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Scale of professional ethics for individuals working in the field of special education: validity and reliability study

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Abstract

Professional ethics includes the principles set forth by professional associations and accepted as correct by discussions over time, and which has become the sine qua non of a profession today. Professional ethics are established to increase the quality of professional practices and ensure correct and honest conduct. Not having professional ethical principles for the special education field negatively affects the quality of services. The purpose of this study was to develop a scale of principles in professional ethics for specialists and educators working in special education and to conduct its validity and reliability studies. For construct validity studies following Kaiser-Meyer Olkin test, factor analysis was performed. The analysis showed that ethical principles were gathered in two dimensions as 'importance and compliance of colleagues' and had a two-way Likert type. The findings showed that the scale is a valid and reliable tool that can be used in special education.

Keywords: Special education, individuals working in special education, professional ethics, ethical principles.

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1. Introduction

Ethics is a scientific discipline that tries to create ideals and norms by questioning the moral behaviours and aims to help individuals, institutions and experts make decisions by enabling them to distinguish right from wrong (Bersoff & Koeppl, 1993). Guiding norm systems differ regarding each discipline in the social life. One of these disciplines is 'Professional Ethics'. Professional ethics includes all the principles that have been set forth by professional associations and accepted as correct by discussions over time, and which has become the sine qua non of a profession today. The reason for establishing professional ethics is to increase the quality of professional practices and to ensure correct and honest conduct in practices (Aydin, 2006; Bersoff & Koeppl, 1993; Kucuradi, 2000; Kultgen, 1988; Strike, 1990; Tsalikis & Fritzsche, 1989). Members of the profession in which ethical principles are established move away from their personal preferences and do their practices in the framework of respect for the different characteristics and needs of their professional service areas. Although general qualifications for the teaching profession and special qualifications for the special education field have been established in our country, not having professional ethical principles for the special education field negatively affects the quality of services and this might lead to the differentiation in professional practices and incorrect practices. Since there is a need for professional ethical principles which are based on ethical appropriateness of conduct and practices, the problem in this study constitutes what the professional ethical principles in the field of special education should be, the degree of importance of these principles, and examining the extent of compliance of individuals working in special education to these professional ethical principles according to experts, as well as to form a measurement tool.

Ethical principles should be identified considering the profession's field of study, conditions, universally acceptable rules and cultural values. In the United States of America, at the first meeting of the Council for Exceptional Children in 1922, the understanding of qualitative service and professional ethical principles of special education field were established. These principles, which were accepted until 1965, were published as 12 basic principles with their reorganisation in 1981 and 2010. By providing the opportunity to make progress based on performance and professional development, ethical principles serve as a guide for special education teachers (Council for Exceptional Children, 2009). The ethical principles help individuals working in special education to act in conjunction as well as enable the individuals to make these principles a part of their lives, to cooperate and gain experience (Harrison & Killion, 2007; Strong, 2006). There are various elements that affect the establishment and development of ethical principles peculiar to the professions. In the teaching profession, the education process and the teacher education programmes are considered an essential element. Accordingly, becoming a professional teacher includes the pre-service education process and the qualifications in professional practice. These qualifications based on performance make individuals become aware of their strengths and to establish their control mechanisms. Professional qualifications of special education constitute a system based on accountability, and they create integrity with ethical principles in practice. This integrity increases the importance given to the teaching ethics in teacher education programmes (Council for Exceptional Children, 2009; Teacher Training Agency, 1999).

Professional ethical principles, which are considered as the basis for the protection of rights of the individuals who receive the services are defined as professionalism, responsibility in service, justice, equality, creating a healthy and safe environment, non-corruption, honesty, trueness and trust, objectivity, professional commitment and continuous development, and efficient use of sources (Aydin, 2006). In our country, professional ethical principles in the field of special education have not been established; however, as a basis for the establishment of these ethical principles, specific qualifications for the special education field are defined. The general qualifications for the teaching profession are indicated as the knowledge, skills and attitudes which individuals need to have to effectively and efficiently fulfill the teaching profession, whereas specific qualifications for a field are considered as the knowledge, skills and attitudes that are peculiar to a certain field that the individuals working in that area need to have to effectively and efficiently fulfill that profession (Ministry of National Education [MoNE: Milli Egitim Bakanligi, 2008]. On the other hand, the view that personnel

working in the special education field must cooperate according to the common principles is supported by the findings of research studies, which are based on the relationship between professional practices and ethics. It is suggested that in teacher education programmes there must be ethics education to establish ethical principles that contribute to the profession's quality and practices (Council for Exceptional Children, 2009; TTA, 2006).

In their study about the perception of the personnel working at the schools and commitment to the principles of their professional practices of the counsellors Hildebrand, Saklofske, Von Baeyer and Yackulic (1995) found that the counsellor who had knowledge awareness related to the professional ethical principles regarded ethical principles as important, when their degree of regarding the principles as important increased their competence in working in the school guidance service also increased. It was also suggested that knowledge and awareness degree was also effective in the decision-making process of the counsellors related to their clients. In a study conducted by Rice and Stein (2009), where the purpose was to identify the ethical degree of special education teachers, the researchers collected the data based on Defining issues test (DIT) which consisted of case studies related to ethics and was a Likert type scale. Data were obtained from the teachers who were working in schools from low–middle–high socioeconomic levels and filled the DIT, which was prepared based on Kohlberg's Moral Theory, consisted of case studies related to ethical principles, and required participants to indicate their opinions were analysed in terms of age, years of working in the field of special education, degree of graduation and professional length of service. This first study which identified the ethical perception of special education teachers compared the results with the results of previous studies in which different versions of DIT were used to determine ethical perceptions of general education teachers. While the ethical perception levels of the special education teachers were lower than the general education teachers, there was a relationship between the degree of teachers' need for ethical principles and their beliefs in these principles' importance. In both the research studies, to create awareness related to the ethics, it was emphasised that teacher education programmes must have courses related to the topic. When the findings are considered that indicate that the ethical principles would contribute to the quality of practices in special education, it is noteworthy that a critical step has also been taken in our country. In this regard, the Undergraduate Program for Special Education Teachers included a course on 'Ethics' in the 2016–2017 academic year (YOK, 2016).

