Development of the Ethical Evaluation Questionnaire: A Machiavellian, Utilitarian, and Religious Viewpoint

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Abstract: This study aimed to develop a valid and reliable measurement tool to enhance ethical evaluation literature. The tool consists of two subscales named 'Bases of ethical evaluation', and 'Grounds of ethical evaluation'. In order to determine the factor structure of the scales, both exploratory and confirmatory factor analyses were applied. The results revealed that Ethical Evaluation Questionnaire is a valid and reliable scale. The results presented that there was a positive correlation between the factors and the total 'Bases of ethical evaluation' scale. Similarly, there was a positive correlation between the factors and the total 'Grounds of ethical evaluation' scale. Since the Ethical Evaluation Questionnaire is a valid and reliable scale, it can be generalized for the other professions. The instrument is developed with respect to Islam religion in Turkish culture. However, scholars and managers can use the instrument for different cultures and religions. While there have been many studies examining ethical decision-making with different factors, intentions for examining religiosity as an underlying reason for ethical evaluation has been inadequate. So, studying Muslims in Turkey, this study is supposed to contribute to the literature related to ethical ideology and religiosity with regard to Islamic perspective.

Keywords: *Ethical evaluation, instrument development, Mach, religion, utilitarian.*

Introduction

Teachers and school administrators need to deal with different ethical issues at schools. Along with to their teaching duties, teachers have to demonstrate as proper adult models for their students. As Sanford and Emer (1988) and Cohn (1987) claimed, teachers must know and pay attention to how they will behave towards the students at schools. Besides, school administrators have to be just and fair to both students and school staff during the managerial process. As a matter of fact, Baloglu (2009) examined students from high schools and found that teachers mostly behaved aggressively, and discriminated their students. Similar to the high schools, Toker-Gokce (2013a) also explored that lecturers behaved aggressively, and discriminated their students at higher education level. However, educators have to handle the students' wrongdoings regardless of the students' religious beliefs, economic conditions, or gender. Similarly, school administrators have to manage teachers and the staff without favoring or discrimination at schools. Hence, knowing what factors affect educators during their decision-making process could help to decrease the unethical behaviors such as acting aggressively or discriminating against students at schools. Therefore, finding an answer for the question 'whether educators evaluate ethical cases without the effect of their philosophical values, and beliefs in line with the other factors' is one of the important requirements for the researchers in education. Therefore, examining possible relationships between religious belief, ethical philosophy, and ethical decision-making process is crucial to enhance the quality of education.

Scholars theorized and empirically tested that an individual's ethical ideology (Forsyth 1980) and religion (Barnett et al., 1996; Singhapakdi et al., 2000) influence his/her approach to ethical judgments and decision-making, using a number of scales. Toker-Gokce (2015, 2016) examined the impact of religiosity on decision-making and found that religiosity affected teachers' decision-making for whistleblowing at schools. In addition, the Multi-dimensional Ethics Scale (Cohen et al., 1993) involved 'utilitarianism' as one of the five domains of ethical decision-making. Furthermore, Singhapakdi and Vitell (1990) examined the effect of being Machiavellian on managers' ethical evaluation, and they found that it affected the managers' ethical decision-making. This study aims to develop a questionnaire to enhance

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these attempts in respect to the religiosity dimension of ethical judgment models by measuring teachers' ethical judgment at schools. Therefore any effect of religious orientation, Machiavellianism, and utilitarianism on ethical judgments was examined.

Organizational wrongdoings and ethical decision-making

Wrongdoings of employees such as wasting resources, leaving early, stealing from staff or from company cost organizations billions of dollars each year. These kinds of behaviors even cause the damage of the image of corporations. Robinson and Bennett (1995), and Near et al. (2004) classified wrongdoings in organizations such as wasting, stealing, discrimination, mismanagement, minor violations, and sexual harassment. According to Somers and Casal (2011) employees who observed wrongdoings such as the cases mismanagement, sexual harassment, and violation were more likely to report them than were employees who observed the cases of wasting, stealing or discrimination. Therefore the question of how individuals make decisions about ethical issues is of great interest to organizational researchers (Bass et al., 1999).

An ethical decision is defined as a decision that is both legal and morally acceptable to the larger community (Jones, 1991). Numerous factors affect the ethical decision-making process, including individual, organizational, and situational factors (Woiceshyn, 2011), and components of the ethical issue itself (Jones 1991). Besides ethical philosophy and religion show a direct effect on ethical decision-making as individual factors (Woiceshyn, 2011), and religious preference has an influence on the tendency for reporting organizational wrongdoings (Miceli and Near, 1988; Sims and Keenan, 1999). Rest (as cited in Jones, 1991, p.368) built a four-component model to explain ethical decision-making, and argued that religion had a dominant effect on individuals' ethical judgment (as cited in Teall & Carrol, 1999, p.236). In addition, Barnett et al. (1996) proved that religiosity was positively associated with ethical ideology for peer reporting. As it is seen, scholars have been theorizing and empirically testing that individuals' ethical ideology (Forsyth 1980) and religion (Barnett et al., 1996; Singhapakdi et al., 2000) influence their approach for ethical judgments and decision-making using a number of scales.

