

Professional Value-Oriented Life Tendency Scale Teacher Form Validity and Reliability Study*

Şadiye İnci¹, Şaban Çetin²

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In this study, it is aimed to develop a measurement tool to determine teachers' professional value-oriented living tendencies. By scanning the literature, the scale development stages were followed and a draft scale form with 50 items was created. The prepared draft form was applied to 25 teachers as a preliminary test and then rearranged in line with expert opinions. The prepared form was applied to a research group consisting of 1130 teachers working in public schools (primary school, secondary school and high school) in the central districts of Ankara in the spring term of the 2020-2021 academic year. Study Group 1 data were used to determine the validity and reliability of the scale, and Study Group 2 data were used for CFA. EFA was applied to the data obtained from 300 teachers, called Study Group 1, within the scope of validity and reliability study. In the second stage, Confirmatory Factor Analysis (CFA) was conducted on the data obtained from 875 teachers, called Study Group 2, in order to verify the factor structure of the scale in another sample. As a result of the exploratory factor analysis, it was determined that the scale had a three-factor structure. The Cronbach Alpha internal consistency coefficient was 0.98 for the overall scale, 0.96 for the 1st sub-factor, 0.77 for the 2nd sub-factor, and 0.86 for the 3rd sub-factor. As a result of confirmatory factor analysis, the RMSEA value was found to be 0.049. In addition, the GFI, AGFI, CFI, NFI and NNFI values, which are expressed as goodness fit indices, are found to be 0.99, which is very close to 1, which shows that good fit values are obtained. As a result of the analyzes made, a 33-item scale form with the necessary measurement reliability was developed to serve to measure the professional value-oriented life tendencies of teachers.

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Keywords: Teachers' professional values, professional value-oriented life, scale development

INTRODUCTION

Historically, education has been seen as a distinct moral relationship between teacher and student, and aims at moral formation along with teaching. While the moral foundations of education are not universal but widely used, it can be said that the educational process and schooling have become more instrumental in recent years, and that the role of many teachers today focuses primarily on preparing students for academic success and working life after school (Peterson & Arthur, 2021).

This instrumental transformation regarding the shaping and implementation of education has occurred as a result of a series of reforms in education, school systems, teacher training and education programs that prioritize the perception of the teacher as someone with a strong subject knowledge. Although both subject knowledge and proficiency in teaching subjects are important in this transformation process, ignoring the moral, ethical and professional value dimensions of teaching may lead to a partial and inadequate perception of what it means to be a teacher (Azer, 2005; Black, 2008). For this reason, it can be said that the education and training process is not only academically knowledge-oriented but also a relational activity and mutual transfer process in which various variables are used among all individuals involved in this process. Teachers act within the scope of certain laws, ethical codes and professional values, showing positive and guiding attitudes and behaviors about who their students are or may be, who care about their students, discover and develop what is good in them in this process (Aydın, 2019; Gelişli, 2018). A fundamental area of this relationship is to contribute to the moral development and well-being of students. Teachers take a supportive, proactive and reflective stance towards their own characters, professional identities and the holistic development of their students, especially when students face some difficulties in their lives. The aim here is not to destroy student autonomy but rather to help them adapt to the rules, norms, and values of their school and society. In this context, instead of positioning it as a subjective concern, teachers should model their own character traits such as honesty, truthfulness, justice, respect, humility, and compassion by prioritizing solid preparation and a supportive wider perspective (Aydın, 2019, ; Azer, 2005; Ruby, 2019). However, while this perspective is reasonably well organized and understood, how professional values can best be formulated conceptually and applied in practice remains controversial.

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¹ Ministry of National Education, sadiyeinci@gmail.com, orcid.org/0000-0002-5390-5307

² Gazi University, scetin@gazi.edu.tr, orcid.org/0000-0002-4319-5667

Although definitions of the components that make up a profession vary, some features are not universal for all professions. As a matter of fact, it is generally accepted that the profession is done for a fee, has official qualifications, is guided by professional ethics, values and codes of conduct specific to that profession, and those who practice the profession have a high level of theoretical and practical expertise at the end of a training process (Carr& Landon, 1999). In different definitions, there are individuals who are ready to apply the knowledge and skills they have gained at the end of the education process and to use them for the benefit of others, having the special knowledge and skills of those who will practice their profession as a result of high-level research, education and training, which are adhered to ethical standards, widely and officially accepted (Çalışkur, 2008). Discussions about the meaning and nature of the profession and those who practice it may differ within the scope of the effects of behaviors, cultures, discourses, and professional practices (Gahan & Abeysekera, 2009). However, it is in the nature of the definition of a profession that the fields of activity of each profession are governed by official ethical rules and codes and professional values. Such codes require behavior and practice beyond the personal, moral and professional obligations of the employee. When the literature is examined, it is seen that the ethical foundations of the professions are emphasized in general or in particular. This situation generally indicates the expectation of ethical and moral behavior (care, honesty, justice, etc.) from professionals (Gahan & Abeysekera, 2009; Hammer, 2000; Tirri, 2010; Rubi, 2019). This feature of many professions, such as medicine, law and social work, shows us that professions are ultimately about human actions and interactions. Teaching, like many other professions, necessitates a high level of interpersonal and communication skills, as well as an interaction process (Çelikten, Şanal&Yeni, 2005). This aspect of the teaching profession has a significant impact on teaching activities, student achievement, and ultimately society. The role of a teacher is undeniably effective in raising qualified manpower, socializing individuals and preparing them for social life, transferring the culture and values of a society to younger generations, and ensuring peace and tranquility in society.

