parents in my class about teaching refugee students.

The highest score that can be obtained from this sub-dimension is 15, and the lowest score is 3. A high score indicates that the teachers think they are effective cooperating the related parties for the education of their refugee children.

The high Alpha coefficients of the sub-dimensions of the scale (Pedagogical Competences.92, Organizing teaching.89, Helping with adaptation.90, Building relationships with stakeholders.79) indicate that the items in the sub-dimensions are consistent with each other. EFA and CFA result also confirmed the validity of the scale.

It is important for teachers to feel themselves competent in their professional lives, to recognize their deficiencies and to be able to work on student needs. When we look at the subject of this scale development study, it is seen that adaptation problems, language competences and teacher competences come to the forefront in the studies on refugee students (Biasutti et al., 2020; Tajik & Bunar, 2023).

Başar et al. (2018) show in their study that teachers have the most communication problems while teaching refugee students. This causes the messages given not to be understood by the students, which causes the students to feel themselves out of the classroom and not to adapt. The studies of Alkalay et al., 2017; Erdem (2017) and Börü and Boyacı (2016) also show that the highest problem experienced with refugee students is related to the use of the same language.

Çetin and İra (2023) revealed in their study that there is a linear relationship between teachers' well-being levels and their attitudes towards refugee students. The teaching competence sub-dimension of well-being and the adaptation and communication sub-factors of attitude towards refugee students yielded similar results with the findings of this scale development study. Ürünibrahimoğlu et al. (2021) state that the biggest obstacle in the education of refugee students is the problem of integration.

CONCLUSION

The main purpose of this research is to develop a valid and reliable scale that can examine teacher self-efficacy perceptions towards the education of refugee students. The data obtained in the process of developing this scale is limited to teachers working officially at primary school level.

To counter these limitations and enhance the robustness of future studies, it is recommended that the scale be applied to different cultures and sample groups and validity and reliability studies be conducted. Further research is also recommended to conduct validity and reliability studies of the teacher self-efficacy scale at the secondary and higher education levels.

In conclusion, based on validity and reliability studies, it can be said that this scale is applicable in studies to be conducted with teachers. The refugee problem is seen as a long-term problem for Turkey. As the presence of refugee and immigrant pupils in classrooms has become common, it is important for the country's educational future that teachers are competent to work with such classes. To cope with these types of students, it is necessary to adapt our teacher training systems. Because the newcomers can be of any age or level, and they don't speak the language of the country. This means that they do not even have basic literacy skills. The research concludes that teachers who are trained to work with refugee pupils feel more competent. Teachers with higher education are also more able to organize their lessons for refugee pupils, as are teachers with more experience. It is believed that the scale can be used by the policy makers and administrators of the Ministry of National Education as well as by the researchers who are working on the education of refugees and the education of migrants.

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