

Development of Teacher Empathy Scale: A Study of Validity and Reliability *

Öğretmen Empati Ölçeğinin Geliştirilmesi: Bir Güvenirlilik ve Geçerlilik Çalışması

Fuat TANHAN^[1] Süleyman KASAP^[2] Fırat HASAN^[3] Fırat ÜNSAL^[4]

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ABSTRACT

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This research aims to develop a valid, reliable, and valuable measurement tool that measures teachers' empathy skills. Scale development stages can be listed as follows: the creation of items, getting expert opinion, pre-test, validity study, factor analysis, and reliability study. The developed scale is a five-point Likert-empathy scale. The scale was applied to 311 female and 287 male teachers, for a total of 598 teachers in Duhok, Iraq. At the end of these applications, When the item-total correlation values of the scale were examined, it was observed that some items showed weak correlation ($r < .30$), so it was decided to remove 20 items out of 27 items in the Teacher Empathy Scale (TES), and a 7-item scale has been finalized. Item number 8 will be graded in reverse. A high score indicates a high empathic tendency; a low score indicates a low empathic tendency. Within the scope of the validity and reliability studies of the teacher empathy scale, Cronbach's Alpha reliability coefficient analysis was performed before the general reliability and calculated as 0.771 after the analysis. In order to check whether the data structure of this developed scale is appropriate, factor analysis was checked using KMO and Barlett test methods. Finally, the value of the KMO test was determined to be 0.848, and the Bartlett test was 0.878. As a result of exploratory factor analysis and confirmatory factor analysis, a valid and reliable scale consisting of 7 items with a Cronbach's Alpha value of 0.771 was developed. It was concluded that the scale is reliable and valid for measuring teachers' empathic tendencies.

Keywords: *empathy, teacher, education, scale development*

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Bu araştırmanın amacı, öğretmenlerin empati becerilerini ölçen geçerli, güvenilir ve kullanışlı bir ölçme aracı geliştirmektir. Ölçek geliştirme aşamaları maddelerin oluşturulması, uzman görüşü alınması, ön test, geçerlik çalışması, faktör analizi ve güvenilirlik çalışması olarak sıralanabilir. Geliştirilen ölçek, beşli kert türünde bir öğretmen empati ölçeğidir. Öğretmen empati ölçeği Duhok, Irak'ta resmi okullarda görev yapan 311 kadın ve 287 erkek toplamda ise 598 öğretmene uygulanmıştır. Uygulama sonucunda Öğretmen Empati Ölçeği'ndeki (ÖEÖ) madde toplam korelasyon değerleri incelendiğinde maddelerin zayıf korelasyon gösterdikleri görüldüğünden ($r < .30$) 27 maddeden 20 maddenin çıkarılmasına karar verilmiş ve 7 maddelik ölçek son halini almıştır. Uygulanan ölçekte olumsuz 8. madde ters çevrilerek puanlanacaktır. Toplam puanın artması empatinin yüksek olduğunu ifade etmektedir. Öğretmenlerin empati ölçeğinin geçerlik ve güvenilirlik çalışmaları kapsamında genel güvenirlilik öncesi Cronbach's Alpha güvenirlilik katsayısı analizi yapılmış, analizden sonra 0.771 olarak hesaplanmıştır. Geliştirilen bu ölçeğin veri yapısının uygun olup olmadığını kontrol etmek için, KMO ve Barlett test yöntemlerinden yararlanılarak faktör analizi kontrol edilmiştir. Bunun sonucunda KMO testinin değeri 0,848, Bartlett testi ise 878,969 olarak belirlenmiştir ($p < 0, 05$). Sonuç olarak yapılan açımlayıcı faktör analizi ve doğrulayıcı faktör analizi neticesinde Cronbach's Alpha değeri 0.771 olarak hesaplanmıştır. Sonuç olarak öğretmenlerin empati düzeylerini ölçen geçerli ve güvenilir bir ölçek elde edilmiştir.

Anahtar Kelimeler: *empati, öğretmen, eğitim, ölçek geliştirme*

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[1] Prof. Dr. | Van Yuzuncu Yıl University | Education Faculty | Guidance and Psychology Counselling | Van | Turkey | ORCID: 0000-0002-1990-4988

[2] Dr. | Van Yuzuncu Yıl University | Education Faculty | English Language Teaching Department | Van | Turkey | ORCID: 0000-0001-8367-8789

[3] Uzman | Van Yuzuncu Yıl University | Institute of Educational Science | Van | Turkey | ORCID: 0000-0003-2015-9388

[4] Dr. | Van Yuzuncu Yıl University | Institute of Educational Science | Van | Turkey | ORCID: 0000-0001-9561-554X | <mailto:mfirat.unsal@meb.gov.tr>

INTRODUCTION

The significance of education cannot be ignored. Individuals acquire various knowledge and skills as a result of educational institutions; thus, the success of educational institutions in society is critical. The role of educators in the success of institutions is excellent. Teachers with a high ability to build empathy have positive behaviours in terms of listening to the problems of their students, finding solutions for them, and giving morale and support. The empowerment of teachers will enable them to communicate better with their students.

