

Development of a Scale of Contribution of Educational Supervision to Occupational and Institutional Ethics

Süleyman GÖKSOY¹, Türkan ARGON², Hayriye Merve ERİŞ HASIRCI³

¹ Associate Prof. Dr. Educational Sciences, Faculty of Education, University of Duzce;

² Prof. Dr. Educational Sciences, Faculty of Education, University of Bolu Abant İzzet

Baysal; ³ Dr. Educational Sciences, Faculty of Education, University of Duzce;

TURKEY.

¹ suleymangoksoy@duzce.edu.tr, ² turkanargon@hotmail.com, ³ merveeris87@gmail.com

ABSTRACT

The aim of this study is to develop a measurement tool to determine the extent to which educational supervision and evaluation contribute to educators' occupational ethics and schools' institutional ethics. A literature review and interviews with domain-expert teachers and educationists were conducted to generate an item pool of 70 items, which was, then, reduced to 51 items yielding a candidate scale as a result of expert opinion. Using the candidate scale, exploratory and confirmatory factor analyses were conducted on data collected from study groups in order to determine the factor structure of the scale. Ranging from .455 to .903, item-total correlations of the scale were at the desired level. The Cronbach's alpha internal consistency coefficients of the subscales ranged from .885 to .916, and was calculated as .867 in total. A Pearson product moment correlation analysis was performed to examine the relationship between factors. Results showed that there was a positive, moderate to high, correlation between them. Having a factor loading in a total of 29 items and 5 sub-scales, the "Scale of Contribution of Educational Supervision to Occupational and Institutional Ethics" is a valid and reliable measurement tool which can be used to determine the contribution of educational supervision to educators' occupational ethics and schools' institutional ethics. The final version of the scale is given in.

Keywords: Supervision, managerial ethics, educational institutions, scale

1. INTRODUCTION

Ethics (or Moral Philosophy), which is a branch of philosophy, is a very complex and comprehensive philosophical activity that explores the nature and foundations of what is moral. While dealing with and scrutinizing ethical issues that people face in their personal and social lives (Akarsu, 1979). ethics has a broader, more inclusive and universal generalization of morality. In this respect, ethics is a discourse on morality (Aydın, 2003). The concept of ethics involves a knowledge of value which preserves and contributes to the value of being human in every age and society. Ethics encompasses interpersonal relationships and actions, associates people with their actions and values in their actions, and allows them to be evaluated within the context of ethical relationships, which involve values that exist in one's own self and in interpersonal relationships. Ethical relationships, therefore, exist as long as values exist (Güngör Kıranlı, 2016), profoundly and constantly affecting people and their actions. This is also valid at every stage of an individual's life including his/her professional life. Occupational ethics, which is a dimension of ethics in business life, comes into play at this point. Occupational ethics constitute the whole values, norms, principles and relations involved in a profession. From this aspect, the aim of ethics is to provide guidance for actions within an organization and to describe processes which can give answers to the question "what should I do?" posed by employees (Aydın, 2003).

Occupational ethics consists of the entire set of occupational principles that a particular profession creates and protects, compels the profession's members to act in a certain way, restricts personal tendencies, excludes inadequate and unprincipled members from the profession, and regulates intellectual competition and maintains service ideals. Occupational ethics is also concerned with the

regulation of rules regarding the members of a certain occupational group and their duties to the society in which they live (Pehlivan, 1998). "Ethical Codes" refer to the whole set of codes of conduct by which people concerned must abide in order to be able to stay in an occupational or any other group. The main function of ethical codes is to provide a certain discipline on a given group and to create the necessary environment to achieve it (Aydın, 2003).

Within an organizational context, another concept that should be taken into account is managerial ethics which deals with all administrative actions and processes. Being of vital importance for an organization to operate without deviating from its objectives, managerial ethics are codes of conduct that ensure organizational decisions to be based on coherence, impartiality and facts, promote respect for the existence and integrity of individuals, help select actions that serve everyone's best interests based on universal values such as justice, equality, impartiality, honesty, responsibility, respect, openness, love and democracy, and guide the actions of managers (Pehlivan, 1998). Expected to be observed by an organization, all principles and rules such as justice, equality, honesty, truth, impartiality, responsibility, human rights, humanism, loyalty, rule of law, love, tolerance, respect, frugality, democracy, positive human relations, openness etc. are ethical conducts. On the other hand, unethical conducts exhibited in an organization such as discrimination, nepotism, bribery, mobbing-intimidation, acts of omission, exploitation (abuse), corruption, maltreatment (torture), violence-oppression-aggression, bringing politics into business, insults, profanity, malfeasance, embezzlement etc. are undesirable and negative behaviors adversely affecting both the organization and its employees. It is imperative for organizations to monitor and evaluate ethical conducts in order to reach their objectives to sustain in almost all processes, which further increases the importance of managerial supervision and evaluation, and people who will carry out this process. Supervision and evaluation conducted in organizations are important not only for the prevention and elimination of negative behaviors but also for the continuity and consolidation of positive behaviors.