Along with the aforementioned, making a meaningful difference in the lives of students is among the aims of the schools. For this reason, the moral and ethical dimensions of teaching constitute the basic value context of teachers. The existence of a professional structure in teaching is inextricably linked to a widely shared understanding, attitude, and values about social order and social relations, rules, and norms to be followed (Güven, 2015). Since professional values, which are also a component of professionalism, are at the center of competent professional practice and are widely accepted, there is an increasing interest in defining and evaluating ethical judgments and values in the professional training of teachers. A reflection of these trends was reflected in the Ethics and Morality in Education course, which was added as a compulsory course to the teacher training undergraduate programs updated by the Council of Higher Education in 2018 (YÖK, 2018a). In this course, basic concepts and theories about morality and ethics, ethical and unethical behaviors, principles and responsibilities for the teaching profession, and issues such as moral and ethical responsibilities of administrators, parents and students (YÖK, 2018b). In addition, the General Competencies for the Teaching Profession, published by the Ministry of National Education in 2006, were updated in 2017 in line with the needs and current developments, and these competencies were considered as a reference document revealing the knowledge, skills, attitudes and values that teachers should have. In the document, 3 competence areas were determined for teachers, namely professional knowledge, professional skills, attitudes and values. The emphasis on professional and ethical values and their applications can be described as another important step in the teaching profession to gain a professional qualification.

Professional values for teachers are the principles that guide the determination of ideal teacher behaviors in general and within the scope of professionalism. In addition, the behaviors exhibited by teachers are acceptable, valuable, or unacceptable. In this sense, professional values can be used to determine the worthlessness of behavior (Tunca, 2012). Due to the ethical nature of the professions, when the behavior expected from the members of the profession falls below a certain standard, it can cause public distrust, create prejudice against the profession and its members, and draw a reaction (Blond, Antonacopoulou, & Pabst, 2015). Hence, professional values can also prevent unapproved behaviors for teachers by contributing to the determination of prohibited behavior patterns (Tunca, 2012). In his research on teacher values, Tirri (2010) bases practices in the context of professional ethics, values and relationships on care, respect, professionalism, dedication and cooperation. Rogers and Freiberg (1994) emphasize that in order to optimize learning, the desired teacher qualities and values in teacher-student relations should be 'himself' without role-playing, rewarding, accepting himself and the other, trusting and giving confidence in himself and the other, and

displaying an empathetic approach. Freire, on the other hand, describes a teacher who is essentially human and emotionally sensitive (Roberts, 2000). In addition, he lists the professional values that a teacher should have as being humble, loving his profession and his students, being brave, tolerant, courageous and determined, balancing the tension between patience and impatience, and having a personal, professional and general joy of life. In Tunca's (2012) study, "respecting differences", "personal and social responsibility", "being against violence", "being open to cooperation" come to the fore among the professional values that teachers have. In addition to these, a teacher's dedication to his profession, effective communication skills, motivating students and colleagues in a positive way, performing teaching in a different and memorable way, leading teaching, creating open and reliable learning environments, encouraging critical and creative thinking and teamwork are also important. It is also emphasized that it should have values such as being open to continuous professional development (Azer, 2005). As a matter of fact, teachers' professional values and the extent to which they implement them in practice affect the education process and students significantly. In order for teachers to reflect their professional values in their behaviors, they need to adopt these values and be good role models for their students and society (Lapsley & Woodbury, 2016). Each student develops and learns at different rates according to their individuality. For this reason, they need a teacher who will guide them throughout their educational life. Since teachers have the responsibility of helping their students reach their maximum potential, they should be important influencers and motivators for their students (Black, 2008). Only in this way can they integrate values into the learning and teaching process as an important part of their students' development. Thus, they can guide their students to successfully adapt to the environment and society and to be ready for any situation they may encounter.

Teachers can make education and social development possible by taking on the role of modeling and guiding their students, their environment and society not only in academic terms but also in the context of professional values. Teachers should not only be equipped with knowledge and skills, but also be integrated with professional values. In fact, actions and behaviors have more power than words. The qualifications listed here cannot be sufficient unless teachers strictly adhere to, comply with and apply a set of ethical and moral principles, standards and values in all their relationships and interactions. In particular, teachers, who are a professional group leading their students and society, must adhere strictly to moral and professional values. Therefore, a teacher must have a deep understanding of adopting, applying and reflecting on their professional values. Because of that, the arrangements and interventions to be carried out in the education and teacher training processes are of primary importance. In this context, providing and maintaining the individual's well-being, such as living a meaningful life, happiness and psychological resilience, draws attention as an important element on the basis of change trends in current education paradigms (Chernyshenko, Kankaraš, & Drasgow, 2018). At this point, "value" emerges as an important concept that should be emphasized. This situation indicates that individuals not only have values but also exhibit actions that are compatible with their values, as well as the concept of value-oriented life used in the field of psychology. In recent years, this concept has started to be used in a wider area to evaluate value-oriented life (Çekici, Aydın Sünbül, Malkoç, Aslan Gördesli, & Arslan, 2018; Yalnız, 2019). From this point of view, it is important for teachers to transform their professional values into action, both to make their personal and professional lives meaningful and to implement new trends in the field of education. Therefore, a scale to be developed within this framework will allow teachers to evaluate themselves and fill a gap in this area. However, no study has yet been conducted to determine the tendency of teachers to live in line with their professional values and focus on professional values.

This study, inspired by the concept of value-oriented life, aims to determine the professional value-oriented life tendencies of teachers. It is considered necessary to determine the tendency of teachers to live with a focus on professional values, both in order to contribute to their professional development and to the field of educational sciences. In this framework, the aim of the study is to develop a scale with the necessary psychometric properties in order to determine the professional value-oriented life tendencies of teachers.

METHOD

Research Design

Descriptive survey method was used in the research. Descriptive studies are studies that reflect the existing structure as it is and aim to collect data to determine certain characteristics of a group (Büyüköztürk, KılıçÇakmak, Akgün, Karadeniz, &Demirel, 2016). The survey is a model in which data is collected in order to identify certain characteristics of a group (Fraenkel, Wallen & Hyun, 2012).

