



Primary School Students' Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale: Validity and Reliability Study

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Abstract

The aim of this study is to develop a valid and reliable measurement tool that can measure the attitudes towards ethical values and ethical value concerns of primary school students at the basic education level. The study group of the research consists of 2nd, 3rd and 4th grade primary school students studying in 144 primary schools in Kars City Centre in the 2021-2022 academic year. With in the scope of the validity and reliability studies of the scale, explanatory factor analysis (EFA), confirmatory factor analysis (CFA), total item correlation, and Cronbach Alpha coefficient were used. EFA and CFA findings were obtained from a sample group of 435 participants selected by stratified purposive sampling method. According to the findings of the validity and reliability analyses of Senses of Belonging towards the Ethical Values and Ethical Values Concern Scale, it was determined that the scale is a valid and reliable scale with its structure consisting of 8 dimensions and 28 items. The sub-dimensions of the scale are "Love/Respect, Justice, Friendship/Honesty, Patience, Responsibility, Selfcontrol, Benevolence and Patriotism". The high scores obtained from the sub-dimensions of the scale indicate that the students' level of predisposition to values is high, while low scores indicate that the students do not have sufficient knowledge about values and do not develop sufficient attitudes. Cronbach's Alpha coefficient of the scale is 0.90; Cronbach's Alpha coefficients of the sub-dimensions vary between 0.68 and 0.80. The item-total correlation was found to be above 0.30 in all items (between 0.37 and 0.61). Based on the results, it was determined that the scale is a valid and reliable measurement tool that can be used.

Key Words

Ethical values
Values
Education of values
Scale development

About Article

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Introduction

Considering the needs of societies and individuals in a digitalised world, raising children is an important responsibility. The ways of raising a child well, require the professionalism of knowing the child well, getting opinions/support from experts and consulting experts (Furman, 2021). The acquisition, teaching and transfer of ethical values is an important need for the good upbringing of children who constitute the building blocks of society. When it comes to ethical values, the concept of ethical climate comes to the fore. Ethical climate is defined as ethically based methods and practices (Victor & Cullen, 1988). Ethical climate is a broad spectrum that includes school culture. In general, ethical climate studies are conducted outside the school and educational organisations. However, school environments are the places where ethical value climate will form and take root. For this reason, ethical value studies to be carried out in schools are more important. The education given within the framework of ethical climate is usually formulated as the need to teach students the difference between right and wrong, and students are generally expected to transform this theoretical knowledge into actions. In this case, the tasks of moral behaviour and value education can be listed as follows: Defining appropriate values, transferring the defined values to the students, and finally transforming the theoretical values transferred to the students into behavioural patterns (actions) (Clarkeburn, 2002, p.308).

Education should be shaped in the perspective of ethical climate. Because students, staff, teachers, and administrators under the roof of the school may face numerous problems. The segment most affected by these problems is undoubtedly students. Educational institutions should be environments where children realise themselves by living in a healthy, happy, and free way (Bilgen, 1994, p.23). In this context, teachers and administrators are faced with questions and problems such as "What can I do in this situation?", "What should I do?", "Is this behaviour right?", "Is it right for me to behave in this way?". These situations in school culture cause teachers and administrators to deal with more and more problems related to ethical fields. Ethics in education and teaching is an issue that should be taken into consideration in educational outcomes, different contents, transferred values and educational process. Ethics in education is an area that should be examined primarily in terms of many variables. The reason for this situation is that education, which is the process of creating behaviour change in individuals, occurs as an initiative (Aydın, 2013).

As in daily life, there are ethical principles and rules that students are obliged to comply with in educational institutions. Ethical principles are broad statements that help individuals transform conceptual and philosophical beliefs into ethical behaviour (Gauthier, Pettifor & Ferrero, 2010). Ethical principles that must be followed in educational life create various rights and responsibilities for the individual receiving education in the educational institution.