These processes and actions that apply to all organizations should also be considered in educational institutions. It is both individualistically and institutionally critical in terms of performance, justice, motivation, efficiency and effectiveness for teaching staff conducting supervision activities within an ethical framework to know the answers to the questions of what to do and what not to do, what to ask for and what not to ask for, what to have and what not to have, and how to act. In addition to the information system, measurement tools provide a great contribution to the determination of the existence of this process theoretically and to the identification of the level of institutions and their employees in the organizational sense. Findings from measurement tools are not only used for assessment but also as a trajectory for the future. In this context, the aim of this study is to develop the "*Scale of Contribution of Educational Supervision to Occupational and Institutional Ethics*" to determine the extent to which educational supervision and evaluation contribute to managerial ethics.

2. MATERIAL AND METHODS

2.1. Study Group

The research was carried out on two different study groups consisting of teachers working in Bolu and Düzce in the academic year of 2016-2017. Data from the first study group were used for exploratory factor analysis (EFA) and reliability analyses, while data from the second study group were used for confirmatory factor analysis (CFA). There are various opinions on the number of samples for scale development studies. Comrey and Lee (1992) offer a rating scale for adequate sample sizes: 100 = poor, 200 = fair, 300 = good, 500 = very good, 1,000 = excellent. Tavşancıl (2002) argues that the sample size in factor analysis should be at least five or even ten times more than the number of items while Guilford (1954) claims that it should be at least 200. Adequate sample sizes in factor analysis suggested are 10 times (Nunnally, 1978), 15 times (Gorusch, 1983) and 5 to 10 times (Tavşancıl, 2002) more than the number of items. Osborne and Costello (2004; in Fer and Cirik, 2006) state that even a sample of 1000 people or a 20:1 participant/item ratio may provide an unrealistically good factor analysis.

For the reasons stated above, 400 teachers were given forms and 305 of them were evaluated to form a study group of at least 300 participants for EFA. Of participants, 61% (186) are female and 39% (119) male. 32% (97) are between the ages of 20 and 30 years, 42% (128) 31 and 40 years, 19.5%

(60) 41 and 50 years, and 6.5 % (20) over 50 years of age. A great attention was paid to include participants from different branches in the study; 15% (46) pre-school, 33% (101) classroom, 10% (31) health, 9% (28) Turkish-literature, 7.5% (23) foreign language, 7 % (21) religious culture and moral knowledge, 5% (15) special education, 3.5% (11) physical education, 6% (19) fine arts and 3.5% (10) history-social studies teachers.

The number of teachers reached for CFA is 170. Of participants, 61.5% (105) are female and 38.5% (65) male. 12% (21) are between the ages of 20 and 30 years, 46.5% (79) 31 and 40 years, 32.5% (55) 41 and 50 years, and 9% (15) over 50 years of age. 12% (21) are pre-school, 40.5% (69) classroom, 13.5% (23) Turkish-literature, 6.5% (10) foreign language, 2.5% (4) religious culture and moral knowledge, 1.5% (3) special education, 3% (5) physical education, and 8.5% (14) history-social studies teachers, and 12% (21) from other branches.

2.2. Data Collection and Analysis

On the basis of a review of domestic and foreign literature on institutional ethics in educational institutions, managerial ethics, and occupational ethics of educators, a candidate item pool was generated for the scale to be developed. The literature review shows that although the issues of ethics, and occupational and institutional ethics have always been a matter of discussion, the number of studies on *the contribution of educational supervision to educators' occupational ethics and schools' institutional ethics* is limited. After the evaluation of the available studies in the literature, statements to be used in the scale were selected.

In the process of determination of candidate items and generation of the item pool, researchers took into account the views and suggestions of academics who have studied *the contribution of educational supervision to educators' occupational ethics and schools' institutional ethics*. Since no scale was found in the domestic and foreign sources, all scale items were generated and a total of 70 items was reached by the researchers. The number of candidate items in the item pool was reduced to 51 as a result of literature review, and evaluation of researchers and expert education managers.