Study Group

The study population of the research consists of teachers working in the central districts of Ankara. Cluster sampling method was used to determine the sample due to the large population of the study and the difficulty of reaching all teachers. Cluster sampling is a sampling method in which elements in the universe are randomly selected based on naturally occurring groups called clusters. This method is preferred in cases where the research population is very large to reduce costs and increase efficiency (Büyüköztürk, Kılıç, Akgün, Karadeniz, &Demirel, 2018).

The total number of teachers working in primary schools (15.117), secondary schools (18.493) and high schools (20.595) in Ankara is 54,205. Etimesgut, Yenimahalle, Çankaya and Keçiören districts of Ankara province were determined randomly and it was aimed to reach 1130 teachers in total from these districts according to the cluster sampling method. Within the scope of the research, the scale of "Teachers' Professional Value-Oriented Life" was developed. For this reason, during the development of the scale, EFA was applied to 300 teachers, called Study Group 1, within the scope of validity and reliability study. While determining the number of teachers in study group 1, the rule of applying at least 5 times the number of items in the scale to the person was taken into consideration (Cohen &Swerdlik, 2009). In the second stage, Confirmatory Factor Analysis (CFA) was conducted to evaluate the confirmation of the factor structure of the scale in another sample. The second sample, in which the CFA and basic analyzes of the research questions were made, was named Study Group 2 and consisted of 875 people. The said data were collected in the spring semester of the 2020-2021 academic year.

Study Group 1

In the trial application conducted to reveal the factor structure of the "Professional Value-Oriented Life of Teachers" scale developed within the scope of the research, 300 teachers in Study Group 1 were reached. Within the scope of the trial application, it was tried to reach teachers from various branches working at primary, secondary and high school levels, and thus individuals with different characteristics were tried to be selected. The descriptive statistics obtained for the study group 1 are presented in Table 1.

Table 1. Descriptive Statistics of Teachers in Study Group 1

Variables	Categories	Frequency (f)	Percent (%)
Gender	Female	203	67,70
	Male	97	32,30
	Total	300	100,00
Marital Status	Single	45	15,00
	Married	255	85,00
	Total	300	100,00
Professional Seniority	1-5 years	20	6,70
	6-10 years	50	16,70
	11-15 years	56	18,70
	16-20 years	57	19,00
	20 years or more	117	39,00
Total	300	100,00	
Education Level	Primary School	100	33,30
	Secondary School	100	33,30
	High School	100	33,30
	Total	300	100,00

According to the information in Table 1, data were collected from a total of 300 teachers working at different education levels for Study Group 1. According to gender, 67.70% (f=203) of the teachers are female

and 32.30% (f=97) are male. According to their marital status, 15% (f=45) of the teachers are single and 85% (f=255) are married. Considering their professional seniority, 6.70% (f=20) of the teachers are 1-5 years, 16.70% (f=50) 6-10 years, 18.70% (f=56) 11-15 years, 19.00% (f=57) have 16-20 years and 39.00% (f=117) have 20 years or more seniority. In addition, 33.00% (f=100) of the teachers work at the primary school level, 33.00% (f=100) at the secondary school level and 33.00% (f=100) at the high school level.

Study Group 2

In order to verify the factor structure of the scale developed within the scope of the research, obtained by EFA, CFA was applied to 875 teachers who were teaching in various branches at primary, secondary and high school levels and formed Study Group 2. Similar to the trial application, in the second application, it was tried to reach the teachers at different education levels and thus individuals with different characteristics were included in the research. The descriptive statistics of the teachers in the study group 2 are presented in Table 2.

Table 2. Descriptive Statistics of Teachers in Study Group 2

Variables	Categories	Frequency (f)	Percent (%)
Gender	Female	594	67,90
	Male	281	32,10
	Total	875	100,00
Marital Status	Single	186	21,30
	Married	689	78,70
	Total	875	100,00
Professional Seniority	1-5 years	129	14,70
	6-10 years	145	16,60
	11-15 years	133	15,20
	16-20 years	116	13,30
	20 years or more	352	40,20
	Total	875	100,00
Education Level	Primary School	293	33,50
	Secondary School	290	33,10
	High School	292	33,40
	Total	875	100,00

According to the information in Table 2, data were collected from a total of 875 teachers working in different education levels for Study Group 2. According to gender, 67.90% (f=594) of the teachers are female and 32.10% (f=281) are male. According to their marital status, 21.30% (f=186) of the teachers are single and 78.70% (f=689) are married. Considering their professional seniority, 14.70% (f=129) of the teachers are 1-5 years, 16.60% (f=145) 6-10 years, 15.20% (f=133) 11-15 years, 13.30% (f=116) have 16-20 years and 40.20% (f=352) have 20 years or more seniority. In addition, 33.50% (f=293) of the teachers work at the primary school level, 33.10% (f=290) at the secondary school level and 33.40% (f=292) at the high school level.

Professional Value-Oriented Life Tendency Scale

The scale of the items in the scale was designed in a five-point Likert type. The following stages were followed in the development of the "Professional Value-Oriented Life of Teachers" scale (Tezbaşaran, 2008):

1. Establishing the item pool
2. Obtaining expert opinions
3. Creating the pre-trial form and pre-testing
4. Making the actual application
5. Performing validity and reliability analyzes on the data obtained from the original application.

An item pool was created for the scale developed in the first stage. In order to create the item pool, the relevant literature on professional value-oriented life, both in Turkey and abroad, was examined. As a result of this examination, a 50-item pool was created that includes statements about teachers' tendency to live with a focus on professional values. A draft scale was created by using the items in the item pool.