Studies attempted to develop tools to explore individuals' ethical decision-making process can be categorized into three: (1) Based on Kohlberg's stages of moral development, Rest (as cited in Casali, 2011) developed the 'defining issues test' (DIT), and Lind (1999) developed the managerial judgment test (MJT) to assess moral judgment competence by recording how a subject deals with counter-arguments. (2) Forsyth (1980) developed the ethics position questionnaire (EPQ) to test individuals' preferences with respect to relativism and idealism. (3) Sashkin et al. (as cited in Casali, 2011, p.486) developed the managerial values profile (MVP), and Reidenbach and Robin (1990) developed the multidimensional ethics scale (MES) to test individuals by categorizing them according to ethical principles: egoism, utilitarianism, social justice and deontology. Further, Casali (2011) developed the managerial ethical profile (MEP) to test individuals by eight dimensions: economic egoism, reputational egoism, act utilitarianism, rule utilitarianism, self-virtue of self, virtue of others, act deontology, and rule deontology. Researchers such as Narvaez et al. (1999), Liyanarachchi and Newdick (2009), Tavakoli et al. (2003), and Near et al. (2004) measured moral development stages of individuals, using Rest's model and the DIT. Similarly, the researchers such as Hoo et al. (2010), Forsyth and O'Boyle (2011), and Nayir and Herzig (2012) have used the EPQ to ascertain ethical ideology. Some authors, such as Cohen et al. (1993, 1996), Cruz et al. (2000), and Toker-Gokce (2013b) used the MES to understand individual's ethical judgments within the philosophical views. However, Casali (2011) argue that these tools have failures because they use purposely created scenarios to prompt an ethical response; employ a forced-choice strategy; use mutually exclusive categories; use non-value neutral categories between the different moral theories; limitedly use moral theories as categories; and use moral theories as they have one dimension. Although Casali (2011) claimed these limitations, he did not include religiosity as a dimension in his scale.

Machiavellianism and utilitarianism as reasons to decide seriousness of wrongdoing

Machiavellianism originates from the 16th-century Florentine writer Niccolo Machiavelli. The label Machiavellian is regarded as a negative epithet, indicating at least an amoral way of manipulating others to accomplish one's objectives. Although Machiavelli wrote for political leaders, his ideas are applicable to modern business managers (Hunt and Chonko, 1984). A Machiavellian employs aggressive, manipulative, exploiting and devious moves in order to achieve personal or organizational objectives (Lau, 2010). Therefore, with respect to ethical behavior, high Machiavellians show very little concern for conventional morality (Hunt and Chonko, 1984). The behaviors concerning being a moral person such as trustworthiness, showing concern for people, and following ethical rules are contradictory with the behaviors associated with the high Machiavellian (Dahling et al., 2009). O'Fallon and Butterfield (2005) found that Machiavellianism was negatively associated with ethical decision-making.

Utilitarianism stresses creating the maximum benefits for the mass while causing the least damage. Utilitarian does social cost-benefit analysis; if the social cost-benefit analysis results positively, then the act is considered morally

acceptable (Thong and Yap, 1998). Mill (1863) suggests that actions are right in the rate to promote happiness, while they are wrong as they tend to produce the reverse of happiness. Mill (as cited in Jenkins, 2003, p.98) emphasizes on qualitative pleasures and development a system of 'higher' and 'lower' pleasures. Farrell and Petersen (as cited in Dozier and Miceli, 1985, p.828) included utilitarian theories of ethics in their frame of normative ethics that individuals might use to decide if they should take political action. Besides, Cohen et al (1993) added 'utilitarianism' in the MES to measure academics' ethical decision-making. Using the MES, Toker-Gokce (2013c) confirmed the influence of utilitarianism on prospective teachers' ethical evaluation.

Religiosity as reason to decide seriousness of wrongdoing

According to the scholars (e.g. Cohen et al. 1992; Ford and Richardson, 1994), individual beliefs help us to predict ethical attitudes and behaviors. In addition, nationality and religion influence an individual's ethical belief and decision-making. Narvaez et al. (1999) claimed that political identity, religious fundamentalism, moral judgment, and views on public policy issues were all significantly inter-correlated. They indicated that liberal views going with other liberal views and conservative views going with other conservative views. In addition, a religious community showed significant differences in these variables. Hunt and Vitell (1986) developed an ethical decision-making model for a business ethics research and added religiosity in their model suggesting that religion was both cultural and personal factors related to individual decision-making. Their model suggests that ethical judgments or ethical belief results from four sources: (1) differences in perceptions of reality, (2) differences in teleological evaluation; (3) differences in deontological evaluation; and (4) differences in how individuals synthesize their deontological and teleological evaluations (Vitell et al., 1993; Hunt and Vitell, 2006; Torres, 2001).

Religiosity is described in terms of knowing, feeling, and behaving. An individual 'knows and believe' the religious knowledge; feels with an emotional attachment about his/her religion; and 'behaves' devotional such as attending the church, reading the Bible, or praying (Cornwall et al. 1986; Barnett et al. 1996). Various researchers have attempted to link these dimensions of the religiosity construct for years. Allport's (1967; cited by Barnett et al. 1996, p.1163) intrinsic and extrinsic religiousness scale is one of these efforts.

Singhapakdi et al. (2000) argue that individuals' behaviors could be affected by religion and religious institutions generally. They claimed that the highly religious people tend to evaluate unethical behaviours more negatively than less the religious people do because they consider such behaviours as sinful. Therefore religiousness may create the kind of moral courage that gives people the ability to make more ethical decisions in difficult circumstances. Hence, Toker-Gokce (2016) studied the possible relationship between religiosity and decision-making for reporting wrongdoings at schools and found that it was positively associated with the decision for internal whistleblowing.