A preliminary test was performed on a group of 11 students, who continue their graduate education, in order to determine the content validity of the draft scale, to evaluate the 51 items in terms of language and style, and to paraphrase the items to make them more intelligible to the target audience.

An exploratory factor analysis (EFA) was performed with the first study group to establish the construct validity of the scale. Afterwards, a confirmatory factor analysis (CFA) was performed with the second study group to assess the suitability of the structure. In addition, item-total correlations were calculated, and those with low correlations were excluded from the scale. The Cronbach's Alpha internal consistency coefficient was calculated to ensure the reliability of the scale, which was designed with item statements in a 5-point Likert-type rating scale format. Responses to items were measured by assigning the value of 1 to "Never," 2 to "Rarely," 3 to "Occasionally," 4 to "Mostly" and 5 to "Always."

3. FINDINGS

3.1. Exploratory Factor Analysis Results

A factor analysis was performed to determine the loadings (factors) between the items for validity procedures. Kaiser-Meyer-Olkin (KMO) and Bartlett's tests of Sphericity were conducted to measure the suitability of the scale for factor analysis. A principal components analysis was carried out using varimax rotation.

The KMO test is conducted to assess whether partial correlations are small or not, and whether the distribution is sufficient for factor analysis. Kaiser states that KMO values between 0.9 and 1 are meritorious, between 0.8 and 0.89 great, between 0.7 and 0.79 good, between 0.6 and 0.69 mediocre, between 0.5 and 0.59 poor and below 0.5 unacceptable for factor analysis (Tavşancıl, 2002). Table 1 shows that the KMO value in the principal component analysis is meritorious (.967). The Bartlett's test value is 16707.801 ($p < .000$), confirming the assumption that the data have a multivariate normal distribution (Büyüköztürk, 2009).

Table 1. KMO and Bartlett's Test Values Kaiser-Meyer-Olkin Measure of Sampling Adequacy

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		967
Bartlett's Test of Sphericity	Approx. Chi-square	16707.801
	df	1378
	Sig.	.000

Table 2 shows the eigenvalues of and the percentage of variance explained by the subscales.

Table 2. Eigenvalues of and Percentage of Variance Explained by Subscales

Factor	Initial Eigenvalues			Total Factor Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.719	49.186	49.186	7.655	23.952	49.186
2	3.470	10.857	60.043	4.485	14.033	60.043
3	1.689	5.286	65.328	4.164	13.028	65.328
4	1.225	3.926	69.225	3.084	9.649	69.225
5	1.145	3.583	72.838	3.891	12.176	72.838

The EFA results show that the scale consists of five subscales the eigenvalues of which are greater than 1, indicating that the first, second, third, fourth and fifth subscales account for 49.186%, 10.857%, 5.286%, 3.926% and 3.583% of the total variance, respectively.

Figure 1 shows the line chart of the scale, indicating that the scale has five subscales.