Individuals shape their moral codes and universal values through the values education they receive in educational institutions. In this context, values education is the educational activities carried out for children and adults to realise positive values and to develop these values according to their own potential (Meydan, 2014). Educational activities are fed by educational philosophies. The definition and scope of values education is influenced by the philosophical background of the education system that makes this definition. The philosophical source from which the education given to the individual is fed may also have a shaping effect on values education. When we look at idealism, it is seen that the ideas that exist in reality are not perceived by our five senses, and that the ideas that exist in reality are eternal and perpetual (Cevizci, 2017). From this perspective, it is seen that root values are also abstract and integrative. In addition, idealism is seen to have basic views such as giving importance to the personality of the individual, encouraging the individual to search for the truth, and creating an ideal human and society (Küçükaslan, Elkılıç & Ulu, 2021).

Ethical values, root values, character education and values education are important in an idealist education system. Values should be given importance in idealist education (Küçükaslan et. al., 2021). According to idealists, education should assume a role that will lead people to the beautiful, the right and the good. In this context, an idealist education system cannot be considered independent of values and moral codes. The traditional tissues that should be present in the individual and the modern identities gained as a result of changes and transformations in technology can be reconciled with the education given. In this respect, aim of education should be to enable the individual to reach the best

and ideal values. It should also provide the necessary environment for the individual to have a good personality and character (Kurt, 2016). Education, from the perspective of idealists, is surfacing of values with an institutional understanding and is accompanied by idealist ideas. In this context, education should be the monopoly of the state, but educational institutions should prioritise education that develops cognitive, affective and psychomotor skills, educate virtuous individuals, and be designed in a way that will lead the individual to the ideal of good (Kılıç, 2016). It is thought that the study to be carried out in this regard will also serve idealist and other philosophies of education.

Societies have ethical value concerns for the progress and development of countries in the context of ethical values in many fields. It is possible to prevent these concerns through the acquisition of ethical values and the transfer of ethical values to the existence of ethical values. This situation is also the case for Türkiye. In the 18th National Education Council held in 2010 (NEC, 2010), in the 29th article under the title of "Sports, Arts, Skills and Values Education", the statement "A nationwide field survey should be conducted by the Ministry of National Education to determine the values of our children and young people and this survey should be updated every 4 years." expresses the concern about ethical values.

Cognitive, affective and psychomotor development areas of the individual constitute an integrity. In this integrity, moral development is also important for the individual. In order for the individual to progress in all areas of development, emotions should mobilise the individual. In this respect, anxiety is one of the emotions that are part of the development process. In parallel with the change and progress of age and developmental processes in children, anxiety can be experienced in different ways such as separation anxiety as a result of separation from the person who takes care of the child, sibling anxiety, school and homework anxiety, anxiety about making friends, anxiety about being humiliated by the behaviours shown as a result of ethical principles. While it is considered normal for the child to experience anxiety in the face of different events in daily life, it is considered pathological for the child to experience anxiety continuously except for unusual events (Alisinanoğlu & Ulutaş, 2003; Çifter, 1985).

The researcher who decides to develop a scale can finalise the scale by following the eight steps given below. These steps can be listed as follows (Şahin & Öztürk, 2018):

1. Firstly, it should be decided 'what is to be measured'. The theoretical structure of the variable to be measured and related variables should be presented in detail,
2. Creation of an item pool,
3. Deciding on the format of the measurement tool,
4. Review of the items by experts,
5. Ensuring item validity,
6. Application of the scale,
7. Evaluation of the items,
8. Finalising the scale.