Scholars have been trying to measure religiosity in Turkey for years. Some of them (i.e. Kayiklik, 2000) modified instruments from the Eastern cultures into the Islam culture, while the others created special Islamic religious orientation scales in Turkey. These researchers all measured religiosity with different aspects they studied. However, there has been a gap for us to explain the relationship between religiosity and ethical decision-making for years. Hence, there is a need to create a new instrument to reveal the mentioned relationship between religiosity and ethical decision-making. The study aimed to develop a valid and reliable instrument to determine how individuals' make ethical decision on the base of religion and the values (Machiavellianism, and utilitarianism) in Turkey.

Methodology

Sample

The research sample comprises of 346 Turkish teachers who work in public primary and secondary schools in the Marmara region in Turkey. They were voluntarily participating in the study. The sample was chosen randomly according to accede to the participants. All are teachers. Of the 346 teachers more than half (56%, n=188) were female, while 44% (n=146) were males. Besides, than half of the participants (55%, n=190) were between 25-34 years old, while 30% (n=102) were between 35-44 years old, and 15% (n=51) were more than 44 years old. More than half of the participants (53%, n=178) had less than 11 years work experience, while 22% had between 11-15 years work experience, and 25% had more than 15 years work experience. Finally, most of the participants (88%, n=302) had four-year undergraduate degree. All of the participants are Turkish, and Muslims.

Instrument development

The author designed the instrument (Ethical Evaluation Questionnaire/ EEQ) on the basis of literature, lengthy and repeated feedback from the subjects, and factor analyses. The questionnaire aimed to measure individuals' orientations of being religious, being Machiavellian, and being utilitarian during their ethical judgments. The questionnaire with 42 items included two scales; 'Bases of Ethical Evaluation' (BEE), and 'Grounds of Ethical Evaluation' (GEE). The scale was formed into five-point Likert Scale, ranging from completely disagree (1) to completely agree (5).

The BEE, with 32 items, included five dimensions; (1) Religiosity and personal life, (2) Religiosity and social life, (3) Religiosity and morality (4) Machiavellianism, and (5) utilitarianism. The first three dimensions (18 items) of the BEE were created by utilizing the Religious Orientation Scale (ROS). The ROS was created by Allport and Ross (as cited in Burris, 1999) for the Christian life. It originally consisted of two subscales with 21 items: 12 of which for seeking extrinsic religiosity, and 9 of which for asking intrinsic religiosity. The ROS was also translated into Turkish by Kayiklik (2000). Some of the items were not suitable to measure Islamic life. Hence 7 items that were appropriate to examine Islamic life were selected from the ROS. The Machiavellianism dimension of the BEE (6 items), was developed after the literature review. Two items were selected from the Machiavellian Personality Scale developed by Dahling et al. (2009) while the others were created by the author. The readers might wonder why the original Machiavellian Personality Scale developed by Dahling et al. (2009) was not used in the study. Because, the author aimed to develop an instrument including different values in a construct such as MES (Reidenbach and Robin, 1990) to seek individuals' reasons for ethical evaluation. So EEQ is not a scale measuring attitudes; instead, it is a questionnaire asking individuals their belief. Finally, the utilitarianism dimension of the BEE (8 items) was created by the author after the literature (Mill, 1863; Cohen et al., 1993; Zimmerman, 2008; Hamilton, 2012) review.

The second scale, GEE with 10 items, developed by the author to measure the underpinning resources used by the individuals during their ethical judgments. This sub-scale includes two dimensions named the extrinsic environment and the intrinsic environment. Also, personal information (gender, age, and work tenure) was asked to the participants at the beginning of the questionnaire.

Analysis of the data

Before the analysis, the author operated the missing value imputation analysis. Since the analysis resulted in an 11% missing value rate, the missing values were imputed by series mean analysis (Cokluk et al. 2010) using SPSS 17. Firstly, the factorial structure of the scale was examined with the exploratory factor analysis (EFA). Secondly, the confirmatory factor analysis (CFA) was examined to develop the questionnaire. Since the EFA is aimed to find factor or factors based on the relationships between the variables (Mars and Balla, 1988; Stevens, 1996; Tabachnick and Fidell, 2001), the EFA model, descriptive statistics, and the correlation coefficient analyses were done. The reliability analyses and the EFA model for the first scale (BEE) resulted in four factors with 21-item. The same analyses were done for the GEE, and they resulted in two factors with 9-item. Therefore, 6 items from the BEE and 1 item from the GEE were dropped out of the instrument.

Afterward the confirmatory factor analysis (CFA) was run to test the four-factor structure of the BEE. LISREL 8.51 computer program was used for the analysis. 7-item of the scale was hypothesized to represent the 'Religiosity and personal life' factor; 5-item of the scale was hypothesized to represent the 'Religiosity and social life' factor; 4-item of the scale was hypothesized to represent the 'Religiosity and morality', 5-item of the scale was hypothesized to represent the 'Machiavellianism' factor; and 5-item of the scale was hypothesized to represent the 'utilitarianism' factor. The same analysis was run for the GEE. 5-item of the scale was hypothesized to represent the 'extrinsic' factor, and 4-item of the scale was hypothesized to represent the 'intrinsic' factor. In order to calculate the correlation between the scale points, the Pearson Product Correlation Coefficient analysis was used.