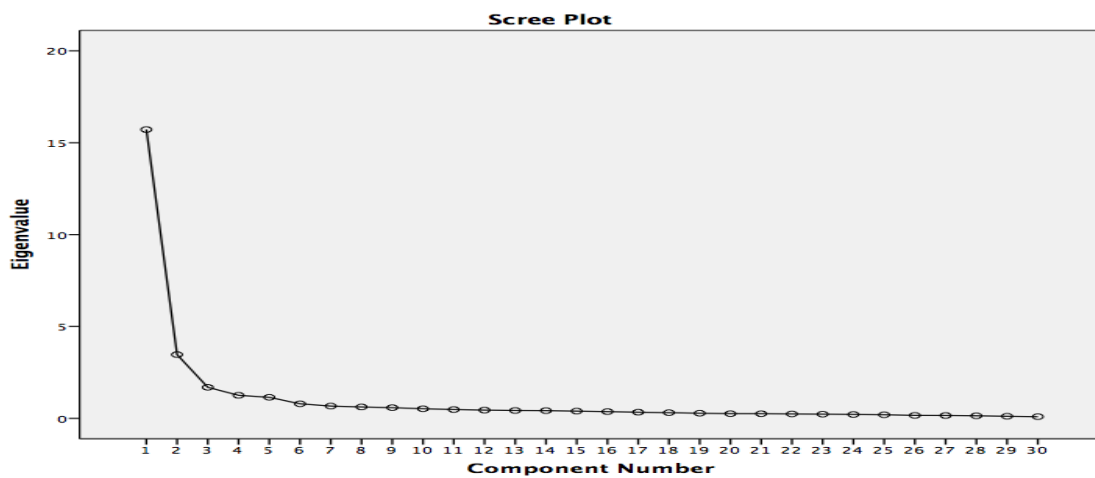


Figure 1. Line Chart

The varimax technique was used in the first factor analysis to examine the distribution of the items over the factors. Some items had high loadings (>.45) in more than one factor. Loading difference was examined for items with more than 0.45 loadings in more than one factor. Those with a factor loading difference lower than 10% were eliminated [3]. Items 6, 7, 8, 16, 21, 22, 23, 24, 33, 34, 35, 36, 37, 38, 40, 42, 43, 52 and 53 were removed from the scale and factor analysis was repeated with the remaining 29 items. Table 3 shows the subscales and items in each subscale after factor analysis.

Table 3. Factor Analysis Results

Items	Factors				
	1	2	3	4	5
25	.903				
31	.784				
30	.821				
32	.799				
29	.830				
28	.864				
27	.956				
26	.951				
14		.712			
19		.690			
15		.681			
20		.638			
17		.584			
13		.660			
18		.517			
47			.791		
45			.805		
50			.871		
48			.690		
49			.616		
2				.828	
3				.716	
1				.667	
5				.524	
4				.455	
11					.985
10					.974
12					.696
9					.829

Table 5 presents the nomenclature of the subscales in accordance with the items and their contents.

Table 4. Subscales and Factor Item Loadings

Subscales	No. of Items	Item No
Contribution to Ethical Conduct (CEC)	5	1, 2, 3, 4, 5
Contribution to Occupational Development (COD)	4	9, 10, 11, 12
Contribution to Institutional Objectives (CIO)	7	13, 14, 15, 17, 18, 19, 20
Contribution to Preventing Illegal Conducts (CPIC)	8	25, 26, 27, 28, 29, 30, 31, 32
Contribution to Institutionalization (CI)	5	45, 47, 48, 49, 50

3.2. Item - Total Correlation Results

The corrected item-total correlation is given in Table 5, indicating that the item-total correlation values range from .455 to .903.

Table 5. Item - Total Correlation Results

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1	102.2420	440.340	.512	.963
2	102.4977	440.482	.480	.963
3	102.3568	435.454	.622	.962
4	102.1830	439.197	.600	.963
5	102.2092	441.213	.518	.963
6	102.6814	433.160	.554	.963
7	102.7600	431.895	.567	.963
8	102.5699	436.061	.505	.963
9	102.2879	438.104	.571	.963
10	102.4092	430.702	.715	.962
11	102.3928	432.841	.680	.962
12	102.3600	432.048	.703	.962
13	102.2551	437.147	.649	.962
14	102.3043	436.348	.707	.962
15	102.3338	432.589	.702	.962
16	102.2092	431.003	.753	.962
17	102.7502	425.664	.681	.962
18	102.4223	428.726	.700	.962
19	102.5797	423.126	.779	.961
20	102.6256	426.970	.764	.961
21	102.5076	428.873	.743	.962
22	102.6092	428.360	.748	.962
23	102.4617	429.137	.765	.961
24	102.3240	431.389	.696	.962
25	102.6912	427.381	.722	.962
26	102.7109	426.645	.766	.961
27	102.5469	432.896	.628	.962
28	102.3404	428.613	.728	.962
29	102.6125	421.166	.770	.961

3.3. Cronbach's Alpha Reliability

The Cronbach's alpha internal consistency coefficient was used to determine the reliability of the scale. Cronbach α coefficient is used when responses to scale items are 3 or more. Coefficient values of .70 and higher are considered acceptable for the reliability of test scores (Büyüköztürk, 2009) as the criteria taken into account in evaluating the alpha coefficient for the reliability of scales are; $0.00 \leq \alpha < 0.40$ not reliable; $0.40 \leq \alpha < 0.60$ low reliability; $0.60 \leq \alpha < 0.80$ quite reliable; $0.80 \leq \alpha < 1.00$ highly reliable (Kalaycı, 2008; Özdamar, 2013). The Cronbach's alpha internal consistency

coefficients of each subscale and total score of the scale (Table 6) indicate that the *Scale of Contribution of Educational Supervision to Occupational and Institutional Ethics* is reliable.