There are many studies on ethical values. When the word "ethics" is typed in the National Thesis Scanning Centre, 1139 master's and doctoral thesis studies appear. 227 of these studies are on education and teaching and 34 of them are doctoral thesis studies. Seven of the doctoral thesis studies were prepared with qualitative research method (Börü, 2015; Canan, 2016; Coşkun, 2020; Coşkun, 2016; Tekel, 2018; Türker, 2017; Yayla, 2004). 17 doctoral thesis studies were prepared with quantitative research methods (Acar, 2011; Beyza, 2011; Çiçek, 2017; Dolaşır, 2005; Eser, 2018; Kahveci, 2019; Koçyiğit, 2017; Manolova, 2011; Mısırlı, 2016; Ölçüm, 2021; Özbek, 2003; Uğurlu, 2009; Sakin, 2007; Tarım, 2020; Tekel, 2018; Toytok, 2014; Turhan, 2007; Yılmaz, 2006). Nine doctoral thesis studies were carried out with mixed method research (Erdemir, 2015; Esmer, 2017; Haban, 2018; Karabulut, 2015; Kaya, 2020; Minaz, 2017; Mutlu, 2018; Özdiyar, 2015; Özyıldırım, 2018). The remaining 193 studies are master's thesis studies on education and teaching. Also, Tunca, Şahin, Sever & Aktaş (2015), Yardimciel (2015), Çalışkan (2016), Uzunöz, Aktepe & Köybaşı (2018), Tarım (2020), Korku (2021), Luckowski (1996), Mikulics (1998), Haydon (2004), Chandler (2005), Blake (2011), Pucci (2012), Arthur & Carr (2013), Pellechia (2018) are studies on ethics/ethical values/values education. However, the lack of studies examining or addressing primary school students' attitudes towards ethical values and ethical value concerns among these studies can be interpreted as a gap in the literature. Since this study aims to develop a measurement tool that can

measure the ethical value attitudes and ethical value concerns of primary school students, it can contribute to obtaining more valid and reliable information about the ethical value attitudes and ethical value concerns of students at the basic education level.

In addition, it is thought that this study will be a source for the studies to be carried out at the basic education level and course curricula at the basic education level. In this context, the current research aims to develop a valid and reliable scale that can determine the attitudes towards ethical values and ethical value concerns of 2nd, 3rd and 4th grade students at the basic education level, and its main scope is the answer to the question "What is the level of primary school students' attitudes towards ethical values and do primary school students have ethical value concerns?".

Method

In this section, information about the research model, study group, data collection and data analysis are presented. For the study, permission was obtained from Atatürk University Social and Human Sciences Ethics Committee on 23/09/2022 with the number 10/10.

Research Design

This research is a quantitative scale development study conducted in the survey model. The survey model is a research model that describes an existing situation as it is without any intervention to reach a general conclusion (Karasar, 2012). Scales are developed to reveal what and how the individual's characteristics such as interest, attitude, anxiety, and motivation that cannot be directly observed (Kovancı, 2020). Accordingly, the aim of this study is to develop a data collection tool that measures the attitudes of primary school 2nd, 3rd and 4th grade students towards ethical values and the level of their ethical value concerns.

Study Group

The study group of the research consists of 2nd, 3rd and 4th grade primary school students studying in 144 primary schools in Kars city centre in the 2021-2022 academic year. In the study, explanatory factor analysis (EFA) and confirmatory factor analysis (CFA) findings were obtained from the study group consisting of 435 people selected by multi-stage stratified purposive sampling method. Multi-stage stratified purposive sampling was used in the study. Accordingly, it was aimed to sample every student in the universe at the rate in the universe. Then, the schools in Kars city centre where the application was carried out were determined and it was ensured that they were represented in the sample as much as they were represented in the universe. The classes in the schools to which the scale would be applied were determined by simple random sampling method. Comrey and Lee (1992) stated that the number of participants in scale development studies should be between 200 and 300 (as cited in Erçetin, 2021, p. 1053). The demographic information of the participants is shown in Table 1 according to their demographic characteristics.

Table 1. Distribution of the study group according to variables

Demographic Variable	Groups	n	%
Age	1	23	5.3
	2	282	64.8
	3	130	29.9
Grade	2	122	28.0
	3	157	36.1
	4	156	35.9
Gender	1	206	47.3
	2	229	52.6

When the descriptive analyses of 435 students who participated in the scale research studies are examined; when the distribution of the students included in the sample according to the age variable is examined, 23 (5.3%) of the primary school students participating in the research are in the 6-7 age range; 282 (64.8%) are in the 8-9 age range and 130 (29.9%) are in the 10-11 age range. Among the primary school students participating in the study, 122 students (28.0%) were in 2nd grade, 157 students (36.1%) were in 3rd grade and 156 students (35.9%) were in 4th grade. When the

distribution of the students included in the sample according to gender was analysed, 206 (47.3%) of the primary school students participating in the study were female and 229 (52.6%) were male.