Although there are legislative arrangements related to ethics and qualifications for teachers educated in the field of special education, not having established ethical principles leads to differentiation in the practices, and inability to evaluate whether teachers working in this area are acting by ethical principles. With the establishment of ethical principles, it is expected that the quality of the practices in special education will increase and ethical culture and sensitivity will develop. For this reason, establishing ethical principles and developing a tool to evaluate ethical principles for special education experts and teachers seems to be a problem situation.

2. Purpose of the study

It is thought that by having a consensus among the majority of the experts and special education teachers and generating ethical principles may be effective in increasing the quality of practices in special education. It is expected that generation of ethical principles will contribute to increasing awareness in this area.

Moreover, even if it is important to identify professional ethical principles, it is also necessary to develop a tool that identifies the professional ethical degree of experts and teachers working in the field of special education in our country as well as the importance of ethical principles and compliance of individuals working in this area to these principles. For this reason, the general purpose of this study was to identify professional ethical principles of special education in the direction of opinions of teachers and experts working in the field of special education by determining the importance and compliance of the individuals working in this area regarding these principles. Moreover, in the

direction of this general purpose, to establish the degree of professional ethics of special education teachers and experts, it was aimed to develop 'Scale of Professional Ethical Principles for Individuals Working in Special Education' and conduct its validity and reliability studies. By reflecting the ethical principles identified in this study to teacher education programmes, teachers would be more qualitatively educated.

3. Method

The survey model was used in this study in which the purpose was to identify professional ethical principles of special education field according to the opinions of experts and teachers working in the field. This study, which was conducted with the survey model, aims to describe an existing situation in which both quantitative (causal-comparative research) (Buyukozturk, Cakmak, Akgun, Karadeniz & Demirel, 2008) and qualitative methods (content analysis) (Karasar, 2006; Yildirim & Simsek, 2005) were used.

4. Study group

The study group consisted of experts and teachers working in the field of special education in Turkey. A total of 285 participants completed the scale in full that were electronically sent to their e-mails; their characteristics are shown in Table 1.

Table 1. Demographical characteristics of participants.

Participant characteristics		***N***	**%**
Age	Between 22 and 32-years old	174	61.1
	Between 33 and 43-years old	78	27.4
	Between 44 and 54-years old	21	7.4
	Between 55 and 65-years old	12	4.2
	Total	285	100
Gender	Female	183	64.2
	Male	102	35.8
	Total	285	100
Education	Undergraduate	162	56.8
	Master's degree	75	26.3
	Ph.D.	48	16.8
	Total	285	100
Undergraduate programme graduated	Special education	199	69.8
	Guidance and psychological counselling	15	5.3
	Elementary school teacher education	34	11.9
	Child development	10	3.5
	Other (psychology, sociology, social work)	27	9.5
	Total	285	100
Master's programme graduated	Special education	99	34.7
	Guidance and psychological counselling	5	1.8
	Child development	12	4.2
	Other (psychology, child health and education, preschool, adult education, elementary school teacher education)	11	3.9
	Total	127	44.6
Ph.D. programme graduated	Special education	46	16.1
	Educational sciences	2	0.7
	Other (physiotherapy and rehabilitation, preschool education, psychology)	4	1.4

	Total	52	18.2
Professional length of service (year)	1–5	143	50.2
	6–10	54	18.9
	11–15	42	14.7
	16–20	21	7.4
	20 and more	25	8.8
	Total	285	100
Organisation/institution	Guidance and research centre	19	6.7
	Special education and rehabilitation centre	108	37.9
	Special education school	35	12.3
	Vocational school	17	6.0
	University	87	30.5
	Other (working at a private school or as a consultant)	19	6.7
	Total	285	100
Ethical committee membership	Yes	21	7.4
	No	264	92.6
	Total	285	100
Course on ethics	Yes	99	34.7
	No	186	65.3
	Total	285	100
Certificate on ethics	Yes	139	48.8
	No	146	51.2
	Total	285	100
Book read related to ethics	Yes	62	21.8
	No	223	78.2
	Total	285	100
Scientific activity	Yes	38	13.3
	No	247	86.7
	Total	285	100

Table 1 shows the majority of the participants between 22 and 65-years old (X = 32.01; SD = 8.77) had an age range of 22–43 (174 had an age range of 22–32 (61.1%) between 22 and 32-years old, 78 were (27.4%) 33–43-years old). The majority of the study group consisted of females, 183 were females (35.6%), 102 were males (64.2%). A total of 162 individuals were graduates of undergraduate programmes (56.8%), 75 were graduates of master's programmes (26.3%) and 48 were graduates of doctorate programmes (16.8%). According to the undergraduate programmes, 199 participants were graduates of special education (69.8%), 15 were graduates of guidance and psychological counselling (5.3%), 34 were graduates of elementary school teacher education (11.9%), 10 were graduates of child development (3.5%) and 27 were graduates of either from psychology, sociology or social service (11.9%).