Table 6. Reliability Coefficients of Total and Subscales

Subscales	Cronbach's Alpha(α)
Contribution to Ethical Conduct (CEC)	.904
Contribution to Occupational Development (COD)	.916
Contribution to Institutional Objectives (CIO)	.885
Contribution to Preventing Illegal Conducts (CPIC)	.903
Contribution to Institutionalization (CI)	.887
Total	.867

A Pearson product moment correlation analysis was performed to determine the relationship between the scale and factors, which is another indicator of internal consistency. The results are given in Table 7. As an absolute value, correlation coefficient ranging from 0.71 to 1.00 is high, from 0.70 to 0.31 medium and from 0.30 to 0.00 low (Büyüköztürk, 2009).

Table 7. Pearson Product Moment Correlation Analysis Results

Factor	1	2	3	4	5
1	1				
2		1			
3			1		
4				1	
5					1
Total	.761**	.745**	.873**	.803**	.870**

**p<.001

Table 7 shows that there is a statistically significant and positive correlation between the factors, indicating a medium to high degree of association and that there is a high level of statistically significant correlation between all scales and the total score. These results prove that the five factors are in the same structure.

3.4 Confirmatory Factor Analysis Results

A confirmatory factor analysis (CFA) was performed on the *Scale of Contribution of Educational Supervision to Occupational and Institutional Ethics*. CFA is based on testing the assumption that certain variables will predominantly exist over predetermined factors (Büyüköztürk, 2009). A number of fit indices are used to determine overall fit of a tested model in CFA [11]. The five-factor model fit indices of the *Scale of Contribution of Educational Supervision to Occupational and Institutional Ethics* were examined using CFA, which was performed using Lisrel 8.71. The results are given in Figure 2. The coefficients of goodness of fit are given in Table 8.

Table 8. DFA Goodness of Fit Statistics

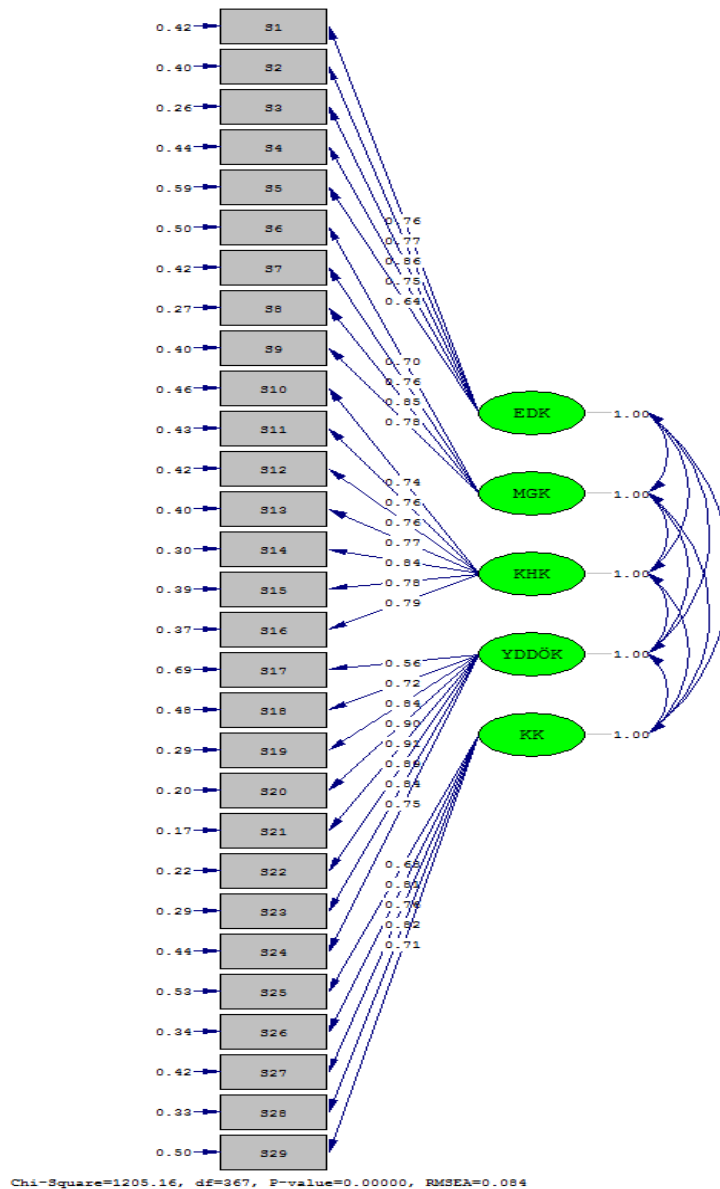
Chi-square	Sd	Chisquare/sd	RMSEA	NFI	CFI	GFI	AGFI	RFI	IFI
1205.16	367	3.28	0.079	0.95	0.97	0.79	0.76	0.95	0.97