Findings

Factor structure and reliability of the BEE

As a preliminary analysis, a principal components factor analysis was performed on the scale. Exploratory factor analysis revealed a five-factor solution for the BEE. The Kaiser-Meyer-Olkin test (index: 0.883) and Bartlett's test of Sphericity (Barlett's=40001.694, p<0.001) indicated that these data were deemed fit for factor analysis. The factor solution indicated that 61.263% of the total variance was explained by the five factors. 6 items were deleted from the scale as they had a low loading (below 0.45) (Table 1).

Table 1. All items' corrected item-total correlation values in the BEE scale

Item numbers (before -after)	Before rotation					After rotation					Communalities
	Factors					Factors					
	1	2	3	4	5	1	2	3	4	5	
15-1	.792	-.127	-.031	.086	.294	**.820**	.228	.057	.023	-.102	.738
14-2	.749	-.189	-.093	.049	.289	**.797**	.177	-.010	.011	-.157	.692
08-3	.758	-.197	-.031	.143	.252	**.790**	.262	-.029	-.012	-.078	.699
06-4	.730	-.189	-.031	.055	.273	**.768**	.198	.014	-.031	-.128	.646
16-5	.699	-.049	-.078	.061	.327	**.753**	.136	.082	.091	-.084	.608
12-6	.743	-.080	.061	.070	.120	**.659**	.347	.112	-.009	-.115	.581
18-7	.673	-.001	.026	.056	.050	**.550**	.346	.129	.061	-.128	.459
05-8	.683	.086	.215	.063	-.463	.221	**.771**	.219	.017	-.216	.738
07-9	.718	.044	.133	.152	-.323	.356	**.701**	.133	.063	-.150	.662
04-10	.546	-.061	.149	.330	-.300	.279	**.666**	-.040	.005	.030	.523
09-11	.727	-.098	.144	.231	-.214	.465	**.660**	.025	-.026	-.078	.659
10-12	.703	-.033	.086	.217	-.254	.413	**.655**	.034	.054	-.105	.614
22-13	.236	.642	.343	-.402	.069	.017	.028	**.854**	.123	-.082	.752
21-14	.244	.552	.438	-.324	.136	.082	.040	**.819**	.013	.018	.680
23-15	.323	.577	.262	-.313	.148	.160	.029	**.755**	.161	-.057	.625
19-16	.056	.562	.344	.073	.055	-.058	.126	**.550**	.164	.312	.446
24-17	.216	.583	.069	-.080	.011	.040	.105	**.513**	.349	.028	.398
30-18	.033	.695	-.538	.117	-.065	-.094	-.027	.130	**.875**	-.014	.792
29-19	.094	.639	-.514	.197	.060	.045	-.048	.099	**.839**	.072	.724
28-20	.162	.487	-.505	.144	.093	.140	-.056	.041	**.723**	-.005	.548
32-21	.166	.680	-.145	.013	-.119	-.067	.149	.395	**.584**	.002	.525
31-22	.279	.487	-.098	.141	-.205	.019	.327	.243	**.468**	.014	.386
01-23	-.341	.189	.241	.544	.261	-.102	-.083	-.021	.043	**.745**	.575
02-24	-.619	.182	.219	.497	.017	-.461	-.081	-.104	.026	**.693**	.711
11-25	-.256	.214	.310	.403	.340	-.017	-.129	.124	-.016	**.673**	.485
03-26	-.613	.239	.270	.395	.003	-.493	-.091	.007	.006	**.641**	.662

As Table 1 shows, 7 items of 26 gave high loading (.55 and .82) at the first factor, 5 items of 26 gave high loading (.65 and .77) at the second factor, 5 items of 26 gave high loading (.51 and .85) at the third factor, 5 items gave high loadings (.46 and .87) at the fourth factor, and 4 items gave high loadings (.64 and .74) at the last factor. In summary, the first dimension of the BEE comprised of seven items and was labeled as 'Religiosity and personal life'. The second dimension was labeled as 'Religiosity and social life' and comprised of five items. The third dimension included five items and was labeled as 'Machiavellianism'. The fourth dimension included five items and was labeled as 'utilitarianism'. Finally, the last dimension included four items and was labeled as 'Religiosity and morality'. The first factor explained 29% of total variance, the second factor explained 15% of total variance, the third factor explained 7% of total variance, the fourth factor explained 6% of total variance, and the last factor explained 5% of total variance. All factors explained 61% of the variance. A reliability assessment of all items was carried out. The observed reliability coefficients were .90 for 'Religiosity and personal life'; .85 for 'Religiosity and social life', .74 for 'Religiosity and morality'; 78 for 'Machiavellianism'; and .76 for 'utilitarianism'. The results of the reliability analysis can be seen in Table 2.