Data Collection Process

While determining the scale development studies to be examined in the process of preparing the draft scale items, the words "ethics, value, ethical values, ethics and morality" were scanned in the research titles and the studies conducted in the field were analysed. While creating the item pool, "Ethical Values Disposition Scale: Validity and Reliability Study" by İbrahim Kaya (2015) was also benefitted. In addition, an interview form about "ethical values" was prepared, and interviews were conducted with 2nd, 3rd and 4th grade students and certain data were obtained as a result of these interviews and these data were used in the development of the scale. As a result of the analyses, an item pool of 69 items was formed.

In order to determine whether the items in the draft scale determine the behaviour to be measured in terms of quantity and quality (Büyüköztürk, 2011), the draft scale was submitted to expert opinion for the content and face validity of the item pool. The item pool was examined by two professors, two associate professors, two doctoral faculty members and two linguistics experts (Guidance and Psychological Counselling, Curriculum and Instruction). In order to make the expressions in the draft scale more comprehensible in terms of spelling and meaning, the opinions of the language experts of the Department of Turkish Language Teaching were also consulted. After all these examinations and partial corrections of overlapping items, the 76-item draft scale was finalised and the implementation phase started.

As a result of the feedback received from the experts, the scale draft was presented to some students in terms of comprehensibility, and it was determined that the draft was comprehensible as a result of the feedback received.

The scale was prepared in 5-point Likert type and the scale items were formed as "1" completely disagree, "2" disagree, "3" undecided, "4" agree and "5" completely agree. The 76-item draft of the "Primary School Students' Sense of Belonging towards Ethical Values and Ethical Value Concern Scale" was delivered to 480 students in 5 different schools not included in the study group, and 435 of the returned scales were subjected to analyses without including the incomplete and incorrect ones. In this study, SPSS 21.0 and AMOS 22.0 statistical programmes were used to analyse the data. Explanatory factor analysis (EFA), confirmatory factor analysis (CFA), item-total correlation, and Cronbach Alpha methods were used in the validity and reliability studies of the scale.

Explanatory factor analysis (EFA) can be defined as a multivariate statistic that aims to find and discover a smaller number of conceptually meaningful new variables by bringing together a large number of interrelated variables (Çokluk, Şekercioğlu, & Büyüköztürk, 2010). In explanatory factor analysis, a process is carried out to find factors based on the relationships between variables. In explanatory factor analysis, firstly, the adequacy of the sample is evaluated by Kaiser Meyer Olkin and Barlett's Sphericity Test. In general, $KMO > 0.70$ and $p < 0.05$ for Barlett's Sphericity Test are expected. There are various factor generation techniques, but the most commonly used one is principal component analysis. On the other hand, rotated factor matrix is obtained by using one of the rotation methods. In social science applications, Varimax technique, one of the orthogonal rotation methods, is most commonly used. After Varimax rotation, the load of the items on the factor to which they belong, the load on other factors and the difference between the loads on more than one factor are analysed. In factor analysis, when eliminating the items that do not measure the same construct, it should be paid attention that the factor load values are high (0.45 or higher is a good measure, but this ratio can be reduced to 0.30) and that the items have high load values in a single factor and low load values in other factors (the factor load difference between the factors other than the factor where each item has the highest factor load is at least 0.10) (Büyüköztürk, 2011).

Confirmatory factor analysis (CFA) is a highly developed technique based on testing theories about latent variables and used in advanced research. It is an analysis that tests whether a previously defined and restricted structure is confirmed as a model. Confirmatory factor analysis is one of the structural equation models, and in structural equation models, model fit must first be ensured. In the evaluation of model fit, the ratio of the "Chi-square statistic to the degrees of freedom" (X^2/sd), "statistical significance of individual parameter estimates" (t value), "fit indices based on residuals"

(SRMR, GFI), "fit indices based on independent model" (NFI, NNFI, CFI) and "root mean square error of approximation (RMSEA)" is commonly used. (Çokluk, Şekercioğlu, & Büyüköztürk, 2010). The expected coefficients for the model fit indices are given in Table 2.