Of 127 participants (44.6%), 99 had a master's degree in special education (34.7%) and five had a master's degree in guidance and psychological counselling (1.8%). Of 52 participants with a Ph.D. degree (18.2%), 46 had a degree in special education (16.1%) and two had a degree in educational sciences (0.7%). For experience, 143 participants had 1–5 years of service (50.2%) and 25 had 20 years or more of service (8.8%). A total of 19 participants were working at guidance and research centres (6.7%), 108 were working in a special education and rehabilitation centre (37.9%), 87 were working at a university (30.5%). A total of 21 individuals had an ethical committee membership (7.4%), whereas 264 did not have such membership. A total of 99 participants had a course related to the ethics before (34.7%), whereas 186 did not have any courses related to this topic (65.3%).

5. Development of the data collection tool

The data collection tool, which was developed by the researchers to identify the professional ethical principles in the field of special education, according to the opinions of experts, has three sections. The first section is 'Demographical Information Form', the second section is 'Importance of Professional Ethical Principles and Compliance Degree of Colleagues', and the third section is 'Open-Ended Questions Form'.

5.1. Demographical information form

This form was prepared to collect data related to variables such as the participant's age, gender, education, as well as the programme graduated, professional length of service (in years), the organisation/institution worked and whether they had knowledge related to ethics (workshops, seminars and conferences attended; reading a book, or getting a certificate and so forth). On the question of education, the participants were asked whether they were a graduate of an undergraduate, a master's or a doctorate programme, for organisation/institution they were asked to indicate whether they worked at a guidance and research centre, Special Education and Rehabilitation centre, Special Education School, Vocational School, University, Private School, or as a consultant, for Ethical Committee Membership they were asked to specify whether they worked on a committee for ethics.

5.2. The scale of professional ethical principles for individuals working in special education

The scale, which was developed to identify the importance of professional ethical principles of special education for individuals working in the field of special education and their compliance with these principles, had 33 items. In the development of the scale, first, 'National Standards and Ethical Principles for Special Educational Needs Specialists' (Teacher Training Agency, 2009) which was prepared in 1999 and 2009 by 'England Teacher Training Agency' (Teacher Training Agency, 1999) and Council for Exceptional Children (2010) that were supported by the evidence-based applied research findings since 1922, were examined. Second, special education policies of different countries (European Union member countries and OECD countries), educational policy in Turkey and legislative regulations were comparatively examined. Lastly, based on this knowledge an item tool was formed by the researchers based on discussions.

For the content validity of the scale, the researchers consulted the opinions of the experts. The experts were academicians who had academic knowledge and experience about special education and were working at public universities in which undergraduate and graduate education was being currently offered. Experts examined the scale items regarding intelligibility and suitability for the target groups. According to expert opinion, content validity ratio (CVR) was estimated by calculating the percentages of approval of each item (agreement among experts). The experts indicated their opinions for each item as 'appropriate', 'not appropriate', and 'should be changed' as they selected the option of 'appropriate' for the items that they thought were totally appropriate; for the items that they thought were totally inappropriate and had to be removed from the scale they selected the option of 'inappropriate', and when they thought the item was generally inappropriate for the scale but some changes were necessary they selected the option of 'should be modified'. Moreover, they indicated their suggestions in the section on comments. The CVR according to the expert opinions was calculated by the formula (CVR = NN/N2) − 1 (the number of experts who indicated that the item was 'appropriate' and necessary/total number of experts who rated the item ÷ 2) − 1 and the CVR was found to be 85%. The initial scale which consisted of 27 items was sent to the experts to gather expert opinions, and they recommended that it had more than one judgment and they needed to be separated into two different items. Therefore, the researchers arranged these six items divided into two distinct statements. As a result, since these six statements were rearranged as 12 items, the data collection tool finally had 33 items. Since there was a limitation of reaching the same participants

when data was collected at different times, the data collection tool which consisted of 33 items was simultaneously sent to experts to examine the expert opinions related to the dimensions of importance and compliance to ethical principles. Having collected expert opinions in the development of the scale, construct validity studies were conducted.

6. Data collection and analyses

The development of data collection consists of two different applications. In the pilot application, 285 experts and teachers answered the scale. For the analysis of data, factor analysis was utilised. Before conducting a factor analysis, the assumptions of factor analysis were tested. First, Kaiser-Meyer-Olkin (KMO) value which gives information related to the sample size and Barlett Test results were examined. The results of the Barlett Test of Sphericity are used to determine whether the relationships in the correlation matrix are significant. The factors which had eigenvalue more than 1 were considered and the items which had factor loadings at least 0.32 were chosen for the main scale (Tabachnick & Fidel, 2001). All the participants, 285 special education experts and teachers filled in the scales with due diligence. The researchers contacted the special education experts via social media, telephone, electronic mail or face to face. Data related to the scales were analysed to conduct validity and reliability studies, including principal component analysis, total item correlation and Cronbach's Alpha value, which means internal consistency. Data were analysed by the SPSS 18 program.