Table 2. The reliability measures, mean values and standard deviations of the items

	Cronbach's α	$\overline{X}$	Sd
Religiosity and personal life	*.90*	*3.42*	*1.10*
1. Religion determines general moral rules for all	.78	3.18	1.39
2. An individual must behave consistently with the religious rules	.75	3.52	1.38
3. Religion is especially important because it answers many questions about the meaning of life	.74	3.92	1.34
4. What religion offers me most is a comfort when sorrows and misfortune strike	.71	3.95	1.27
5. Moral rules are at the same time the religion rules	.68	3.32	1.43
6. My religious beliefs are real. what underlying behind my whole approach to life	.69	3.06	1.41
7. Religious people behave morally	.58	3.02	1.54
Religiosity and social life	*.85*	*2.66*	*1.12*
8. The religious community (e.g. in a church, in a mosque) is the most important place to formulate good social relationships.	.69	2.29	1.34
9. Religious community I am a member of which offers me most is support when sorrows and misfortunes strike	.69	2.67	1.52
10. The religious places (e.g. church, mosque, tombs) are the most important places to formulate good social relationships	.53	3.15	1.42
11. I take religious leaders/trainers as a model to develop my religious life	.70	2.84	1.50
12. I believe that religious leaders/trainers always tell the truth	.68	2.35	1.37
Religiosity and morality	*.74*	*2.72*	*1.17*
13. Although I believe my religion. I feel that there are many more important things (e.g. work rules) in my life	.48	2.73	1.50
14. It doesn't matter which religion (e.g. Islam, Christianity, Buddhism) I believe so long as I lead a moral life	.66	2.55	1.64
15. Although I am a religious person, I refuse to let religious considerations influence my everyday affairs.	.36	2.86	1.48
16. It doesn't matter whether I am a religious person or not so long as I lead a moral life	.64	2.78	1.60
Machiavellianism	*.78*	*1.75*	*.821*
17. If I see an unethical situation at work. I keep this information until the time I can take advantage of it	.69	1.70	1.15
18. If I see an unethical situation at work. I use it to take advantage of it	.64	1.77	1.19
19. If I see an unethical situation at work. I report it only when I can take advantage of it	.61	1.70	1.13
20. If I would be successful at the end. I would behave immorally	.43	1.47	1.02
21. If I witness a wrongdoing in the group of which I am a member of it (e.g. religious community, union, friend group) I hide it from the others to protect the group from being damaged	.45	1.82	1.12
Utilitarianism	*.76*	*1.75*	*.821*
22. People can be deceived to have benefit for the majority	.71	1.64	1.02
23. I can lie to people to have benefit for the majority	.65	1.93	1.22
24. I believe that an individual's right can be deprived for the sake of the majority	.51	1.94	1.32
25. I can deceive third parties for the benefit of the group of which I am a member of it	.52	1.39	.87
26. I would do my best to improve the status of the group of which I am a member of it. Even it would cause me to lose my reputation	.36	1.86	1.23

As Table 2 demonstrates the dimension of religiosity and personal life has the highest mean score (Mean=3.42) among the factors, while the dimensions of Machiavellianism and utilitarianism have the same mean score (Mean=1.75). The mean scores of item 4 (What religion offers me most is a comfort when sorrows and misfortune strike, Mean=3.95), and item 3 (Religion is especially important because it answers many questions about the meaning of life, Mean=3.92) were the highest values in the religiosity and personal life factors. Besides, item 10 (The religious places are the most important places to formulate good social relationships) has the highest mean value (Mean=3.15) in the religiosity and social life factors. Finally, item 15 (Although I am a religious person, I refuse to let religious considerations influence my everyday affairs) has the highest mean value (Mean=2.86) in the religiosity and morality factors.

Secondly, CFA was used to find out how to fit the factor structure was with the data. At the end of the CFA adaptation indexes were found χ^2=987.64 (df=289, p<.001), (χ^2/df) =3.41, RMSEA=0.084, GFI=0.82 and AGFI=0.78. Item-factor relationship coefficient calculated by CFA is shown in Figure 1. As Kline (2005, cited by Cokluk et al., 2010) states that (χ^2/df)<5 points out the medium fit of the model; and RMSEA<.08 points out the medium fit of the model.
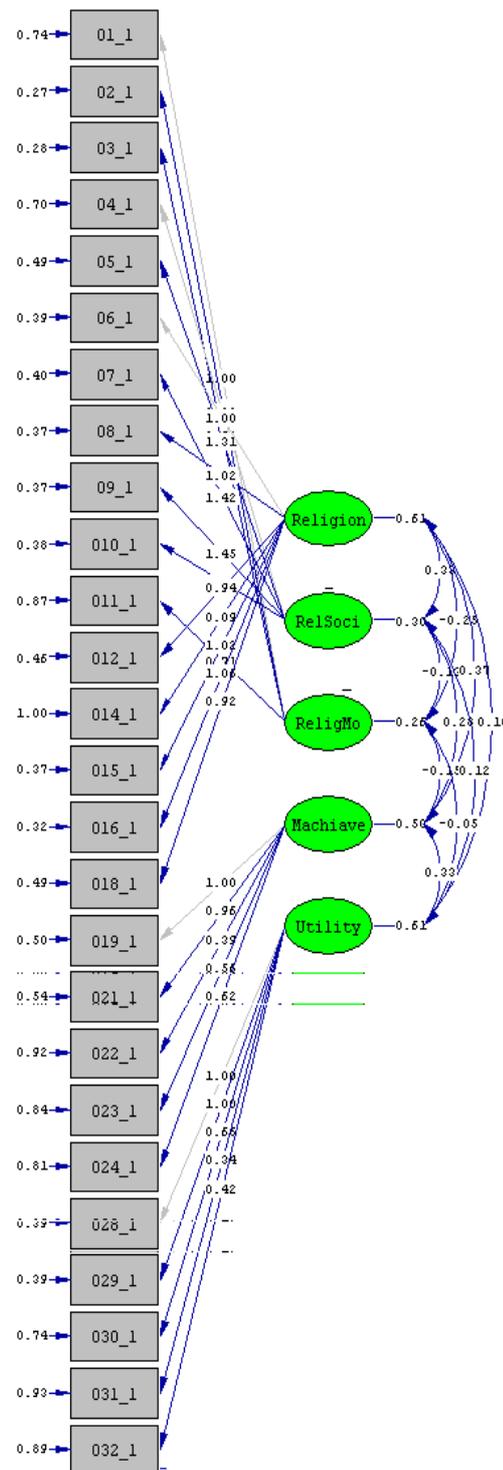
Figure 1. BEE sub-scale CFA, factor-item relationship