Table 2. Model fit indices.

Indexes of Fitness	GoodFit	PerfectFit
χ^2 /sd	<5	<3
RMSEA	$\leq 0,10$	<0,08
SRMR	$\leq 0,08$	<0,05
GFI	$\geq 0,90$	>0,95
NFI	$\geq 0,90$	>0,95
NNFI	$\geq 0,90$	>0,95
CFI	$\geq 0,90$	>0,95

Source: Çokluk, Şekercioğlu and Büyüköztürk, 2010.

Item-total correlation, one of the item analysis methods applied within the scope of reliability study, explains the relationship between the scores obtained from the test items and the total score of the test. A positive and high item-total correlation indicates that the items sample similar behaviours and the internal consistency of the test is high. In general, it can be said that items with an item-total correlation of 0.30 and higher distinguish individuals well, and items between 0.20-0.30 can be included in the test if deemed necessary. Cronbach Alpha is used to examine the internal consistency between test scores. The calculated reliability coefficient of 0.70 and higher is generally considered sufficient for the reliability of the test scores (Büyüköztürk, 2011).

Findings

Explanatory Factor Analysis Results

In the explanatory factor analysis of the Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale, KMO was found to be 0.88 and Bartlett's sphericity test significance level was found to be $p < 0.01$; therefore, it was observed that the sample was sufficient for explanatory factor analysis. The results of the explanatory factor analysis are presented in Table 3.

Table 3. Initial results of explanatory factor analysis

Item No	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
love1	0.50	0.12	0.12	-0.04	0.06	0.09	0.03	0.17	0.22	0.00
love2	0.51	0.30	0.09	0.04	0.05	0.20	0.20	0.15	-0.08	0.06
love3	0.15	0.07	0.02	0.07	0.03	0.16	0.42	0.09	0.05	-0.11
love4	0.50	0.15	0.12	-0.13	-0.03	0.00	0.11	0.20	0.12	0.15
love5	0.66	0.05	0.07	-0.07	0.10	0.04	0.14	0.09	0.05	0.04
love6	0.35	0.17	0.01	0.00	0.03	0.01	0.49	-0.06	0.01	0.02
love7	0.65	0.12	0.24	0.00	0.16	-0.03	0.01	0.12	0.00	0.15
love8	0.19	0.10	0.07	0.15	0.39	0.08	0.22	-0.12	0.17	-0.10
respect1	0.58	0.16	0.12	0.00	-0.01	0.01	0.15	0.22	-0.01	0.06
respect2	0.51	0.02	0.15	0.01	0.31	-0.02	0.12	0.08	0.00	0.00
respect3	0.53	0.13	-0.06	0.03	0.05	0.06	0.04	0.01	0.14	-0.05
respect4	0.40	-0.02	0.12	-0.02	0.06	0.06	0.56	-0.03	0.08	0.08
respect5	0.55	0.42	0.22	-0.09	0.23	-0.04	0.07	0.09	0.05	0.01
respect6	0.42	0.41	0.04	-0.03	0.18	0.17	0.05	0.07	0.11	-0.06
respect7	0.37	-0.01	-0.03	-0.04	0.41	0.24	-0.05	0.06	0.20	0.00
respect8	0.37	0.03	0.07	-0.07	0.25	0.13	0.34	-0.01	0.09	0.10
respect9	0.67	0.12	0.11	0.01	-0.03	-0.03	0.30	-0.01	0.00	0.04
justice1	0.46	0.20	0.10	-0.12	0.37	0.19	-0.02	-0.03	0.10	0.13
justice2	0.07	0.09	0.06	0.12	0.36	0.23	0.38	-0.04	-0.06	-0.15

Table 3. Initial results of explanatory factor analysis (Continued)