The ability to understand others' feelings and thoughts and adapt our attitudes and behaviours according to this comprehension ability is considered to have a significant role in developing social relations (Duan & Hill, 1996). In various types of bilateral relations, these social relationship skills often solve the problem and take a tactical form (Wang et al., 2014). This social capacity, which we define as empathy in general, creates awareness in our professional and daily lives and shows that we are recognized and cared for by others. At the core of empathy is the ability to comprehend and listen to people in terms of emotions, thoughts, and behaviours, considering the conditions in which they live from a holistic perspective (Davis, 1983).

Empathy plays a crucial role in the improvement of social behaviour. In its initial days, analysts examining empathy mainly emphasized its compelling nature and characterized it as a vicarious emotional reaction to the perceived emotion of others (Mehabrian, 1972). Empathy might be described as the ability or skill to identify different individuals' feelings and points of view (Bahr, 2008). Empathy is an essential social cognitive ability to facilitate the individual's adaptation to social life. Although empathy is as old as the history of humanity, it is considered a multidimensional power revealed by empathy (Davis, 2016). The incorporation of both cognitive and affective aspects involves several mechanisms within the model of empathy, which should lead to a decrease in aggression and an increase in prosaic behaviour in an empathetic individual, the ability to discriminate and indicate the feelings of other individuals in social conflicts, and a more individual's cognitive ability, which is responsible for perspective-taking and should lead to conflict mitigation (Feschbach, 2009). Empathy is the individual's ability to understand other individuals' conscious and unconscious emotions (Nerdrum, 1995). The organization enables one individual to move nearer to someone else's reality to help him (Rogers, 1975).

Empathy is placing the individual in front of him/her and viewing events from their point of view, understanding, feeling, and correctly correlating with that person's feelings and thoughts (Dökmen, 2002). The teacher's ability to empathize with his students helps to establish positive communication between the teacher and student, understand the problems, and find mutual solutions. When students realize their teachers' empathic ability, they probably feel closer to,

trust, and even feel influenced by them (Boyer, 2010; Kostić et al., 2016). A good start in education and training will affect the child's future years positively and permanently (Yörükoğlu, 2008).

According to Cooper, teachers who cannot develop empathy cause students to lose their motivation by neglecting their emotions by focusing on the whole group, subject, and program (Cooper, 2002). Motivation refers to the direction, severity, and determination of student behaviour in school. It is one of the most important power sources in determining the speed of reaching the desired goal in educational environments. Motivation is a significant part of the learning difficulties and disciplinary events observed in schools and classrooms (Akbaba, 2006; Tamura et al., 2016).

On the off chance that we need to have a popularity-based class, the teachers in the school should act as effectively as they do within the framework of democratic understanding and values. Adopting democratic values and creating an environment where teachers can apply them are related to teachers' democratic values (Davis, 2010).

Suppose the instructor needs to make a majority-rule class. It must be fair, open to communication, consistent, innovative, and equal treatment of every student, provide new information to students, and respect differences (De Wied et al., 2005). The teacher should be a leader who plans the teaching process and adds the students to this process. In this process, students can make their voices heard, know themselves as individuals, and take responsibility for their behaviours and attitudes (Hogan, 1969). Individuals raised in a democratic classroom will be creative, able to make decisions, solve problems, take responsibility, and have empathy (Dymond, 1949).

Empathy is an essential part of education. Ideal education teachers learn how to deal with academic and emotional needs. Besides contributing to the learning process, the main significant point in this research is developing the teacher empathy scale and trying to understand how this scale can impact the educational sector, the social and psychological condition of the teachers, and how it interacts.

Empathy has a conspicuous position in daily life among individuals. (Montag et al., 2014). People are in contact with other people at all phases of life. This relationship may sometimes be positive and sometimes full of problems. Individuals are defined as continuous in the relationship, and this situation plays a vital role in determining the living standards of individuals. The education system has the most vital mission in providing people in all groups who are the primacy of the crucial factors below the social ants of life. The most critical mission is the education system's provision of people who come and go to all age groups, which keeps social antiquity at the bottom of the essential factors.

A unique relationship between the students and teachers should be established for the educational learning process to be effective. In other words, a special connection should be established between the teachers and the students. This special bond can be formed with empathy. Empathic thinking and behaviour can also make the teacher think of him as a person who is humane, sincere, and essential to the students. The teacher can understand the students' situation by putting himself in their place. From the student's face, speech, physical appearance, and body movements, a teacher can understand that the student wants him to take his perspective and feel empathic. When students realise that their teachers try to understand what they feel and put themselves in their place when realising their teachers' empathic skills, they will probably feel closer to, trust, and even be influenced by their teachers.