At Figure 1, a relationship is shown which is seen between factors in model and items in factor. When the relationship coefficient between the factors and items were examined, it was seen that this value is higher than .32 for all the items. All the factor-item relationships observed were found significant except for the item 14 at the .01 level. Besides, Correlation analysis was used to see relationships between the factors of the scale. Means, standard deviation, and correlation of the factor points are shown in Table 3.

Table3. Correlations among the factors' points

Factors	Correlations				
	Religiosity & personal life	Religiosity & social life	Religiosity & morality	Machiavellian	Utility
Religiosity & personal life	1				
Sig.(2-tailed)					
Religiosity & social life	.682**	1			
Sig.(2-tailed)	.000				
Religiosity & morality	-.491**	-.375**	1		
Sig.(2-tailed)	.000	.000			
Machiavellianism	.072	.106	.045	1	
Sig.(2-tailed)	.186	.051	.413		
Utilitarianism	.072	.106	.045	1.000**	1
Sig.(2-tailed)	.186	.051	.413	.000	
Total	.542**	.619**	.107*	.725**	.725**
Sig.(2-tailed)	.000	.000	.050	.000	.000

**p<.01

As Table 3 shows, there is a positive significant correlation between the dimensions 'Religiosity and personal life' and 'Religiosity and social life' (r=.682; p<.01) the scale. However, there is a negative correlation between the dimensions 'Religiosity and morality' and 'Religiosity and personal life'(r=-.491; p<.01) and 'Religiosity and social life'(r=-.375; p<.01) of the scale. Meanwhile, there is a perfect positive correlation between the dimensions of Machiavellianism and utilitarianism of the scale (r=1.000; p<.01). Surprisingly, the correlation values between the total of the scale and the dimensions of Machiavellianism and utilitarianism were the same (r=.725; p<.01). When total points were examined, it was shown that the correlation between the dimensions of Machiavellianism and utilitarianism and the total of the scale has the highest value (r=.72, p<.01). Secondly, the Correlation between the dimension of Religiosity and social life and the total of the scale has higher (r=.61, p<.01) than the Correlations between the other dimensions (Religiosity and personal life, and Religiosity and morality) and the total of the scale.

Factor structure and reliability of the GEE

Firstly, a principal components factor analysis was performed on the scale. Exploratory factor analysis revealed a two-factor solution for the GEE. The Kaiser-Meyer-Olkin test (index: 0.815) and Bartlett's test of Sphericity (Barlett's=1084.988, p<0.001) indicated that these data were deemed fit for factor analysis. The factor solution indicated that 58.256% of the total variance was explained by the two factors. One item (Items 41) was deleted from the scale as they correlated very little with the other items (Table 4).

Table 4. All items' corrected item-total correlation values in the GEE scale

Item numbers (before-after)	Before rotation		After rotation		Communalities
	Factors		Factors		
	1	2	1	2	
34-01	.703	.515	**.862**	.133	.760
35-02	.698	.457	**.817**	.170	.696
42-03	.495	.371	**.612**	.088	.383
33-04	.527	.304	**.588**	.155	.370
40-05	.753	.068	**.580**	.484	.571
39-06	.617	-.594	.020	**.856**	.734
38-07	.720	-.367	.250	**.768**	.652
36-08	.696	-.303	.278	**.706**	.576
37-09	.580	-.406	.123	**.697**	.501

According to the Table 4, five items of 9 gave high loading (.58 and .86) at the first factor, and four items of 9 gave high loading (.69 and .85) at the second factor. The first factor explained 42% of total variance, and the second factor explained 16% of the total variance. All factors explained 58% of the variance. Five items located at the first factor are related to opinions. Therefore the first factor was named as 'extrinsic environment' by taking into consideration the characteristics measured by the items. The last four items located at the second factor of the scale are related to intrinsic values. So, the factor was named as 'intrinsic environment' by taking into consideration the characteristics measured by the items. Table 5 indicates reliability measures of all items in the scale.