7. Results and discussion

In the development of Scale of Professional Ethical Principles for Individuals Working in Special Education, a similar planning to the scaling approach based on total ratings defined by Likert (1932) was considered and scale development processes were followed (Anastasi, 1988). Data were analysed to conduct validity and reliability studies, including principal component analysis, total item correlation and calculating Cronbach's Alpha, which means internal consistency.

Principal component analysis is frequently used in social sciences for scale development and to examine the construct validity of the scales. To be able to measure a psychological construct, the researcher tries to explain that construct or concept in measurable and observable variables (Buyukozturk, 2009). In this regard, the correlation coefficients between the variables and whether the dataset was appropriate for a principal component analysis were examined (Buyukozturk, 2009; Kalayci, 2009).

KMO Test is used to determine the appropriateness of the values gathered from the sample and whether the size of the dataset is appropriate for analysis. It is an index that compares the observed correlation coefficients and partial correlation coefficients. The KMO value should be more than 0.5 (Kalayci, 2009). The purpose is to obtain a few number of components that would represent the correlations between the variables to the maximum extent possible. How many components could be obtained is important. The most commonly used values to decide in this stage are eigenvalues and scree test graphics. For the Kaiser–Guttman principle components that have eigenvalues more than 1 are deemed significant and these components should be considered (Kalayci, 2009). Eigenvalue shows the ratio of covariance to the specific variance. If the value is more than 1, this means that by itself it explains more variance.

Scree Test Graphics is a graphic which shows the total variance related to each variance. Scree Plot was developed by Cattell (1966), and it is based on the drawing of eigenvalues (Albayrak, 2006; Ozdamar & Dincer, 1987).

8. Factor analysis

Factor analysis is a method used to transform related data structures into a few new data structures that are independent of each other; to group variables that are assumed to describe an

occurrence or a cause and reveal common factors, to group variables that affect an occurrence, and to define the major and minor factors (Ozdamar, 2004). Factor analysis can be used for different purposes. Some of them are to reveal relationships among variables, summarise data, measure and transform data, as well as hypothesis testing and analysis of cause and effect relationships (Baykul, 2000). Factor analysis is a method like the principal component analysis. In both analyses, there is data reduction. However, factor analysis has the characteristics to define the common factors by grouping the variables (Ozdamar, 2004). For conducting factor analysis, the sample size is critical, because there is sample sensitivity. Since there were 33 items to be analysed and a total of 285 participants in this study, the sample size was considered appropriate for factor analysis.

The characteristics of the measurement tool are also important in factor analysis. Before conducting the factor analysis in this study, first the outliers were checked in the dataset, Mahalonobis distances were calculated and outliers were analysed. As a result of this analysis, there was no participant below 0.01. Analyses were conducted with 285 participants. Before the interpretation of the values related to the factor analysis, KMO Test and Barlett Test were used to control the appropriateness of the sample size and test for the normality assumption. For 'Importance' dimension the KMO was 0.879 and Barlett test was significant; for 'Compliance of Colleagues' KMO was 0.953 and Barlett test was significant. If KMO is higher than 0.60 and Bartlett test is significant, it means the matrix that shows the relationships between the items is different from the matrix that has insignificant relationships (Buyukozturk, 2005; Tabachnick & Fidel, 2001). The analysis showed that the sample size was appropriate to continue conducting factor analysis (Kalayci, 2009). In the factor analysis, which is carried out to test the construct validity; to determine the number of factors, variance ratio, of which the eigenvalue is explained, and the scre/e test are examined. The eigenvalue is a coefficient that needs to be considered both in calculating the factors explaining the variance and in deciding the number of factors. To determine the number of factors as the result of the analysis, eigenvalues, explained variance and scree test graphics were considered. For the 'Importance' dimension KMO was 0.879 and Barlett test was 2732.504 with a significance of 0.000, whereas for the 'Compliance of Colleagues' KMO was 0.953 and Barlett test was 5929.611 with a significance of 0.000. The factor analysis procedures conducted for 'Importance and Compliance of Colleagues' sections of the 'Scale of Professional Ethical Principles for Individuals Working in Special Education' are described below.

8.1. Importance subscale

All the 33 items were included in the analysis for the initial 'Importance' subscale, and an exploratory factor analysis was conducted. When the results were examined, it was seen that KMO and Barlett showed that the scale was appropriate for carrying out a factor analysis (for 33 items KMO was 0.893 and Barlett test was 3944.684 with a significance of 0.000). The items explained at least 52% and at most 71% of the covariance. The items' explanation rate of the covariance was appropriate, and according to the anti-image matrix, there was no multi-collinearity problem. When the eigenvalues were examined, it was seen that there were eight dimensions with an eigenvalue more than 1. However, the scree plot showed that they might be gathered in one dimension. Later, the analysis was re-conducted by considering the first two dimensions considering the non-rotated analysis of the items, 33 items could load on more than one dimension among all the eight dimensions. Therefore, the rotated matrix was considered. According to the rotated matrix, I10, I16 and I23 items were loaded on more than one dimension, and these values of loading were close to each other. Therefore, they were decided to be removed from the scale. I5 was removed from the scale also, as it remained alone in one dimension. I1 and I2 were also removed because they could not form a factor together due to an insufficient number of items on that factor and analysis was conducted with six sub-dimensions. Having removed items (I1, I2, I5, I10, I16 and I23), the analysis was re-conducted with six dimensions, and the explained variance of the items was appropriate and the total variance explained was 57.79% for six dimensions. Item loadings changed between 0.442 and 0.700 and the values of the items according to the rotated matrix were examined. Since I19 had

similar values on two dimensions, it was removed from the scale, and the analysis was re-conducted. When this item was removed I30 and I22 remained in one factor, therefore, they were removed from the scale since they could not form a proper sub-factor and the analysis was re-conducted for the last time with five dimensions. A total of five dimensions were obtained so that the KMO value was 0.879 and Barlett test was 2732.504 with a significance of 0.000. The item loadings in five dimensions, as well as the explained variance by the 'Importance' dimension and eigenvalues, are given in Table 1. According to EFA, the researchers entitled the dimensions considering what the items measure in that dimension. For example, items on the first dimension (I17, I14, I18, I11, I6, and I15) were gathered under the general title of importance that they together measure, titles were given coherent with the literature.