In actuality, Rogers (1975) found a positive relationship between the teachers' level of empathy and the student's academic achievement levels. When students recognise that their teachers are attempting to understand and love them, their academic achievements improve. This study is expected to shed light on the research on the importance of empathy in teacher-student communication. It is thought that classroom teachers working in schools will help them develop empathic tendencies in communicating with students. It is thought to contribute to preparing in-service training programmes for school teachers. Improving communication and empathy skills for higher education institutions will play an active role in preparing programmes (Coopersmith, 1974).

All in all, it is thought that there is a need for a measurement tool to evaluate the empathic tendencies of teachers. This research aims to develop a measurement tool to measure the empathic tendencies of the teachers' empathy skills. This study aims to develop and validate a new instrument to measure teachers' empathy. The limitations of this research are (1) The research is limited to the teachers in the province of Duhok, Iraq (2) The research data was limited to the 2018-2019 academic year. Furthermore, (3) 653 teachers participated in this research.

METHOD

This chapter focuses on information about the study model, study group, data collection tools, scale development process, and data analysis. This chapter also provides the procedure for the data collection tool in detail.

Research Model

This research was designed with a cross-sectional scanning model, one of the screening models by quantitative research methods. The questionnaire model is one of the research designs on the sample to be taken from the universe or the general population to obtain generalizable information. During the development of the Teacher Empathy Scale towards Measurement and

Evaluation, the steps of i) producing the trial form, ii) conducting the trial, iii) analysing the trial results, iv) main application, and v) analysing the main application results were followed.

Screening models are research approaches that aim to describe a situation in the past or present. The subject of the research, the individual or the object, tries to be defined in its conditions and as it is (Karasar, 2009). Furthermore, the relationship between the variables measured in questionnaire-type research can be examined (Büyüköztürk, 2008).

Study Group

The study was conducted with 311 female teachers (52%) and 287 male teachers (48%) out of a total of 598 teachers working in the official schools in Duhok, Iraq. The teachers who participated in the study were evaluated in terms of their gender, age, marital status, education status, graduation, experience years, school level, satisfaction with life, and economic situation; demographic information obtained from the questionnaires is shown in the tables below.

Table 1

Teacher's gender

Gender	Frequency	%
Male	287	48
Female	311	52
Total	598	100

The table shows that 287 (48 %) of the group are male, whereas 311 (52 %) are female. When the gender distribution of teachers is analyzed, it is discovered that there are more male teachers than female teachers.

Table 2

Teachers' marital status

Marital Status	Frequency	Percent%
Married	456	76.4
Single	140	23.5
Total	598	100

According to Table 2, 456 (76.4 per cent) of the 598 instructors who participated in this study were married, while 140 (23.5 per cent) were single.

Table 3*Teacher's age*

Age	Frequency	Percent%
20-30	124	20.8
31-40	330	55.2
41-50	108	18.2
51-over	33	5.6
Total	598	100

As seen in Table 3, 124 (20.8%) of the teachers are between the ages of 20 and 30; 330 (55.2%) are between the ages of 31 and 40; 108 (18.2%) are between the ages of 41 and 50, and 33 are 51 or older (5.8%). Moreover, teachers aged 31–40 have the most significant number (55.2%), whereas teachers aged 51 and up have the lowest percentage (5.6%).

Data Collection Tools

The "Teacher Empathy Scale" and the "Demographic Information Form" will be introduced in this section.

Demographic Information Form. The demographic information form consists of ten questions designed to gather information about teachers' personal and professional traits. The Personal Information Form includes gender, age, marital status, experience years, life satisfaction, teacher-student relationships, economic circumstances, school level, and having or not having children. In the demographic information form, we used some variables to know how these variables affect empathy or the dose of these variables' effects on it. As shown in the literature, in terms of the effect of gender on empathy, some studies found that women are more empathic than men, and they are not equally empathic. According to scientific evidence, women's hormones are different from men's. Females had more oxytocin, which is positive for emotional empathy, while males had more testosterone, which is negatively related to cognitive empathy. As it is known, humans generally change throughout life. We wondered whether age affects the empathy of individuals or not, so we used age in demographic information. We also wanted to know if marital status affects empathy, so we included it in our data collection form because some researchers discovered that married people who have a child are more empathic than single people. All in all, the experience may impact empathy because it changes human behaviour. The oldest individuals had more life experience than the youngest ones.