Table 5. Reliability measures, Mean values and standard deviations of the items

	Cronbach's α	$\overline{X}$	Sd
Extrinsic environment	**.77**	**2.09**	**.84**
1. I evaluate the ethical situations based on the opinion of the Union of which I am a member of it.	.69	1.82	1.15
2. I evaluate the ethical situations pursuant to the opinion of the religious community of which I am a member of it.	.63	1.86	1.16
3. I evaluate the ethical situations on the basis of the social position of the person mentioned in that case.	.43	2.25	1.35
4. I evaluate the ethical situations on the basis of occupational values.	.43	2.53	1.29
5. I evaluate the ethical situations pursuant to the opinion of my colleagues.	.56	1.99	1.14
Intrinsic environment	*.79*	*2.88*	*1.04*
6. I evaluate the ethical situations on the basis of national values.	.64	3.14	1.30
7. I evaluate the ethical situations pursuant to the opinion of my family.	.63	2.77	1.34
8. I evaluate the ethical situations on the basis of traditions.	.58	2.46	1.30
9. I evaluate the ethical situations on the basis of religious principles.	.52	3.16	1.46

As Table 5 shows, the Cronbach's alpha for the 'extrinsic environment' factor was .77, for the 'intrinsic environment' factor was .79. For the whole scale, it was calculated .82. Besides, the mean value for the dimension of the intrinsic environment (Mean=2.88) has higher than the mean value for the dimension of the extrinsic environment (Mean=2.09). Item 9 (I evaluate ethical cases on the basis of religious values) has the highest mean value (Mean=3.16) among the others in the intrinsic environment dimension. Besides, item 4 (I evaluate ethical cases on the basis of occupational values) has the highest mean value (Mean=2.53) among the others in the extrinsic environment dimension.

Also, CFA was used to find out how to fit the factor structure was with the data. At the end of the CFA adaptation indexes were found χ^2=311.38 (df=26, p<.001), (χ^2/sd) =11.97, RMSEA=0.18, GFI=0.83 and AGFI=0.71. As Kline (2005, cited by Cokluk et al., 2010, p.307) states (χ^2/df)<5 points out the medium fit of the model; RMSEA<.08 points out the medium fit while RMSEA<.10 points out the weak fit of the model. Item-factor relationship coefficient calculated by CFA is shown in Figure 2.
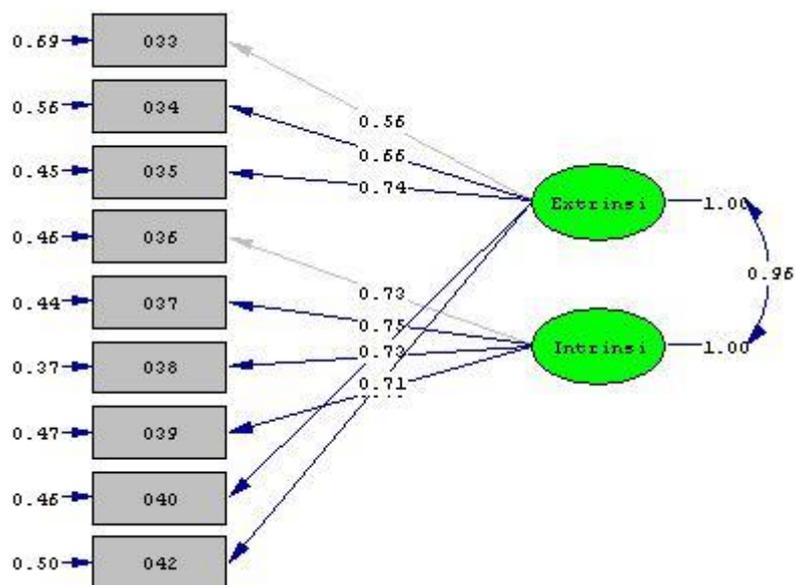

Figure 2. GEE scale CFA, factor-item relationship

At Figure 2, the relationship is shown between the factors in model and the items. When the relationship coefficient between the factors and the items were examined, it was seen that this value was higher than .30 from all the items. All the factor-item relationships observed were found significant at the .01 level. Besides, Correlation analysis was used to see relationships between the factors of the GEE. Means, standard deviation, and correlation of the factor points are shown in Table 6.

Table 6. Correlations among the factors' points

Factors	Correlations	
	Extrinsic	Intrinsic
Extrinsic	1	
Sig.(2-tailed)		
Intrinsic	.611*	1
Sig.(2-tailed)	.000	
Total	.916*	.848*
Sig.(2-tailed)	.000	.000

*p<.001, N=346

As Table 6 shows, there is a positive correlation between the extrinsic and intrinsic factors (r=.61, p<.01). When total points were examined, it was seen that the correlation between the dimension of extrinsic and total of the scale has the highest (r=.91, p<.01) value.