Table 2. Variance explained by and eigenvalues of the items, percentage of the variance and total variance eigenvalues according to the analysis

Item	Eigenvalue	Variance %	Total variance %
1	7.893	32.886	32.886
2	1.822	7.591	40.477
3	1.503	6.264	46.741
4	1.394	5.810	52.551
5	1.116	4.651	57.201
6	0.957	3.989	61.191
7	0.929	3.871	65.062
8	0.805	3.353	68.451
9	0.786	3.276	71.691
10	0.740	3.085	74.776
11	0.700	2.915	77.690
12	0.667	2.780	80.470
13	0.583	2.430	82.900
14	0.542	2.257	85.158
15	0.507	2.113	87.271
16	0.452	1.884	89.155
17	0.453	1.811	90.965
18	0.425	1.772	92.738
19	0.363	1.513	94.251
20	0.330	2.375	95.626
21	0.303	1.264	96.890
22	0.274	1.143	98.033
23	0.240	1.000	99.033
24	0.232	0.967	100.00

When deciding on the number of factors, as well as explained variance and eigenvalues, the line graphics which show eigenvalue components were also examined. All the items until the graphics had a horizontal line were accepted as the maximum number of obtainable factors. To conduct the construct validity analysis, 'varimax' vertical rotation was used. When the factor loadings which were obtained after the analysis in the 'Importance' dimension were examined, it was seen that there were not any overlapping items. Factor loadings of items and principal component matrix are given in Table 3.

Table 3. Factor loadings and principal component matrix according to the analysis

Item	Components				
	1	2	3	4	5
I17	0.738				

I14	0.662				
I18	0.642				
I11	0.589				
I6	0.579				
I15	0.500				
I31		0.709			
I25		0.702			
I32		0.689			
I20		0.622			
I21		0.593			
I27			0.785		
I33			0.639		
I28			0.588		
I26			0.524		
I13				0.823	
I12				0.685	
I4				0.556	
I3				0.544	
I24				0.531	
I8					0.701
I9					0.692
I7					0.622
I29					0.600

As can be seen from Table 3, factor loadings of the items gathered under five sub-dimensions are between 0.820 and 0.500. A total of 24 items are distributed across five factors and the first factor under 'Importance' general dimension consists of I17, I14, I18, I11, I6 and I15, whereas the second factor has I31, I25, I32, I20 and I21, the third includes I27, I33, I28 and I26, the fourth has I13, I12, I4, I3 and I24 and the last one which is the fifth factor consists of I8, I9, I7 and I29. The sub-factors of 'Importance' general dimension were titled according to the literature and expert opinions as follows:

1. The first factor: I17, I14, I11, I6 and I15 (Principles Related to Responsibilities Towards the Special Education Field and Profession)
2. The second factor: I31, I25, I32, I20 and I21 (Principles related to responsibilities towards colleagues, individual with special needs and her/his family)
3. The third factor: I27, I33, I28, I6 and I26 (Principles related to responsibilities towards contributing to the quality of special education practices)
4. The fourth factor: I13, I12, I4, I3 and I24 (Principles related to responsibilities towards instructional modifications)
5. The fifth factor: I8, I9, I7 and I29 (Principles related to responsibilities towards contributing to the legal regulations in the special education field).

8.2. Compliance of colleagues sub-scale

All the 33 items were included in the analysis for the initial 'Compliance of Colleagues' subscale and an exploratory factor analysis was conducted. When the results are examined, it was seen that KMO and Barlett's test showed that the scale was appropriate for carrying out a factor analysis (KMO was 0.953 and Barlett test was 5929.611 with a significance of 0.000). The items' explanation rate of the covariance was appropriate, and according to the anti-image matrix, there was no multi-collinearity problem. When the rotated varimax technique was conducted for analysis, it was seen that uni-dimensional Exploratory Factor Analysis was more appropriate for the items. When the eigenvalues were examined, it was seen that the items were loaded on one dimension and the scree plot

confirmed that the scale may have one dimension. The total variance explained was 46% for one dimension and factor loadings were between 0.530 and 0.760. Factor loadings of all the items were more than 0.30. Therefore, it was concluded that all the items had acceptable loadings in one dimension. For 'Compliance of Colleagues' sub-scale, the explained variance of the items, eigenvalues and total variance explained are given in Table 4.