Teacher Empathy Scale. The "Teacher Empathy Scale" (TES) was developed to measure the potential empathic tendencies of the teachers' empathy skills. It is a Likert-type scale with 7

items, and each item is given a score from 1 to 5 (never, occasionally, sometimes, most of the time, and always). The minimum score to be taken from the scale is seven, and the maximum score is 35. The total score represents the empathetic disposition scores of the subjects. A high score indicates a high empathic tendency; a low indicates a low empathic tendency. The finalized scale negative item number 8 will be scored in reverse. The Cronbach's alpha reliability of the scale obtained from this application is .771. Furthermore, the value of the KMO test was determined to be 0.848, and the Bartlett test was 0.878 ($p < 0.05$).

Scale Development Process

The studies carried out to ensure the validity of the scale will be explained. Firstly, the scale development process for the data collected and literature review was conducted; and then, we wrote the scale items, afterwards, we gave it to experts for the scope validity, and then, the results of the Explanatory and Confirmatory Factor Analysis were given for the construct validity. The following steps are followed in the scale development process.

First, a literature review was conducted to develop the data collection tool. In particular, the concept of empathy was examined. Teachers and experts working in the field of teacher empathy were asked to express examples that reflect traditional and egalitarian perspectives on women and men within the professional framework. While creating the expressions, attention was paid to the use of simple language; the verbs do not consist of the same expressions consecutively, and the ethically disturbing expressions were not present on the scale. After the pool of scale items, the researches on scale development were examined, expert opinions were taken, and a 5-item Likert-type scale form consisting of 38 items was prepared. The items on the scale were arranged to have a 5-point Likert-type rating.

The opinions of the experts in the fields of measurement and evaluation, teachers, psychological counsellors, and guides were obtained about the clarity of the expressions of the scale items that were formed and their degree of relevance to the subject. The pool of substances prepared for this purpose was sent to experts working in universities.

We aim to develop a scale to investigate the teacher's empathy in the school within the scope of the 38-item scale thesis. A literature review was conducted to measure the tendency to choose the teachers' empathy, and traditional and egalitarian items including obvious empathy have been written following the target. The form was prepared with the directive of Psychological Counseling and Guidance, after experts' evaluating the responses, required corrections were made on the scale. The experts came to an agreement on the distressed items, and 11 items were removed from the scale, also, regulation of expressions in some items and grammar corrections were made, The scale, which was prepared as 27 items after expert opinions, then, was translated

to Kurdish and English language by language experts, and after the first step of translation of scale, the Kurdish and English form was also translated to the Turkish language again to evaluate the reliability of the language forms.

After the scale was ready to be applied, the application was made to the Dohuk Directorate of National Education to carry out the application in more than 100 schools determined and the necessary application permission was obtained. It was decided to collect data from more than 100 schools to be used in explanatory factor analysis, and reliability calculations will be applied to the school administration with the permission of the school.

After the pilot application, the directive of the scale was revised and finalized and the actual application was started. For the actual application, during the 2018-2019 Academic Years, a total of 700 or more teachers who work in schools in Dohuk, Iraq. After the application, all scales filled out were examined, and some incorrectly filled or incomplete forms were excluded from the assessment, and scale development analyzes were started by entering data of 653 forms.

As a result, the scale items were prepared, and a comprehensive literature review was conducted to establish a theoretical basis and item pool regarding teachers' empathic skills. The Teacher Empathy Scale was developed to measure the level of empathy. During the development phase of the scale, a preliminary application was made with 311 females and 287 males, a total of 598 participants, and as a result of the application, it was decided to remove 20 items from the 27 items in the scale and seven items were included in the main application scale. Items in the scale; It is arranged in a five-point scale, which is ""never"" (1), ""sometimes"" (2), ""occasionally"" (3), ""most of the time"" (4), and ""always"" (5). The finalized scale negative item number 8 will be scored in reverse.

Analysis of Data

598 teachers were selected by a simple random method from high schools in Duhok, Iraq. Values were assigned to the items left blank on the scale according to the mean of the data. The data was examined using exploratory and confirmatory factor analysis techniques. The SPSS 22.0 statistical package program was used in the analysis process. The frequency and percentage distributions of all questions in the questionnaire and the replies provided to the propositions on the scale were determined in the data analysis and are displayed in tables and graphs. Descriptive statistics such as mean, standard deviation, median, minimum, and maximum values were also employed.

The t-test was used for the differential between two variables and the comparison of quantitative data. For more than two variables, a one-way ANOVA test was used for intergroup

comparisons of parameters in the case of more than two groups. A Post-Hoc test has used the determination the group causing the difference.

To check that the gathered data had appropriate variability, a Kaiser-Meyer-Olkin sample adequacy test was performed. In addition, Cronbach's Alpha was used to determine internal consistency among the items for the reliability test, and principal component analysis with varimax rotation was performed on the obtained data.

Ethical Approval

Ethics committee approval was not obtained because the study data were collected before 2020.