In the second stage, experts were consulted to examine the content validity of the items in the draft scale and the linguistic and scientific control of the items. In order for the experts to evaluate the items, the purpose, scope, item properties and what they should do about the scale were explained and an evaluation form was created and presented. An evaluation form consisting of three categories was created for the experts to express their opinions as "appropriate", "not suitable", "must be corrected" for each item and the entire draft scale. For the prepared form, expert opinions were obtained from two "Turkish Language and Literature" teachers, two academicians working in the "Curriculum and Instruction" department, and an academician working in the "Assessment and Evaluation" department. In line with the opinions of the experts, some expressions in the draft item were rearranged and a trial scale form consisting of 50 items was created.

In the third stage, a pre-test form of the developed scale was created and a pre-test was conducted. For the pre-trial application of the scale, the draft form of the scale was applied to 25 teachers. After the teachers answered the items, some words that were not understood were changed. In this way, the final version of the scale to be used in the actual application was decided.

In the fourth stage, the actual application of the scale was made. In the actual application, it was aimed to apply the scale to as many people as possible. For each item in the scale, the scale should be administered to at least five people and at least five times the number of items (Cohen & Swerdik, 2009). In this direction, the data of Study Group 1 for EFA, in which the factor structure of the scale was revealed, consists of 300 people. To provide additional evidence for the construct validity of the scale, it was conducted on the CFA Study Group 2 data. Study Group 2 data also consists of 875 teachers. Before the data were collected, necessary permissions were obtained from the Ministry of National Education and ethics committee approval was obtained for the application of the scale. The Google Forms platform was used in the implementation of the scale.

In the fifth stage, the validity and reliability study of the developed scale was conducted. For this purpose, the construct validity of the scale applied was tested. Accordingly, EFA was performed on Study Group 1 data. Whether the factor structure obtained by EFA was confirmed or not was tested with CFA over Study Group 2 data.

At the last stage, the scale, whose validity and reliability studies were completed, was reviewed again and an application instruction was prepared for researchers to use in future studies.

Data Analysis

Within the scope of the research, validity and reliability analyzes were conducted to develop the scale of "Teachers' Professional Value-Oriented Life". In order to ensure the validity of the scale, the Cronbach Alpha reliability coefficient calculated for the EFA and reliability was carried out using the SPSS 21.0 package program, and the DFA was carried out with the LISREL 8.7 package program. Study Group 1 data were used to determine the validity and reliability of the scale, and Study Group 2 data were used for CFA.

RESULTS

In this section, the findings regarding the validity and reliability analyzes of the scale are given.

Construct Validity

Construct validity is a judgment about the appropriateness of inferences made based on individual test scores for a variable called construct (Cohen & Swerdlik, 2015). EFA was conducted to examine the construct validity of the developed scale. Exploratory factor analysis is an analysis method that tries to reveal fewer factors underlying the items in a scale (Floyd & Widaman, 1995). In this context, the factors of the scale to be developed were tried to be revealed by exploratory factor analysis.

Findings Obtained From Exploratory Factor Analysis (EFA)

After the item pool of the scale developed within the scope of the research was created, EFA was conducted to reveal the factor structure of the scale. It was carried out on the data of Working Group 1 of 300 people for EFA. Kaiser-Meyer-Olkin (KMO) and Barlett Sphericity test values were calculated to test the suitability of the data. For the data to be suitable for factor extraction, the KMO coefficient should be at least

0.50. In addition, the KMO coefficient between 0.50-0.60 is bad, 0.60-0.70 is weak, 0.70-0.80 is moderate, 0.80-0.90 is good, and 0.90 and above show that the data are perfectly suitable for factor analysis (Çokluk, Şekercioğlu, & Büyüköztürk, 2012). In addition, the Barlett Test of Sphericity should be found to be significant in order to determine the suitability of the data in factor extraction (Field, 2009, p.659). As a result of the analysis, the KMO coefficient was found to be 0.965 and the Barlett Test of Sphericity was significant ($X^2 = 11972,160; p < 0.00$). Accordingly, it has emerged that EFA can be performed on the data of Study Group 1.

In EFA, first of all, it is necessary to determine how many factors will be in the data set. Before determining any factor number for 50 items in the item pool, non-returned principal component analysis was applied to the data. As a result of the analysis, it was seen that there were 7 factors with an eigenvalue above 1.00. In order to determine which items will be included in the scale in the item pool, the factor loading values of the items should be examined. The factor loading values calculated for the scale items show the power of those items to represent the relevant structure. A factor load value of 0.32 is considered "weak", 0.45 "mediocre", 0.55 "good", 0.63 "very good", and 0.71 and above "excellent" (Tabachnick&Fidell, 2013). During the development of the scale, the criterion factor load value for the items was taken as 0.32. In addition, the difference between the load values of an item in two or more factors should be greater than 0.10. If the difference between the load values of an item in two factors is less than 0.10, this should be considered an overlapping item and these items should be removed from the scale.

In determining the number of factors in the scale, eigenvalue, explained variance ratio and scree plot criteria created based on the eigenvalues of the factors were taken into account (Büyüköztürk, 2016). For this, the number of factors was determined first, and the scree plot is given in Figure 1.