Item No	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
justice3	0.49	0.17	0.23	0.18	0.23	0.17	-0.08	-0.13	-0.09	-0.09
justice4	0.23	0.35	0.10	0.28	0.25	0.04	0.03	-0.03	-0.12	-0.13
justice5	0.58	0.20	0.07	0.05	0.18	0.19	0.01	-0.07	-0.15	0.09
justice6	0.44	0.25	0.20	0.00	0.13	0.13	0.19	-0.06	-0.01	-0.03
friendship1	0.18	0.59	0.02	-0.01	0.08	0.23	-0.11	0.03	0.07	0.08
friendship2	0.08	0.73	0.20	0.01	0.12	0.18	0.14	0.10	0.02	0.01
friendship3	0.07	0.69	0.22	-0.08	0.15	0.05	0.16	0.02	0.18	0.09
friendship4	0.22	0.53	-0.01	0.02	0.03	0.00	-0.01	0.05	0.17	-0.07
friendship5	0.13	0.35	-0.05	0.12	0.23	0.06	-0.15	-0.05	0.32	-0.06
friendship6	0.24	0.63	0.20	0.02	-0.11	0.07	0.13	0.16	0.14	0.08
honesty1	0.33	0.47	-0.09	0.12	0.17	0.20	-0.03	0.11	-0.03	0.10
honesty2	0.23	0.53	0.15	0.04	0.13	0.17	0.16	0.12	0.04	0.22
honesty3	0.25	0.51	0.19	0.12	0.15	-0.03	0.26	-0.11	-0.15	0.17
honesty4	0.25	0.33	0.11	0.14	0.09	0.25	0.23	0.14	0.03	-0.01
honesty5	0.18	0.22	0.12	0.03	0.40	0.17	0.23	-0.04	-0.02	0.14
honesty6	-0.10	0.19	0.00	0.38	0.00	-0.01	0.08	-0.08	0.57	0.11
honesty7	0.14	0.30	0.33	0.05	0.21	0.10	0.12	0.00	-0.02	0.33
honesty8	0.05	0.06	0.00	0.11	0.04	0.11	0.08	0.06	0.22	0.80
honesty9	0.09	0.07	0.00	0.15	0.05	0.12	-0.10	0.03	0.14	0.78
honesty10	-0.10	-0.02	-0.11	0.46	0.02	0.02	-0.02	0.02	0.24	0.04
honesty11	-0.05	0.01	-0.18	0.51	-0.01	0.03	0.03	0.09	0.37	0.20
honesty12	0.16	0.08	0.03	0.31	-0.06	0.22	-0.10	-0.05	0.06	0.34
patience1	0.14	0.14	0.17	0.01	0.07	0.66	0.16	0.14	0.13	0.13
patience2	0.10	0.19	0.09	0.03	0.08	0.69	0.11	0.12	0.04	0.11
patience3	0.07	0.16	0.05	0.09	0.15	0.62	0.12	0.12	0.08	0.11
patience4	0.02	0.10	0.12	0.55	0.06	0.22	-0.10	-0.17	-0.03	0.01
patience5	0.06	0.21	0.12	0.50	0.08	0.11	0.00	-0.29	0.08	0.06
self-control1	0.24	0.24	0.18	0.16	-0.22	0.34	0.25	0.04	0.05	0.05
self-control2	0.41	0.29	0.25	0.12	-0.02	0.29	0.35	-0.02	-0.05	0.09
self-control3	-0.06	-0.03	0.00	0.66	0.05	0.08	0.01	0.10	-0.05	0.11
self-control4	0.20	0.10	0.25	0.26	0.14	0.27	0.31	-0.06	-0.17	0.17
self-control5	-0.01	0.07	0.08	0.51	0.07	0.07	0.21	0.04	-0.06	0.16
self-control6	0.02	0.15	0.09	-0.54	0.00	0.20	0.01	-0.26	-0.19	0.16
self-control7	0.25	0.01	0.28	0.14	-0.13	0.06	-0.02	0.48	-0.11	0.17
self-control8	0.08	0.07	0.14	-0.54	0.08	0.23	0.01	-0.25	-0.25	0.17
self-control9	0.05	0.08	0.07	0.14	-0.02	0.11	-0.07	0.58	0.00	-0.03
self-control10	0.09	0.00	0.18	0.40	-0.02	-0.18	0.17	0.26	0.02	0.09
self-control11	0.21	0.24	0.12	0.09	0.37	0.01	0.19	0.34	-0.09	0.25
responsibility1	0.02	0.15	0.16	0.01	0.26	0.19	0.08	0.37	0.24	-0.06
responsibility2	0.27	0.24	0.37	-0.05	0.25	0.14	0.08	0.44	0.05	0.07
responsibility3	0.22	0.08	0.19	-0.01	0.33	0.11	0.10	0.46	0.22	0.07
responsibility4	0.19	0.17	0.17	-0.04	0.23	0.28	-0.07	0.40	-0.07	0.00
responsibility5	0.02	0.29	0.50	0.08	0.26	0.02	0.18	0.25	-0.06	0.23
responsibility6	0.12	0.21	0.20	-0.06	0.27	0.23	0.31	0.32	0.11	0.03
benevolence1	0.19	0.23	0.26	0.08	0.35	0.08	-0.01	0.12	0.14	0.05
benevolence2	0.20	0.18	0.23	0.04	0.45	0.02	0.05	0.17	0.06	0.02