Table 4. Items' explained variance and eigenvalues, variance rate and total variance explained according to the analysis

Item	Eigenvalue	Variance %	Total variance %	Item	Eigenvalue	Variance %	Total variance %
1	15.060	45.636	45.636	18	0.460	1.393	86.827
2	1.847	5.598	51.234	19	0.426	1.291	88.118
3	1.540	4.666	55.900	20	0.400	1.211	89.329
4	1.289	3.906	59.806	21	0.378	1.146	90.475
5	0.949	2.875	62.681	22	0.370	1.122	91.597
6	0.890	2.698	65.379	23	350	1.060	92.657
7	0.737	2.233	67.612	24	0.317	0.962	93.618
8	0.719	2.179	69.791	25	0.298	0.902	94.520
9	0.683	2.071	71.862	26	0.275	0.833	95.354
10	0.633	1.919	73.781	27	0.270	0.818	96.171
11	0.600	1.817	75.598	28	0.255	0.774	96.946
12	0.592	1.795	77.393	29	0.240	0.726	97.672
13	0.573	1.735	79.128	30	0.220	0.668	98.340
14	0.552	1.673	80.801	31	0.201	0.608	98.948
15	0.518	1.571	82.372	32	0.190	0.575	99.524
16	0.509	1.544	83.916	33	0.157	0.476	100.000
17	0.501	1.518	85.434				

Factor loadings and principal component matrix according to the results of the analysis are shown in Table 5.

Table 5. Factor loadings and principal component matrix according to the results of the analysis

Item	1	Item	1
C15	0.758	C5	0.684
C24	0.753	C2	0.680
C20	0.741	C16	0.679
C33	0.723	C4	0.662
C31	0.723	C6	0.656
C12	0.720	C28	0.654
C29	0.717	C22	0.650
C32	0.715	C19	0.640
C21	0.712	C7	0.638
C3	0.710	C14	0.633
C11	0.706	C27	0.632
C13	0.699	C23	0.626
C26	0.697	C1	0.620
C17	0.691	C25	0.575
C18	0.690	C8	0.533
C30	0.689	C9	0.529
C10	0.688		

As can be seen from Table 4, 'Compliance of Colleagues' has a 33-item one-factor structure. When the factor loadings of the items are examined, the minimum loading was 0.530 (C9) while the maximum loading was 0.760 (C15).

9. Data Analysis

In this section, answers to two open-ended questions which were asked to the participants are described, having being analysed by stages of qualitative data analysis.

At the end of Scale of Professional Ethical Principles for Individuals Working in Special Education, the participants were asked to answer two open-ended questions: *What are the unethical situations that you encounter the most in special education practices?* and *What can be added to the ethical principles other than the ones included in the scale*? Of all 285 participants, 198 answered the first question related to the unethical situations that they faced in special education. However, they indicated that the ethical principles included in the scale were sufficient.

The answers to the open-ended questions were analysed by content analysis. The main purpose of the content analysis was to reach concepts and relationships that can explain the data collected. In the last step of content analysis, the obtained 'reliability analysis' between coders was conducted for themes and sub-themes (Yildirim & Simsek, 2011). Inter-coder reliability was done by calculating the reliability coefficient between coders related to the sub-themes obtained by experts knowledgeable about special education and qualitative research. The inter-coder reliability was calculated by the formula 'Reliability = [Agreement/(Agreement + Disagreement) × 100' (Miles & Huberman, 1994). The reliability between coders was calculated as 92%.

10. Unethical situations most commonly encountered in the field of special education

The content analysis of the answers to the question 'What are the most commonly encountered unethical situations in the field of special education and what can be added to the ethical principles other than the ones included in the scale?' were calculated taking into account the fact that the participants indicated thoughts about one or more unethical situations. In this regard, the opinions of 198 participants about unethical situations encountered in special education practices were grouped under 25 sub-themes with 403 frequency range. The highest percent (%) value calculated for each sub-theme indicates that the theme is the most common unethical situation, and the lowest percent value means it is a less commonly encountered situation in special education practices. The opinions of experts and teachers about the unethical situations encountered in special education practices were gathered under 25 sub-themes (experts, family, institutions, intervention/practice, abuse/neglect, education/instruction, individualised education programmes and so forth). 'Experts' sub-theme, which includes the opinions of personnel who serve in special education about their field of expertise, was the most common unethical situation among other sub-themes with a rate of 12.26%. According to the participants, in this sub-theme, the most commonly encountered unethical situations in the field of special education were as follows: services provided by individuals who do not have professional education in special education and who are inadequate, not emphasising professional development, qualifications are not evaluated, gaining financial profits are the primary objectives, lack of cooperation, burnout and problems due to lack of personnel.

In the second place, the unethical situations displayed in the special education practices were related to sub-theme of 'family' with a rate of 11.91%. The categories of unethical opinions included in this theme are not cooperating with the family, not getting permission from the family for the practices, not informing the family about the results of the evaluations and practices, not considering the expectations and needs of families, providing misinformation and exploiting the family's feelings, and not respecting them. The third sub-theme was 'intervention/practices', which had a rate of 8.93%. Participants who especially stated that intervention and practices may be regulated by taking into account the needs of the individual also pointed out that institutional mechanisms and personnel

competencies influence the nature of interventions and implementations. Participants who drew attention to the unethical practices related to the institutional mechanisms constitute 8.66% of the group. The categories in this theme are the lack of experts in institutions, the purpose to gain financial profits, non-realistic statements provided to families, the owners not being educators, the personnel without a professional education or with inadequate education, not giving importance to evidence-based practices and lack of sufficient inspection.