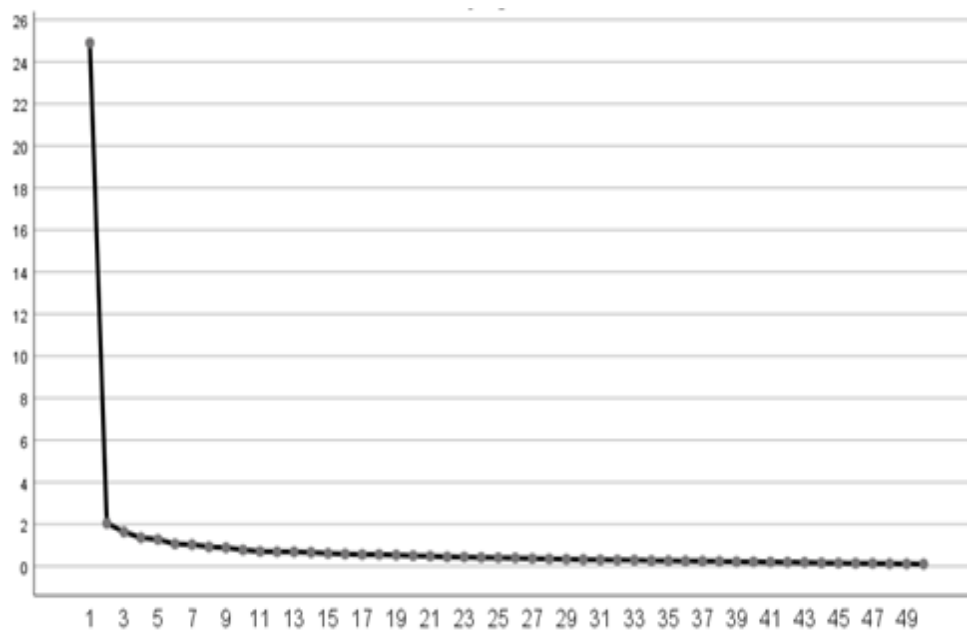


Figure 1. Scree Plot

According to the scree plot, it is seen that the eigenvalue of the first factor is considerably higher than the other factors. The eigenvalues of the second and third factors also seem to be greater than 1. In addition, the rate of variance explained by the first factor in the unrotated principal components analysis was found to be 49.79%. In addition, the variance contribution rate of the first, second, and third factors to the total is 57.15%. In such a case, it may be decided to determine the number of factors as one. The varimax vertical rotation method was used as a result of the reconstructed EFA considering the single factor structure. According to the results obtained from the analysis, 10 items were overlapping items. These items were excluded from the analysis and EFA was performed again. As a result of the analysis, it was seen that seven more items were overlapped and these items were also excluded from the analysis. After a total of 17 items were excluded from the analysis, the 33-item scale was finalized. As a result of the analysis, it was concluded that the KMO coefficient was 0.957 and the Barlett Test of Sphericity was significant ($X^2 = 6904,504; p < 0.00$). The factor loading values of the items and the variance ratios explained by the eigenvalues of the factors are given in Table 3.

Table 3. EFA Results Obtained for Teachers' Professional Value-Oriented Life Scale

Items	Factor 1	Factor 2	Factor 3
Item 10	,547		
Item 14	,663		
Item 19	,550		
Item 21	,645		
Item 22	,684		
Item 23	,656		
Item 24	,692		
Item 25	,682		
Item 27	,763		
Item 28	,677		
Item 29	,681		
Item 30	,760		
Item 31	,711		
Item 32	,666		
Item 33	,680		
Item 34	,733		
Item 35	,800		
Item 36	,680		
Item 37	,775		
Item38	,661		
Item 49	,582		
Item 1		0,674	
Item 2		0,553	
Item 3		0,766	
Item 4		0,761	
Item 5		0,750	
Item 6		0,602	
Item 7		0,622	
Item 8		0,458	
Item 15			,669
Item 17			,528
Item 40			,818
Item 42			,632
Eigenvalue	15,954	1,906	1,366
Explained Variance (%)	48,347	5,776	4,140
Total Variance Explained (%)		58,262	

According to Table 3, in the three-factor measurement model, the eigenvalue of the first factor was 15,954 and the variance rate it explained was 48,347%. The eigenvalue of the second factor was 1.906 and the variance rate it explained was 5.776. The eigenvalue of the third factor is 1,366 and the variance rate explained is 4,140%. The total variance rate explained by all three factors is 58.262%. According to Tavşancıl (2014), total variance rates ranging from 40% to 60% are considered sufficient in analyses performed in social sciences. In this respect, it is accepted that the variance rate of 58.262% explained by all three factors is sufficient.

When the factor loading values of the items were examined, the factor loading values of twenty-one items under the first factor were between 0.547 and 0.800; the factor loading values of the items in the second factor consisting of eight items were between 0.456 and 0.766; and the factor load values of the items in the third factor, which consists of four items, varied between 0.528 and 0.818. The first factor was named "**Caring for a Professional Value-Oriented Life**", the second factor was named "**Adopting a Professional Value-Oriented Life**", and the third factor was named "**Professional Value-Oriented Life as a Guiding and Protective Element**".

In order to determine the distinctiveness of the factors of the developed scale, an unrelated samples t-test was applied to the data of Study Group 1, where EFA was performed, and item-scale total correlations were calculated. For item discrimination, factor scores were calculated, and 27% of groups (Upper: 81 individuals, Lower: 81 individuals) were formed as upper-lower groups. The total scores of the participants in the upper and lower 27% slices were compared for each factor with the t-test for unrelated samples. The results of the upper-lower group t-test for the factor and scale total scores are given in Table 4.

Table 4. T-Test Results of Scale Factor and Total Scores by Upper and Lower Groups

Factor	Groups	N	\bar{X}	sd	t test
Factor 1	Upper	81	104.79	0.41	23.69*
	Lower	81	79.94	9.43	
Factor 2	Upper	81	39.49	0.63	26.32*
	Lower	81	29.26	3.44	
Factor 3	Upper	81	19.54	0.07	30.26*
	Lower	81	12.81	1.90	
Total	Upper	81	162.49	2.20	25.85*
	Lower	81	124.16	13.16	

* p<0.01

When the t-test results in Table 4 are examined, it is seen that there is a statistically significant difference between the means of all groups of upper 27% and lower 27%, which were determined separately to determine the distinctiveness of the factor and total scores (p< 0.01). Similarly, the upper group-lower group unrelated samples t-test was used to examine the discrimination of the items. In addition, item-total score correlations were calculated between item scores and factor scores. The analysis results obtained are shown in Table 5.