RESULTS

In this chapter, firstly, the validity and reliability studies performed during the scale development are explained. Furthermore, we used exploratory factor analysis, confirmatory factor analysis, and internal consistency reliability coefficients (Cronbach Alpha). Statistical analysis and results obtained from these analyses and the frequency and percentage distributions of the answers given to the questions in the questionnaire are shown and interpreted with tables.

The Construct Validity of the Empathy Scale

The Kaiser-Meyer-Olkin measure of sampling adequacy was used to assess the data's suitability for principal component analysis. Before empathy validity analyses were conducted, whether the sample was suitable for factor analysis was investigated. For this purpose, the analysis was performed to determine the suitability of the sample size analysis test KMO and factor analysis. As a result of the analysis, it was determined that the KMO value was 0,848. This value concluded that the sample was good enough for factor analysis, and there was sufficient and higher variability in the data to conduct component analysis (Sürücü, 1999).

Tablo 4

Validity of Teacher Empathy Scale

Kaiser-Mayer-Olkin measure of sampling adequacy	0.848
Approx.chi-square	0.878
Df	21
Sig	.000

As we see in table 10, the KMO value was calculated as 0.848, df: 21, $p < 0.000$. According to the KMO test results, the sample size was sufficient, and there was a significant and high-level relationship between the variables. It was concluded that it was suitable for applying factor analysis.

After the suitability of the data for factor analysis is tested, which method is used to examine the factor structure validity and factor structure of the scale the KMO selected (Seçer, 2015)? In this study, first, the group's 27-item draft from essential components used as a data collection tool was tested with the principal components analysis technique. The Guttman-split-half coefficient calculated by the halving technique was found to be .73. In the literature, it is stated that the cut-off point for item-total correlation is .30 (Field, 2013). When the item-total correlation values of the scale were examined, items 2, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 and 27 were found to have weak correlations ($r < .30$), so they were removed from the scale and added to the scale with 14 items. given its final form.

Table 5

Explained variance values of the Teacher Empathy Scale

	Initial Eigenvalue			Extraction sums of squared loading		
	Total	% Variance	Cumulative %	Total	% Variance	Cumulative %
1	2.95	42.25	2.95	42.25	42.25	
2	0.807	11.53	53.79			
3	0.741	10.58	64.38			
4	0.707	10.09	74.47			
5	0.668	9.54	84.01			
6	0.618	8.82	92.84			
7	0.501	7.15	100.00			

These factorizations were significant when the first study's factor component matrix was examined. When the eigenvalues of the factors are examined, it is discovered that the factor has a very large eigenvalue. The inquiry was carried on with rotation methods to simplify the factor structure. The vertical rotation approach is often employed in large-scale development and is used as the rotation technique. Vertical rotation is possible with Varimax. This strategy was not used since the scale was expected to have more than two components. The Varimax and Equamax techniques were used to determine which one to use. As a result of the research and studies, the factorizations in the Equamax technique were judged to be conceptually more intelligible.

When the primary component analysis outcomes are examined, it is determined that the draft scale has a 7-item structure with an eigenvalue above and a total variance explanation rate of 100 per cent. Table 5 shows that the eigenvalue is seven dimensions greater than the total between (2,93 and 504), and the variance explained is 39.209 per cent. An eigenvalue more significant than one is a criterion for identifying the number of components. The most significant (41,88 per cent) and lowest (7,19 per cent) variables were revealed when the changes explained by the seven components were assessed independently. The variations explained by these factors were shown to be generally comparable. The factor-explained variances were discovered to be

relatively comparable. The scree plot and total variance tables provide parallel information in this example. The scree plot and total variance explained in the tables give complementary data.

Consequently, the above-mentioned examination, 16, 12, 10, 13, 6, 27, 14, Items 11,14,15,17,18,19,20,21,22,23,24,25, and 26 have a factor load of less than 0.45 and have been removed from the scale. Because the elements overlapped, they were each eliminated. As a result of all of these item reductions, it was discovered that one component included just seven things. According to the established criteria, no elements remain on the scale, and the scale has assumed its final form.

Table 6

Loading factors for every item

Items	Components
E5	0.705
E8	0.683
E3	0.666
E7	0.651
E9	0.635
E4	0.604
E1	0.600

The teacher empathy scale consisted of one factor, and seven items emerged as a result of the items which could not meet the required conditions. The percentage explanation of the total variance of the scale was found. The components of each item are viewed in table 6. The high one is the empathy scale item 5 (E5), and the low one of the items of the empathy scale is (E1). It is seen that the items on the scale are dependent on one factor, and their loads vary between 600 and 703. Before applying Varimax, one of the rotation techniques, item factor loads were collected on a single factor according to the principal components analysis. This finding shows that all items on this 7-item scale are intended to be measured.