Table 3. Initial results of expanatory factor analysis (Continued)

Item No	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
benevolence3	0.28	0.16	0.25	0.10	0.54	-0.04	-0.01	0.15	0.14	0.12
benevolence4	0.15	0.10	0.39	0.03	0.26	0.06	0.08	0.11	0.50	-0.03
benevolence5	0.02	0.17	0.50	-0.11	0.26	-0.01	0.24	0.09	0.10	0.19
benevolence6	0.15	0.10	0.15	0.08	0.05	0.18	0.12	-0.01	0.57	0.24
benevolence7	0.16	0.12	0.21	0.16	0.12	0.05	-0.05	0.05	0.61	0.20
patriotism1	0.06	0.35	0.49	-0.03	0.24	-0.02	0.26	0.11	0.04	0.06
patriotism2	0.14	0.25	0.57	0.04	0.09	0.02	0.31	0.16	0.07	0.00
patriotism3	0.10	0.14	0.68	0.02	0.18	-0.03	0.13	0.06	-0.03	0.04
patriotism4	0.19	0.06	0.60	0.00	0.06	0.25	-0.07	0.19	0.16	-0.12
patriotism5	0.24	0.11	0.71	-0.01	-0.08	0.22	-0.05	0.11	0.18	-0.04
patriotism6	0.23	-0.13	0.73	0.02	0.02	0.14	-0.14	0.00	0.03	-0.04
Variance	8.77	6.76	6.19	4.29	3.97	3.78	3.37	3.27	3.22	3.12
Total Variance (%)					46.74					

According to the results of the explanatory factor analysis, it was determined that the total variance explained by 76 items in the scale was 46.74% and the total variance obtained was quite low considering the number of items in the scale. On the other hand, it was determined that there were items with low factor loads in the dimension to which they belonged and high factor loads in other dimensions. When the expressions of the items in the scale were analysed, it was observed that some of these items were related to other dimensions in terms of the meaning they carried. For this reason, firstly, items with low factor loads in the factor to which they belonged and items with high factor loads in other factors that they were not related in terms of meaning were gradually removed and the results in Table 4 were obtained as a result of repeated Varimax rotations.

Table 4. Explanatory Factor Analysis Results (32 items)