Table 5. Item-Total Correlation of Scale Items and Upper-Lower Group T-Test Results

Factor I			Factor II		
Items	r	Upper-Lower Group T-Test	Items	r	Upper-Lower Group T-Test
Item 10	0.65*	12.46*	Item 1	0.71*	14.14**
Item 14	0.77*	16.05*	Item 2	0.67*	13.20**
Item 19	0.66*	9.43*	Item 3	0.77*	13.99**
Item 21	0.81*	17.99*	Item 4	0.76*	15.24**
Item 22	0.74*	14.03*	Item 5	0.83*	17.50**
Item 23	0.80*	16.27*	Item 6	0.74*	14.75**
Item 24	0.80*	18.06*	Item 7	0.68*	14.16**
Item 25	0.77*	16.80*	Item 8	0.60*	13.79**
Item 27	0.78*	12.60*	Factor III		
Item 28	0.77*	14.41*	Item 15	0.80*	16.34**
Item 29	0.76*	16.33*	Item 17	0.75*	14.75**
Item 30	0.84*	19.01*	Item 40	0.81*	17.96**
Item 31	0.81*	18.48*	Item 42	0.71*	14.08**
Item 32	0.74*	13.06*			
Item 33	0.75*	13.01*			
Item 34	0.80*	14.64*			
Item 35	0.80*	13.74*			
Item 36	0.70*	10.57*			
Item 37	0.77*	12.61*			
Item 38	0.75*	16.84*			
Item 49	0.73*	13.52*			

* p<0.01

In order for the items to distinguish individuals in terms of the measured feature, the results of the upper group-lower group unrelated sample t-test should be significant and the correlation value between the item and the factor total score should be above 0.20 (Büyükoztürk, 2016). When Table 5 is examined, it is seen that the upper-lower group t-test results of 21 items under the first factor are significant (p≤ 0.01) and the item-scale total correlation values vary between 0.65 and 0.84. It is seen that the upper-lower group t-test results of 8 items under the second factor are significant (p≤0.01) and the item-scale total correlation values of the items under the second factor vary between 0.60 and 0.83. Similarly, the upper-lower group t-test results of the 4 items under the third factor were significant (p ≤0.01) and the item-scale total correlation values of the items

under the third factor varied between 0.71 and 0.81. In this way, since both the correlation values between the item factor total scores and the results of the upper group-subgroup unrelated sample t-test are significant, it can be said that the items' ability to measure the required feature is high.

Pearson's Product-Moment Correlation analysis was performed to determine whether there is a significant relationship between the factors in the developed scale and the total scores. The correlation results obtained as a result of the analysis are given in Table 6.

Table 6. Correlation Results Between Factors and Total Scores

Factor	Factor 1	Factor 2	Factor 3
Total Scale	0.97*	0.84*	0.76*
Factor 1		0.70*	0.65*
Factor 2			0.60*

* $p < 0.01$

When Table 6 is examined, the highest correlation between the factors in the developed scale and the scale total is between Factor 1 and the scale total score ($r=0.97$; $p < 0.01$). The correlation between the first factor and the second factor ($r=0.70$; $p < 0.01$) and the correlation between the first factor and the third factor ($r=0.65$; $p < 0.01$). Finally, the correlation between the second factor and the third factor was also found ($r=0.60$; $p < 0.01$). This shows that all of the factors are in the same structure.

Findings Regarding the Reliability of the Scale

After the construct validity of the scale was ensured with EFA, Cronbach's Alpha coefficients were calculated for the whole scale and its factors over Study Group 1 data in order to calculate the reliability of the developed scale. The factors in the scale and the reliability coefficients obtained for the whole scale are shown in Table 7.

Table 7. Cronbach Alpha Coefficients Obtained for the Whole Scale and Each Factor

Factor	Item Number	Cronbach's Alpha Consistency Coefficient(α)
1. Factor 1	21	0.96
2. Factor 2	8	0.86
3. Factor 3	4	0.77
Total	33	0.98

When Table 7 is examined, it is seen that the reliability coefficient obtained for the first factor is 0.96, 0.86 for the second factor and 0.77 for the third factor. Finally, the reliability coefficient obtained for the whole scale is 0.98. It is seen that the reliability coefficients obtained are higher than 0.70. According to Büyüköztürk (2016), a Cronbach Alpha coefficient above 0.70 is considered sufficient for reliability. Accordingly, it can be said that the reliability of the developed scale is quite high.

Validity Findings Obtained from Confirmatory Factor Analysis (CFA)

For the construct validity of the scale developed within the scope of the research, a three-factor model structure was obtained as a result of the EFA conducted on the data of Study Group 1. In order to verify this model structure obtained, CFA was performed on the data of Study Group 2. Accordingly, it was tested whether the three-factor model structure obtained as a result of CFA and EFA was confirmed or not. When CFA is used for scale development or trial purposes, it is assumed that there is a correlation between the items representing the factors and analysis is performed by releasing all parameters. CFA is especially useful in developing and editing measurement tools and reviewing studies (Büyüköztürk, 2016). The basis of confirmatory factor analysis is based on the structural equation model and is considered hypothesis testing. The compatibility of the model revealed with CFA with the data is evaluated (Şencan, 2005).

First, the compliance of Study Group 2 data with CFA was tested. For this, the Kaiser-Meyer-Olkin (KMO) coefficient was calculated and the Barlett's sphericity test was performed. The results of the analyzes ($KMO=0.970$; $X^2=15021,560$; $p=0.00 < 0.05$) were obtained. The fact that the obtained KMO value is higher than 0.90 and the Barlett's sphericity test is significant indicates that the items have a sufficient sample size for CFA (Leech, Barrett, & Morgan, 2005). In order to test whether there is a multivariate outlier within the scope of

CFA, the Mahalanobis distances of the items were examined, and it was seen that there were no extreme values. The fact that the correlation values between the items are between 0.70 and 1.00 indicates the problem of multicollinearity. As a result of the analysis, it was revealed that the correlation values between the items were not above 0.70, therefore there was no multicollinearity problem between the items.