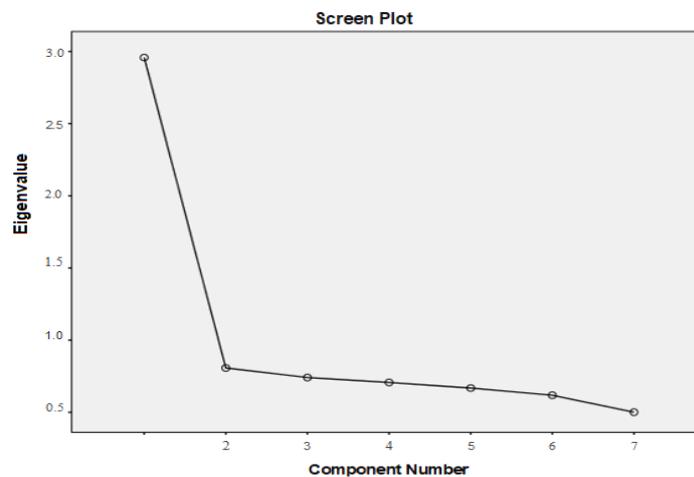


Figure 1. Line graph obtained as a result of the exploratory factor analysis.

After these investigations, the component in the above table was examined before the rotation with the item factor load values. As seen in Figure 1, the slope is seven nodes. As shown in the figure, the highest component number is (2,95), and the lowest is (501). This supports the finding that the data set in Table 11 is seven-dimensional.

To see the items that can explain at least 10% variance of each factor, the basis of factor load value is 42%, and the load values of the items under each factor are examined. If a substance has sufficient load values under more than one factor, it is an overlapping substance and must be removed from the scale. Because the primary purpose of scale development studies is to have items with high load values, explaining that dimension under each dimension formed. However, this is not always the case in scale development studies; a substance can have a sufficient load under one dimension (42 and above).

Reliability of Empathy Scale

According to Sekaran, if the result of coefficients of Cronach's Alpha is between 0.00 and 0.50, it is considered poor Reliability, between 0.50 and 0.70 is considered moderate Reliability, between 0.70 and 0.90 represents high Reliability, and finally, above 0.90 represents "excellent" Reliability (Sekaran, 2003).

Table 7

Result of reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on standardized items	N of items
0.771	0.771	7

The scale's Cronbach's Alpha reliability coefficient was determined to be 0.771. Some items can be said to diminish the scale's Reliability. First and foremost, we attempted to improve dependability by deleting elements with strong correlations. We discovered a very acceptable Cronbach's Alpha of .771 and components on seven items.

Table 8

Result of items statistics

Items	\bar{x}	sd	n
E5	2.993	1.0279	598
E8	2.912	1.0084	
E3	2.868	0.9686	
E7	2.955	0.9599	
E9	2.984	1.0352	
E4	3.298	1.0345	
E1	3.308	0.9372	

Table 8 indicates the Reliability of the empathy scale. As seen in the table, the highest possible value is (3,308), and the lowest possible value is (2,868). A substance that Reliability is (sd =.937) because of that, according to statistical Reliability, our Reliability was scientific. Therefore, it should not remove any other item from the scale.

Table 9

Result of the item-total statistic

Items	Scale means if items deleted	Scale variance If items deleted	Corrected Items total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Items deleted
E5	18.328	15.07	0.549	0.324	0.731
E8	18.409	15.35	0.524	0.284	0.736
E3	18.454	15.70	0.505	0.286	0.740
E7	18.367	15.83	0.492	0.252	0.743
E9	18.337	15.53	0.479	0.238	0.746
E4	18.024	15.75	0.450	0.213	0.752
E1	18.013	16.28	0.444	0.205	0.752

The Reliability of the empathy scale is determined by correcting total items between 0.444 and 0.549. As shown in Table 9, Cronbach's Alpha was removed; the scale ranged from 0.752 to 0.731. In this case, it can be said that the scale has a high level of Reliability.

CONCLUSION, DISCUSSION AND RECOMMENDATIONS

This research aims to develop a valid, reliable, and valuable measurement tool that measures teachers' empathy skills. Firstly, it was checked whether the data structure was suitable for factor analysis using the Kaiser-Meyer-Olkin and Bartlett test methods. As a result of the study, the scale was formed into one factor, and factor loadings of sub-factors were collected between 0.600 and 0.705 values. Factor analysis to determine the scale's construct validity revealed which factors were related to the teacher's empathy. Moreover, Cronbach's alpha coefficient value was 0.771, the KMO test value was 0.848, and the Bartlett test was 0.879. These two values indicate that the data set is suitable for factor analysis. The eigenvalue statistics and the line graph of the eigenvalues were used to determine the number of factors. There was no initial limit on the number of factors. Factor analysis revealed that items with low item load values and overlapping items were excluded from the scale. This study aims to create a valid, accurate, and practical measuring instrument for teachers' empathy abilities.