Discussion and conclusion

The EEQ involved two sub-scales named the scale of Bases of Ethical Evaluation and the scale of Grounds of Ethical Evaluation. EFA and CFA were applied by using the data obtained EEQ with validity and reliability to determine the individuals' ethical evaluation in Islamic perspective. After the EFA 6 items were deleted from the scale because they have low loading (below .45). The EFA revealed a five-factor solution for the Bases of Ethical Evaluation scale named Religiosity and personal life, Religiosity and social life, Religiosity and morality, Machiavellianism, and utilitarianism. The first three factors, with 16 items, was created utilizing the Religious Orientation Scale (ROS) by Allport and Ross (as cited in Burris, 1999), and the literature. The fourth factor, Machiavellianism, involved in 5 items and related to Machiavellian effect on individuals' ethical evaluation. The last factor, Utilitarianism, involved in 5 items and related to the utilitarian effect on individuals' ethical evaluation. 7 items took place at the first factor (Religiosity and personal life) had between .55 and .82 item loading. 5 items took place at the second factor (Religiosity and social life) had changed between .65 and .77 item loading. 4 items took place at the third factor (Religiosity and morality) had changed between .64 and .74 item loading. 5 items took place at the fourth factor (Machiavellianism) had changed between .51 and .85 item loading. Finally, 5 items took place at the last factor (Utilitarianism) had changed between .46 and .87 item loading. Kline (1994) evaluated the item factor load values .60 and over as high, the values .30 and .59 as moderate level. Tabachnick and Fidell (2001) evaluated the values being .45 and over as being good criteria. The first factor explained 29% of total variance, the second factor explained 15% of total variance, the third factor explained 7% of total variance, the fourth factor explained 6% of total variance, and the last factor explained 5% of total variance. All factors explained 61% of the variance. The reliability coefficients were .90 for 'Religiosity and personal life'; .85 for 'Religiosity and social life', .74 for 'Religiosity and morality'; 78 for 'Machiavellianism'; and .76 for 'utilitarianism'.

The goodness-of-fit of the factorial model of the BEE was evaluated using multiple criteria, and the following values were calculated: χ^2=987.64 (df=289, p<.001), (χ^2/df) =3.41, RMSEA=0.084, GFI=0.82 and AGFI=0.78. Results showed a fit model (χ^2/sd was upper than 5; GFI and AGFI were below than 0.90, and RMSEA was upper than 0.05) according to Joreskog et al. (2006), and Marsh and Hocevar (1988).

The second sub-scale, Grounds of Ethical Evaluation, with 9 items, resulted in two factors: Extrinsic environment with 5 items, and intrinsic environment with 4 items. After the EFA, one item was deleted from the scale as it correlated very little with the other items. 5 items took place at the first factor (Extrinsic environment), and they had loadings changing between .58 and .86. 4 items took place at the second factor (Intrinsic environment), and they had loadings changing

between .69 and .85. The first factor explained 42% of total variance, and the second factor explained 16% of total variance. All factors explained 58% of the total variance.

The goodness-of-fit of the factorial model of the scale was evaluated using multiple criteria, and the following values were calculated: (χ^2/sd) =11.97, RMSEA=0.18, GFI=0.83, and AGFI=0.71. Results showed a fit model $(\chi^2/sd$ upper than 5; GFI and AGFI were below than 0.90, RMSEA upper than 0.05) as Joreskog et al. (2006) and Marsh and Hocevar (1988) suggested.

Cronbach Alfa internal consistency was used to calculate the reliability of the points from GEE scale. Alfa values are .77 for the first factor, and .79 for the second factor. For the whole scale, it was calculated .82. As a result, the analyses showed that the EEQ made up of two subscales named the BEE (26 items valid and reliable five factors), and the GEE (9 items valid and reliable two factors).

Scholars (e.g. Jones 1991; Cohen, et al., 1992; Ford and Richardson, 1994; Woiceshyn, 2011) argue that numerous factors including individual factors (such as religion), organizational factors, and situational factors, and components of the ethical issue itself affect individuals' ethical evaluation. Although there have been many attempts (i.e. Forsyth 1980; Barnett et al. 1996; Singhapakdi, et al., 2000) for measuring individual's ethical evaluation there has been insufficient research and measurement tool to explain the relationship between religiosity and ethical evaluation. The EEQ aimed to measure the resources of individuals' ethical evaluation. Therefore developing the EEQ, this study aimed to support the researchers, and literature to examine individuals' ethical evaluation with respect to these five factors. As correlation coefficient results of the first scale revealed, there is a positive correlation between the Religiosity and personal life, Religiosity and social life, Religiosity and morality, Machiavellianism, and utilitarianism factors. Examining the EEQ in education context was supposed to be lighting for the other studies.

This paper examined teachers' underpinning resources for reasoning for ethical evaluation at schools along with the instrument development. The results revealed that the teachers evaluate ethical cases on the basis of Religiosity. In addition, the personal life has the highest score while Religiosity and social life has the lowest mean score among the religious related dimensions of the scale. According to the teachers, religion offers them mostly comfort when they feel sorrow. Besides, religion is especially important them because it answers many questions about the meaning of their life. The results showed that the religious places such as mosques, and tombs were most important places to formulate good social relationships for the participants. Finally, although they believe their religion, the participants feel there are many important things in their life.

The results showed that there is was a positive significant correlation between Religiosity and personal life and Religiosity and social life. The Correlation results revealed a negative correlation between Religiosity and morality and the other religiosity related dimensions (Religiosity and personal life, and Religiosity and social life) of the scale. Finally, there is a perfect positive correlation between Machiavellianism and utilitarianism.

The GEE results indicated that the participants evaluate ethical cases on the ground of intrinsic environment. They evaluate ethical cases on the basis of religious values, and on the basis of national values. The analysis of the EEQ application provided empirical insights to investigate reasons for ethical evaluation of the teachers in Turkey. Since the EEQ is a valid and reliable scale, it can be generalized for the other professions. The instrument was developed to measure Islamic belief and Turkish culture. However, researchers can use the instrument for different cultures with an adaptation. Examining Muslims, this study contributes the literature related to ethical ideology and religiosity with regard to Islamic perspective. Thus with the help of this instrument, administrators would be powerful to understand reasons of ethical evaluation of their employees in their organizations.

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