In the next stage, the analysis was started after the assumptions that had to be provided for the CFA. The maximum likelihood estimation method was used in the estimation of the parameters in the CFA. The compatibility of the model created with DFA with the data is checked, and the compatibility of the model with the data is tested. Goodness-of-fit statistics such as the ratio of chi-square to degrees of freedom (χ^2/sd) and root mean square error of approximate errors (RMSEA) were used to verify a 3-factor model of the scale, which was developed as a result of EFA, in CFA. In this context, the fit index values obtained from the CFA are given in Table 8.

Table 8. Indexes Used in DFA and Index Criteria Values

Indexes	χ^2	<i>sd</i>	χ^2/sd	RMSEA	GFI	AGFI	CFI	NFI	NNFI
Compatibility Values	1509.02	492	3.06	0.049	0.99	0.99	0.99	0.99	0.99
Acceptable Compatibility Values			≤ 5	≤ 0.08	$0.85 \leq$	$0.85 \leq$	$0.85 \leq$	$0.85 \leq$	$0.85 \leq$
Good Compatibility Values			≤ 3	≤ 0.05	$0.90 \leq$	$0.90 \leq$	$0.90 \leq$	$0.90 \leq$	$0.90 \leq$

When Table 8 is examined, the ratio of chi-square to degrees of freedom was found to be 3.06. If this value is 3 or less, it is a good model, and a value of 5 or less indicates that the model is in an acceptable fit. The RMSEA value was found to be 0.049 as a result of the analysis, and a value less than 0.05 indicates a good model fit (Anderson & Gerbing, 1984; Cole, 1987; Marsh, Balla, & McDonald, 1988). In addition, the GFI, AGFI, CFI, NFI and NNFI values, which are expressed as goodness fit indices, are found to be 0.99, which is very close to 1, indicating that good fit values are obtained (Jöreskog & Sörbom, 1993; Marsh & Hocevar, 1988). It can be said that the model-data fit is achieved because the index values obtained meet the criterion values. The path diagram showing the standard factor load values and error variances of the model established for the "Professional Value-Oriented Life of Teachers" scale developed within the scope of the research is presented in Figure 2.

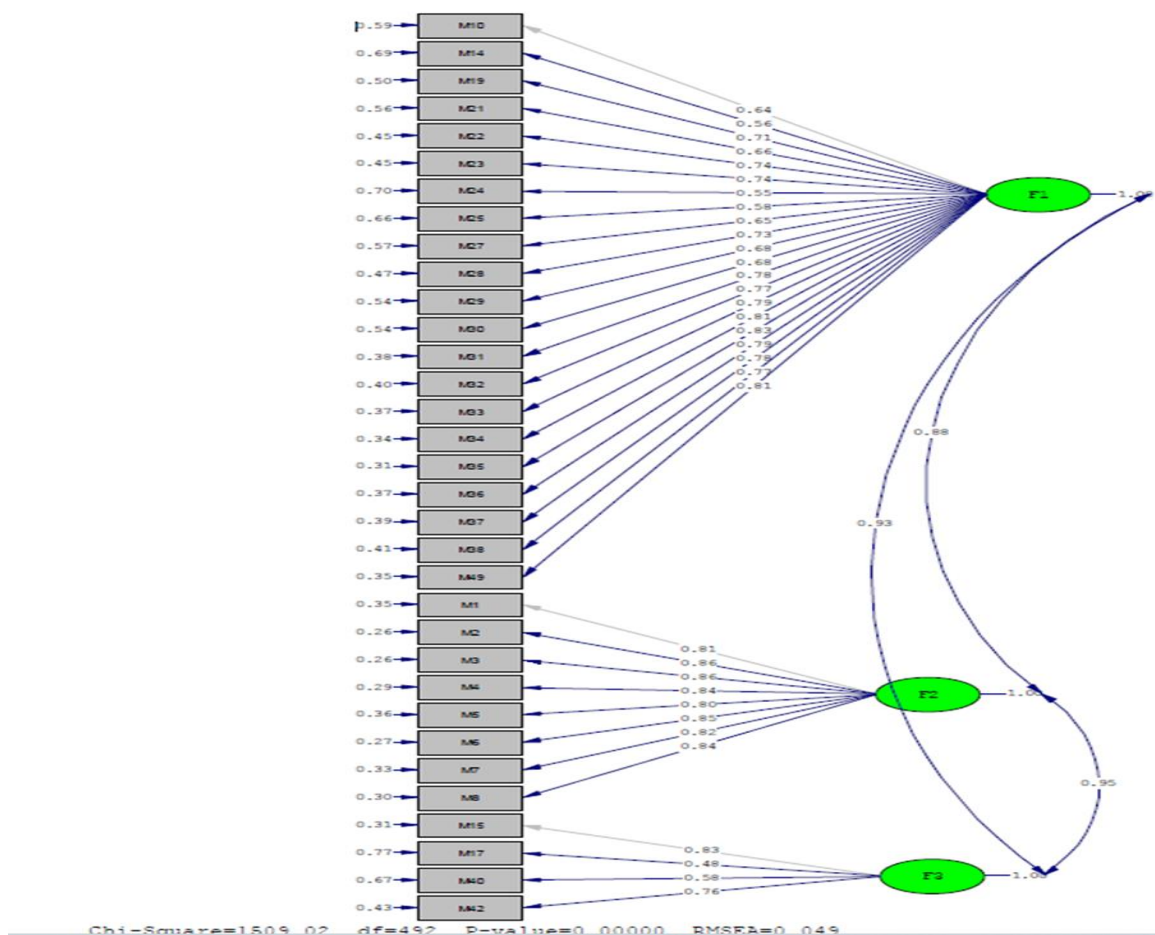


Figure 2. Path Diagram for the Measurement Model

When the load values of the items under each factor regarding the measurement model in Figure 2 are examined, it is seen that the standard factor loading values of the items under the "First Factor" are between $\lambda=0.55-0.83$ and the error values are between $\epsilon=0.31-0.70$. In the "Second Factor", it is seen that the factor load values of the items are between $\lambda=0.80-0.86$ and the error values are between $\epsilon=0.26-0.36$. In the "Third Factor", it is seen that the factor load values of the items are between $\lambda=0.48-0.83$ and the error values are between $\epsilon=0.31-0.77$. The fact that the factor load values of the items under each factor are higher than 0.32 and the error variances are lower than 1.96 indicates that the validity of the items is high (Çokluk, Şekercioğlu, & Büyüköztürk, 2016). Thus, it can be stated that the items in the model represent the relevant structures well. According to these results, the construct validity of the scale developed with CFA was confirmed.