11. Conclusion and suggestions

As a result of this study, the Scale of Professional Ethical Principles for Individuals Working in Special Education has two dimensions, of which the 'Importance' dimension is one them and has 24 items and five factors and the 'Compliance of Colleagues' dimension is the second, with 33 items and one-factor structure. The 'Importance' scale, which has 24 items, has a Cronbach's Alpha value of 0.91. Cronbach's Alpha values for five factors under 'Importance' dimension were 0.80, 0.83, 0.75, 0.73 and 0.73 for the first, second, third, fourth and fifth factors, respectively. 'Compliance of Colleagues' which consists of 33 items has a Cronbach's Alpha coefficient of 0.96. With these results, it was concluded that this scale could adequately measure the targeted characteristics by not interfering them with other features. Further research with new study groups will contribute to the reliability of Scale of Professional Ethical Principles for Individuals Working in Special Education to be more robust. For the construct validity studies, item-total correlations, which explain the relationship between the scores obtained from the scale items and the total scale score, were calculated. These correlations showed that the items represent similar behaviours. Reliability coefficients for the scale were calculated respectively. These coefficients revealed that the items that constitute the whole scale and its sub-dimensions are consistent. It is critical that experts and teachers working in the special education field know the professional ethical principles and act accordingly. In this regard, with this study, a valid and reliable tool was developed to determine the special education personnel's adoption of and compliance with ethical principles.

References

Albayrak, A. (2006). Uygulamali cok degiskenli istatistik teknikleri [Applied multivariate statistical techniques]. Ankara, Turkey: Asil Yayıncılık.

Anderson, G. (1990). *Fundamentals of educational research*. London, UK: The Falmer Press.

Aydin, I. (2006). *Egitim ve ögretimde etik [Ethics in education and instrucion]* (2nd ed.). Ankara, Turkey: Pegem A Yayincilik.

Baykul, Y. (2000). Egitim ve psikolojide ölcme [Measurement in education and psychology]. Ankara, Turkey: OSYM Yayınları.

Bersoff, D. N. & Koeppl, P. M. (1993). The relation between ethical codes and moral principles. *Ethics and Behavior, 3*, 345–357.

Buyukozturk, S. (2009). Sosyal bilimler icin veri analizi el kitabi [Data analysis manual for social sciences]. Ankara, Turkey: Pegem Yayıncılık.

Council for Exceptional Children. (2009*). What every special educator must know: ethics, standards and guidelines* (6th ed.). Arlington, VA: Council for Exceptional Children.

Council for Exceptional Children. (2010). *Council for exceptional children ethical principles for special education professional.* Retrieved June 28, 2011 from http://www.cec.sped.org

Creswell, J. W. (2005). *Educational research: planning, conducting and evaluating quantitative and qualitative research.* NJ: Pearson Prentice Hall.

Erkus, A. (2003). *Psikometri uzerine yazılar [Writings on psychometry].* Ankara, Turkey: Türk Psikologlar Dernegi Yayınları.

Filiz, Z. (2003). Guvenirlik cozumlemesi, bilesenler ve faktor cozumlemesi [Reliability analysis, principal components and factor analysis]. *Anadolu Universitesi Bilim ve Teknoloji Dergisi, 4*(2), 211–222.

Harrison, C., & Killion, J. (2007). Ten roles for teacher leaders. *Teachers as Leaders, 65*(1), 74–77.

Hildebrand, D., Saklofske, D. H., Baeyer, C. L. V., & Yackulic, R. A. (1995). Ethical decision-making in professional consultative practice: a school psychology perspective. *Revue Des Sciences De L'Education De Mcgill, 30*(3), 239–256.

Kalayci, S. (2009). SPSS uygulamali cok degiskenli istatistik teknikleri [Multivariate statistical techniques with SPSS applications]. Ankara, Turkey: Asil Yayıncılık.

Karasar, N. (2006). *Bilimsel arastirma yontemi [Scientific research methods]* (16th ed.). Ankara, Turkey: Nobel Yayın Dagitıim.

Kucuradi, I. (2000). Felsefi etik ve meslek etikleri [Philosophical ethics and ethics for professions]. Ankara, Turkey: Turkiye Felsefe Kurumu Yayınları.

Kultgen, J. (1988). *Ethics and professionalism*. Philadelphia: University of Pennsylvania Press.

MEB. (2005). *Ogretmenlik meslegi genel yeterlikleri [General qualifications of teaching profession*]. Ankara, Turkey: Milli Egitim Basımevi.

MEB. (2008a). *Ogretmenlik meslegi ozel alan yeterlikleri [Special area qualifications for the teaching profession].* Ankara, Turkey: Milli Egitim Basımevı.

MEB. (2008b). *Sınıf ogretmeni ozel alan yeterlikleri [Special area qualifications for elementary school teachers].* Ankara, Turkey: Milli Egitim Basımevi.

Ozdamar, K. (2004). *Paket programlar ile istatistiksel veri analizi [Statistical data analysis with package programs].* Eskisehir, Turkey: Kaan Yayincilik.

Ozdamar, K. (2009). Faktor analizi, paket programlar ile istatistiksel veri analizi [Factor analyis, statistical data analysis with the package programs]. In Seref Kalayci (Ed.), *SPSS uygulamali cok degiskenli istatistik teknikleri [Multivariate statistical techniques with SPSS applications]* (Vol. 2) (4th ed.) (pp. 321–331). Eskisehir, Turkey: Kaan Kitabevi.

Ozdamar, K., & Dincer, K. S. (1987). Bilgisayarla istatistik degerlendirme ve veri analizi [Statitstical measurement and data analysis using computers]. Istanbul, Turkey: Bilim Teknik Kitapevi.