The scale's construct validity was determined using factor analysis, which indicated which elements were associated with the teacher's empathy. First, the Kaiser-Meyer-Olkin and Bartlett tests were used to determine if the data structure was adequate for factor analysis. As a consequence, the scale was established in one factor as a consequence of the investigation, and factor loadings of sub-factors were gathered between 0.600 and 0.705 values. Furthermore,

Cronbach's alpha coefficient is 0.771, the KMO test is 0.848, and the Bartlett test is .879. These two numbers imply that the data set can be factored in.

The number of components was determined using eigenvalue statistics and a line graph of the eigenvalues. At the outset, there was no restriction on the number of elements. Items with low item load values and overlapping items were eliminated from the scale based on factor analysis.

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GENİŞLETİLMİŞ ÖZET

Giriş

Empati, kişinin başkalarının hissettiği duyguyu, önemi veya isteği, sorunu veya endişeyi fark etme yeteneğidir. Empati, tanımlanması zor ve ölçülmesi zor anlaşılması zor bir kavram olarak tanımlanmıştır. Bu nedenle empati becerileri yüksek bireyler, diğer insanları her zaman kendi bakış açılarından anlayacak, başkalarının potansiyelini geliştirebilecek, her zaman başkalarının önemini yerine getirme arzusuna sahip olacak ve topluluğun duygularını ve bir örgütün liderini anlayabilecektir. Empati becerileri yüksek bireylerin bir kişinin duygularını anlayabildiğini ve onların dünyasını onların bakış açısından görebildiğini belirtmişlerdir. Günümüzde eğitimin önemi gözardı edilemez. Öğretmenlerin güçlendirilmesi, öğrencileriyle daha iyi iletişim kurmalarını sağlayacaktır. Empati becerisi, başkalarının duygu ve düşüncelerini anlayabilme, tutum ve davranışlarımızı bu kavrayışa göre uyarlayabilme becerisinin toplumsal ilişkilerin gelişmesinde önemli bir rolü olduğu düşünülmektedir. Bu sosyal ilişki becerileri, çeşitli ikili ilişkiler türlerinde genellikle sorunu çözer. Genel olarak empati tanımladığımız bu sosyal kapasite hem mesleki hem de günlük hayatımızda farkındalık yaratmakta ve başkaları tarafından tanındığımızı ve önemsendiğimizi göstermektedir. Empatinin özünde, insanları içinde yaşadıkları koşulları bütüncül bir bakış açısıyla ele alarak duygu, düşünce ve davranışlar açısından anlama ve dinleme yeteneği vardır. Empati, sosyal davranışın geliştirilmesinde kilit bir rol oynar. Empatiyi inceleyen çalışmalarda genel olarak empatinin iletişim açısından etkili olduğunu vurgulamaktadırlar (Mehabrian, 1972). Buradan hareketle yapılan çalışmamızın amacı, öğretmenlerin empati düzeylerinin ölçen geçerli ve güvenilir beşli Likert tipinde bir empati ölçeği geliştirmektir. Ölçeğin geliştirilebilmesi için ölçek üzerinde faktör analizi yapılmış ve uzman görüşü alındıktan sonra ölçeğin son hali verilmiştir. Açımlayıcı ve doğrulayıcı faktör analizi sonucunda, Öğretmen Empati Ölçeği toplamda 7 madde haline getirilmiştir. Veri yapısının uygun olup olmadığını kontrol etmek için, KMO ve Barlett test yöntemlerinden yararlanılarak faktör analizi kontrol edilmiştir. Bunun sonucunda KMO testinin değeri 0.848, Bartlett testi ise 878.969 olarak belirlenmiştir ($p < 0, 05$). Sonuç olarak yapılan açımlayıcı faktör analizi ve doğrulayıcı faktör analizi neticesinde, Cronbach's Alpha değeri 0.771 bulunan ve 7 maddeden oluşan geçerli ve güvenilir bir ölçek elde edilmiştir.

Yöntem

Bu araştırma, nicel araştırma yöntemlerine uygun olarak tarama modellerinden biri olan kesitsel tarama modeli ile tasarlanmıştır. Anket modeli, genellenebilir bilgiler elde etmek için evrenden veya genel evrenden alınacak örneklem üzerinde gerçekleştirilen araştırma desenlerinden biridir. Tarama modelleri, geçmişte veya günümüzde var olan bir durumu

betimlemeyi amaçlayan araştırma yaklaşımlarıdır. Araştırmanın konusu, birey ya da nesne kendi koşulları içinde ve olduğu gibi tanımlanmaya çalışılır (Karasar, 2009). Araştırmaya Irak, Duhok'ta bulunan resmi okullarda görev yapan 598 (kadın 311 (%52) erkek 287(%48) öğretmen katılımları göstermiştir. Araştırmada katılımcılarından veri toplamak amacıyla birinci bölümde "Kişisel Bilgi Formu" ikinci bölümde ise "Öğretmen Empati" ölçeği kullanılmıştır. Toplanan veriler frekans ve yüzde dağılımları ile ölçekteki maddelere verilen cevaplar hesaplanmış ve budağılımlar tablo ve grafiklerle gösterilmiştir.