Conclusion, Discussion and Recommendations

Professional values of teachers are among the subjects on which many studies have been carried out in recent years. When the literature is examined, it is seen that there are studies on determining the professional values of teachers or novice teachers, measuring the level of having these values, values education and their practices (Bozgeyikli, Derin, & Toprak, 2016; Duman, 2016; Oğuz, 2012; Tombul&Çelik, 2014; Tunca, AlkınŞahin and Oğuz, 2015; Tunca and Sağlam 2013). It can be said that these studies mostly focus on the dimensions of determining professional values, rating, value ranking, value perception and orientation. However, beyond these dimensions, the extent to which teachers reflect their professional values in their behaviors and whether they lead their lives in harmony with their values are among the important variables because teachers do not only aim to provide their students with academic knowledge and skills. Along with these, they also aim to contribute to the affective development of their students and to provide them with national, spiritual, moral, cultural and universal values, norms and principles (Çetin, 2018). It can be said that this can only be achieved by teachers who have adopted their professional values, whose professional identity

adds meaning to their life, and whose personal values and behaviors do not conflict with their professional values. In this context, a scale consisting of 33 items with a three-factor structure was developed to determine teachers' professional value-oriented life tendencies. In the scale development process, the literature was taken as a basis and the scale development stages were followed. The pre-test form of the developed scale was applied to 25 teachers and necessary corrections were made after the application. Afterwards, EFA, in which the factor structure of the scale was revealed, was applied to 300 teachers called study group 1. CFA, which was conducted to provide additional evidence for the construct validity of the scale, was obtained from the data obtained from the teachers in study group 2, which consisted of 875 people.

The Kaiser-Meyer-Olkin (KMO) and BarlettSphericity test values, which were made to test the EFA suitability of the data, were calculated, and the upper group-lower group unrelated sample t-test was used to distinguish the individuals in terms of the measured feature. Upper-lower group t-test results of items belonging to all factors of the scale were found to be significant ($p < 0.01$). In addition, the item-scale total correlation values of the items under the 1st, 2nd and 3rd factors were 0.65 and 0.84, respectively, and 0.60 to 0.83. It was observed that it varied between 0.71 and 0.81. Since both the correlation values between the factor total scores and the results of the upper group-subgroup unrelated sample t-test are significant, it can be said that the items have a high level of ability to measure the feature to be measured. The Cronbach Alpha internal consistency coefficient was 0.98 for the overall scale, 0.96 for the 1st sub-factor, 0.77 for the 2nd sub-factor, and 0.86 for the 3rd sub-factor. In line with the results, it can be said that the reliability of the developed scale is quite high because the Cronbach Alpha coefficient is above 0.70 (Büyüköztürk, 2016).

The Kaiser-Meyer-Olkin (KMO) coefficient was calculated and the BarlettSphericity test was performed to test the CFA suitability of the scale based on the Study Group 2 data. According to the results of the analysis (KMO=0.970; $X^2 = 15021,560$; $p = 0.00 < 0.05$), the fact that the KMO value is higher than 0.90 and the BarlettSphericity test is significant indicates that the items have a sufficient sample size for CFA (Leech, Barrett, & Morgan, 2005). Another assumption that needs to be tested for CFA is the determination of multivariate outliers. For this reason, Mahalanobis distances of the items were examined and it was seen that there were no extreme values. Since the correlation values calculated to test whether there was a multicollinearity problem between the items were not above 0.70, it was observed that there was no multicollinearity problem between the items.

The ratio of chi-square to free degree was found to be 3.06 and the RMSEA value was 0.049 for the scale of "Teachers' Tendency to Professional Value-Oriented Life", and a value less than 0.05 indicates a good model fit (Anderson & Gerbing, 1984; Cole, 1987; Marsh, Balla and McDonald, 1988). In addition, the GFI, AGFI, CFI, NFI and NNFI values, which are expressed as goodness of fit indices, are found to be 0.99, which is very close to 1, indicating that good fit values are obtained (Jöreskog & Sörbom, 1993; Marsh & Hocevar, 1988). Since the index values obtained meet the criteria values, it can be said that the data compatibility is achieved in the model. The fact that the load values of the items under each factor regarding the measurement model are higher than 0.32 and the error variances are lower than 1.96 indicates that the validity of the items is high (Çokluk, Şekercioğlu, & Büyüköztürk, 2016). Thus, it can be stated that the items in the model represent the relevant structures well. According to these results, the construct validity of the scale developed with CFA was confirmed.

It is considered important for teachers to guide their students, colleagues and society by adopting their professional values and reflecting on their behaviors. In this context, *the Professional Value-Oriented Life Tendency Scale of Teachers* was developed to fill a gap in the field. The scale is in the five-point Likert style and has a scale of "1. Never, 2. Rarely, 3. Sometimes, 4. Often, 5. Always". It can be said that the scale developed according to the results obtained is a measurement tool with the necessary psychometric properties that can be used to determine the professional value-oriented life tendencies of teachers. The study is limited to the data obtained from the teachers working in public schools in the central districts of Ankara in the 2020–2021 academic years. By applying the developed scale to different and larger sample groups, evidence that will contribute to the improvement in terms of measurement reliability can be obtained.

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