Table 8 shows that the chi-square/sd (3.28) is lower than 5, suggesting that the model is a good fit. RMSEA values range from 0.08 to 0.05, indicating that the error rate between the observed and generated matrices for the models is acceptable. NFI, GFI, CFI, RFI and IFI

values are above 0.90, indicating that the fit of the model is quite high [11]. The evaluation of all coefficients of goodness of fit together shows that the CFA results confirm the EFA results.

Figure 2 shows the validated model in the form of a diagram. According to Figure 2, CFA confirms the model derived using EFA procedures, the model consists of 29 items and five sub-factors and the fit indices of the “Scale of Contribution of Educational Supervision to Occupational and Institutional Ethics” are statistically significant ($\chi^2=1205.16$, $p = 0.000$). These findings provide evidence that the 5-factor structure of the scale is valid.

Figure 2. Confirmatory Factor Analysis of Scale of Contribution of Educational Supervision to Occupational and Institutional Ethics



4. DISCUSSION AND CONCLUSION

This study aimed to develop a measurement tool to assess the extent to which educational supervision and evaluation contribute to educators’ occupational ethics and schools’ institutional ethics and the *Scale of Contribution of Educational Supervision to Occupational*

and *Institutional Ethics* was developed. A literature review and interviews with domain-expert teachers and educationists were conducted to generate an item pool of 70 items, which was, then, reduced to 53 items as a result of expert opinion, and applied to a study group. Factor analysis was performed on the data. Items with factor loading values higher than 0.40 were included in the scale (Büyüköztürk, 2009) and the final version of the scale consisted of 29 items. Validity and reliability test results indicated that the scale is suitable for measuring the extent to which educational supervision and evaluation contribute to educators' occupational ethics and schools' institutional ethics. This developed scale can be used to determine the contribution of educational supervision to educators' occupational ethics and schools' institutional ethics. The final version of the scale is given in Appendix 1.

REFERENCES

- [1]. Akarsu, B. (1979). *Felsefe sözlüğü*. Ankara: Türk Dil Kurumu Yayınları.
- [2]. Aydın, İ. (2003). *Eğitim ve öğretimde etik*. Ankara: Pegem A Yayıncılık
- [3]. Büyüköztürk, Ş. (2009). *Sosyal bilimler için veri analizi el kitabı (10.Baskı)*. Ankara: Pegem A Akademi.
- [4]. Comrey, A.L & Lee, H.L.(1992). *A first course in factor analysis*. Hillsdale, New Jersey: Erlbaum.
- [5]. Gorusch,R.L.(1983). *Factor analysis, Hillsdale*. NJ: Lawrence Erlbaum Associates
- [6]. Guilford, J.P (1954). *Psychometric methods*. Newyork: McGraw Hill.
- [7]. Güngör Kıranlı, S. (2016). *Türkiye'de Eğitim Yöneticiliği ve Maarif Müfettişliği*. Editör: Ahmet Aypay. 12. Bölüm. Eğitim Yönetiminde Etik. S:253-278. Pegem A Akademi Yayıncılık. Eyed-der Yayın No:1. Nisan.
- [8]. Kalaycı, Ş. (2008). *SPSS Uygulamalı Çok Değişkenli İstatistik Teknikleri*. Ankara: Asil Yayınları.
- [9]. Nunnally, J.C (1978). *Psychometric theory* . NewYork: McGraw Hill.
- [10]. Özdamar, K. (2013). *Paket programlar ile istatistiksel veri analizi*. Ankara: Nisan Kitabevi.
- [11]. Şimşek, Ö. F. (2007). *Yapısal eşitlik modellemesine giriş: Temel ilkeler ve LISREL uygulamaları*. Ankara: Ekinoks.
- [12]. Tavşancıl, E. (2002). *Tutumların ölçülmesi ve spss ile veri analizi*. Ankara: Nobel Yayıncılık.
- [13]. Pehlivan, İ. (1998). *Örgütsel ve yönetsel etik*. Pegem Yayınları. Ankara.