Ayrıca ortalama, standart sapma, ortanca, minimum ve maksimum değerler gibi tanımlayıcı istatistikler kullanılmıştır. Diferansiyel ve iki değişkenli nicel verilerin karşılaştırılmasında t-testi, ikiden fazla değişken için tek yönlü Anova testi, ikiden fazla grup olması durumunda parametrelerin gruplararası karşılaştırmalarında Post Hoc testi, farka neden olan grubun belirlenmesinde kullanılmıştır. Toplanan verilerde yeterli ve değişkenlik olduğundan emin olmak için Kaiser -Meyer -Olkin örneklem yeterliliği ölçümü yapılmıştır. Ayrıca güvenilirlik testi için maddeler arası iç tutarlılığı bulmak için Cronbach alpha ve toplanan veriler üzerinde varimax döndürme ile temel bileşenler analizi yapılmıştır.

Sonuç

Bu çalışmanın amacı öğretmenlerin empati becerilerini ölçen geçerli ve güvenilir bir ölçme aracı geliştirmektir. Geliştirilen bu ölçeğin alanda büyük bir boşluğu dolduracağı değerlendirilmektedir. Alanda öğretmenlerin empati düzeylerini ölçen sınırlı sayıda ölçme aracı olduğu görülmektedir. Verilerin temel bileşenler analizine uygunluğu Kaiser-Meyer-Olkin örneklem yeterliliği ölçütü ile incelenmiş, Empati geçerlik analizleri yapılmadan önce örneklemin faktör analizine uygun olup olmadığı araştırılmıştır. Bu amaçla örneklem büyüklüğü analizi testi KMO ve faktör analizinin uygunluğunu belirlemek için analiz yapılmıştır. Analiz sonucunda KMO değerinin 0,848 olduğu belirlenmiştir. Bu değer ile örneklemin faktör analizi için yeterince iyi olduğu ve veriler de bileşen analizi yapmak için yeterli ve yüksek değişkenliğin olduğu sonucuna varılmıştır (Sürücü, 1999). Diğer taraftan, ölçeğimizin Cronbach Alpha güvenilirlik katsayısı 0.771 olarak bulunmuştur. Sekaran'a (2003) göre Cranach's Alpha katsayılarının sonucunun 0,00 ile 0,50 arasında olması zayıf güvenilirlik, 0,50 - 0,70 arası orta düzeyde güvenilirlik, 0,70 - 0,90 arası yüksek güvenilirlik ve 0,90 üstü ise "mükemmel" güvenilirliği temsil etmektedir. Sonuç olarak, model uyum indeks değerleri "mükemmel" olarak ifade edilen ve 7 maddeden oluşan geçerli ve güvenilir bir ölçek elde edilmiştir.

Appendix 1. The Teacher Empathy Scale

The Teacher Empathy Scale						
		Never	Sometimes	Occasionally	Most of the time	Always
1	When I look at my students, I know how they feel.	1	2	3	4	5
2	If my students try to hide their emotions, I will realize how they feel.	1	2	3	4	5
3	I understand how my students feel about me.	1	2	3	4	5
4	I understand my students' feelings without them telling me.	1	2	3	4	5
5	I can tell you how the students feel.	1	2	3	4	5
6	When I argue with my students, I focus on my response rather than what she or he says.	1	2	3	4	5
7	I understand what students feel about their behaviour.	1	2	3	4	5

Ek 2. Öğretmen Empati Ölçeği

Öğretmen Empati Ölçeği						
		Hiçbir zaman	Ara sıra	Bazen	Çoğu zaman	Her zaman
1	Öğrencilerime baktığımda onların ne hissettiğini anlarım.	1	2	3	4	5
2	Öğrencilerimin duygularını saklamaya çalışsa da onların ne hissettiğini fark ederim.	1	2	3	4	5
3	Öğrencilerimin benim hakkımda ne hissettiklerini anlarım.	1	2	3	4	5
4	Öğrencilerimin bana söylemeden de onların duygularını anlarım.	1	2	3	4	5
5	Öğrencilerin ne hissettiğini söyleyebilirim	1	2	3	4	5
6	Öğrencilerim ile tartışırken bazen dikkatim onun söylediklerinden çok vereceğim cevap üzerine yoğunlaşır.	1	2	3	4	5