Ozturk-Aynal, S., Kumandas, H., & Ersanli, K. (2013). Okul öncesi ögretmenlere yönelik mesleki etik ilkeleri ölcegi gelistirme calisması [A study of developing professional ethics principles scale for teachers working in the pre-school education]. *Ahi Evran Üniversitesi Kırsehir Egitim Fakültesi Dergisi (KEFAD), 14*(1), 429–442.

Rice, C., & Stein, C. (2009). Measuring the ethical levels of special education teachers. *The Open Ethics Journal, 3*(13), 13–19.

Strike, K. A. (1990). Teaching ethics to teachers: what the curriculum should be about. *Teacher and Teacher Education, 6*(1), 47–53.

Strong, M. (2006). *Does new teacher support affect student achievement?* Santa Cruz, CA: New Teacher Center, U.C. Santa Cruz. Retrieved June 29, 2015 from www.aspeninstitute.org

Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics.* New York, NY: Harper Collins College.

Tavsancil, E. (2006). *Tutumların ölcülmesi ve SPSS ile veri analizi [Attitude measurement and data analysis with SPSS]*. Ankara, Turkey: Nobel Yayın Dagıitim.

Teacher Training Agency (1999). *National special educational needs specialist standards*. London, UK: Teacher Training Agency Publications (TTA).

Teacher Training Agency (2009). *National special educational needs specialist standards.* London, UK: Teacher Training Agency (TTA) Publications.

Tsalikis, J., & Fritzsche, D. J. (1989). Business ethics: a literature review with a focus on marketing ethics. *Journal of Business Ethics, 8*(9), 695–743.

Tucker, L., & Maccallum, R. (1997). Factor extraction by matrix factoring techniques. In *Exploratory factor analysis.* Retrieved April 7, 2011 from http://www.unc.edu/~rcm/book/ch8.pdf

Yildirim, A., & Simsek, H. (2005). *Sosyal bilimlerde nitel arastırma yontemleri [Qualitativee research methods in social sciences]* (5th ed.). Ankara, Turkey: Seckin Yayincilik.

YOK. (2016). *Ozel Egitim Ögretmenligi Programı [Special Education Teacher Program].*

Appendix 1:

SECTION II IMPORTANCE OF PROFESSIONAL ETHICAL PRINCIPLES AND COMPLIANCE DEGREE

Importance					Compliance			
Not Important	Little Important	Important	Very Important	PROFESSIONAL ETHICAL PRINCIPLES FOR THE SPECIAL EDUCATION FIELD	Never	Rarely	Frequently	Very frequently
1	2	3	4		1	2	3	4
				1. Forms appropriate expectations to develop the potential of individuals with special needs to the maximum by respecting their personality characteristics, culture and language differences.				
				2. Is aware of professional competences and developing oneself continuously.				
				3. Supports the participation of individuals with special needs in school in which their peers attend and in society.				
				4. Cooperates with the individuals and institutions that serve for individuals with special needs.				
				5. Develops relationships based on mutual respect to ensure active participation of individuals with special needs and their families into the educational decision-making process.				
				6. Uses research-based scientific data in practices.				
				7. Protects individuals with special needs from psychological and physical abuse.				
				8. Does not engage in any practices that would harm individuals with special needs.				
				9. Does not allow practices of colleagues that would harm individuals with special needs.				
				10. Works within the framework of special education policies and professional qualifications.				
				11. Supports ethical principles, laws, regulations and policies, and defends developments affecting professional practices.				
				12. Provides appropriate working conditions and materials to make individuals with special needs gain their learning achievements.				
				13. Continuously improves teaching methods and materials to support the right of receiving a quality education for individuals with special needs.				
				14. Promotes the development of the special education field by actively participating in professional organisations.				
				15. Is a model for the colleagues working and behaving in the frame of ethical values.				
				16. Promotes the use of information communication technologies and assistive technologies to meet the learning needs of individuals with special needs.				
				17. Presents data based on objective records to principles, colleagues, families in the decision-making process.				
				18. Defends professional development plans based on transition skills in the process of vocational planning for individuals with special needs.				
				19. Interferes with the inappropriate placement of individuals with special needs.				
				20. Guides related individuals and volunteers by coordinating activities in educational settings.				
				21. Is effective in providing a consensus among internal and external stakeholders in educational environments.				

22. Is open to the criticisms and suggestions of the colleagues.
23. In the statements made by using media and communication tools, reflects general considerations which are valid in the field of special education.
24. Promotes the widespread use of early diagnosis and intervention services for individuals with special needs and at-risk groups.
25. Organises and supports social responsibility projects to meet the needs of individuals with special needs and their families.
26. Supports the planning and implementation of special education services by not discriminating individuals from their social and physical environment.
27. Supports the implementation of Individualised Education Programs (IEPs) in meeting the educational needs of individuals with special needs.
28. Protects the confidentiality of information due to legal necessity, except when written permission is given to share information under certain conditions.
29. Does not use behaviour management and techniques that harm the dignity of individuals with special needs and basic human rights.
30. Does practice at special needs areas and age levels that one is educated and/or has experience.
31. Initiates research on the education and behaviour management of individuals with special needs to improve the quality of the education services offered to individuals with special needs.
32. Participates in and/or supports research on the education and behaviour management of individuals with special needs to improve the quality of the educational services offered to individuals with special needs.
33. Questions the effectiveness of the programmes being practiced and informs the parents of the results.