Item No	F1	F2	F3	F4	F5	F6	F7	F8	
love4	0.17	0.10	0.07	0.06	0.66	0.16	-0.07	0.20	
respect1	0.13	0.14	0.21	0.21	0.67	0.05	0.06	-0.01	
respect2	0.00	0.15	0.27	0.21	0.60	-0.05	0.19	-0.11	
respect9	0.16	0.11	0.00	0.32	0.59	-0.05	0.26	0.08	
justice1	0.17	0.01	0.25	0.51	0.26	0.12	0.06	0.22	
justice3	0.11	0.22	0.00	0.64	0.11	0.12	0.13	0.09	
justice5	0.14	0.02	0.10	0.69	0.32	0.10	0.13	-0.04	
justice6	0.22	0.12	0.13	0.68	0.10	0.03	0.12	0.09	
friendship1	0.59	-0.04	0.12	0.04	0.15	0.28	0.06	0.08	
friendship2	0.74	0.17	0.27	0.28	-0.09	0.12	0.03	-0.04	
friendship3	0.73	0.17	0.23	0.17	-0.03	0.00	0.05	0.16	
honesty1	0.54	-0.10	0.13	0.18	0.27	0.16	0.11	0.08	
honesty2	0.62	0.10	0.11	-0.01	0.34	0.23	0.15	0.12	
honesty3	0.61	0.13	-0.05	0.20	0.18	-0.03	0.34	-0.07	
patience1	0.18	0.22	0.12	0.15	0.03	0.74	0.15	0.04	
patience2	0.22	0.09	0.16	0.19	0.03	0.75	0.09	0.08	
patience3	0.09	0.00	0.27	-0.04	0.08	0.58	0.34	0.12	
self-control1	0.14	0.09	0.08	0.13	0.07	0.23	0.53	0.10	
self-control2	0.29	0.16	0.10	0.30	0.21	0.23	0.53	-0.01	
self-control4	0.08	0.08	0.11	0.11	0.08	0.11	0.77	0.06	
responsibility1	0.12	0.13	0.58	-0.07	0.09	0.19	-0.06	0.18	
responsibility2	0.27	0.30	0.59	0.20	0.12	0.08	0.04	0.17	
responsibility3	0.12	0.19	0.60	0.03	0.18	0.06	0.08	0.17	
responsibility4	0.02	0.07	0.64	0.23	0.08	0.18	0.13	-0.09	
responsibility6	0.22	0.12	0.62	0.11	0.10	0.07	0.18	0.02	
benevolence6	0.08	0.06	0.09	0.17	0.02	0.14	0.13	0.82	
benevolence7	0.10	0.13	0.15	0.04	0.10	0.03	0.03	0.81	
patriotism2	0.33	0.53	0.22	0.10	0.00	-0.09	0.37	0.13	
patriotism3	0.17	0.64	0.23	0.06	0.09	-0.19	0.27	0.05	
patriotism4	0.08	0.71	0.21	0.20	0.04	0.23	-0.09	0.01	
patriotism5	0.12	0.72	0.14	0.07	0.15	0.22	0.09	0.18	
patriotism6	-0.10	0.79	0.07	0.06	0.18	0.09	0.05	0.01	
Variance	9.99	8.86	7.98	7.43	7.01	6.45	6.03	5.27	
Total Variance (%)					59.02				

As a result of the gradual elimination of items in the explanatory help factor analysis, it was observed that 32 items remained in the scale and the variance explained by the remaining items was much higher (59.02%) than the structure consisting of 76 items. In other words, the power of the 32-item structure of the scale to measure feelings of belonging towards ethical values and ethical value concerns is higher than 76 items. According to the results of the explanatory factor analysis, the contribution of the dimensions to the variance is between 5.27% and 9.99%. Some of the items in two dimensions were eliminated due to item reduction in the scale and the remaining items were combined with other dimensions. Three items in the "friendship" dimension, which was originally planned as six items, were removed from the scale and the remaining three items (I trust my friends, I try to be honest with my class teacher, I try to be honest with my friends) were combined with the honesty dimension. Similarly, seven items in the affection dimension were removed from the scale and only one item (I like my school) was combined under the affection-respect dimension. As a result of the explanatory factor analysis, the structure consisting of 8 dimensions (love-respect, justice, friendship-honesty, patience, self-control, responsibility, benevolence, patriotism) and 32 items was tested with

confirmatory factor analysis.

Confirmatory Factor Analysis Results

Table 5 shows the fit indices obtained as a result of confirmatory factor analysis (CFA) conducted with the 32 items remaining after EFA in the Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale. Since it was determined that the model fit indices were not at acceptable levels, but the factor loads were at high levels, firstly, covariance connections were established, and the model fit indices were tried to be improved.

Table 5. Model Fit Indices obtained in confirmatory factor analysis

Model Fit Indices	DFA1 32 items	DFA2* 32 items	DFALast* 28 items
X ² /sd	2.59	2.38	1.96
SRMR	0.05	0.05	0.04
GFI	0.86	0.87	0.90
NNFI	0.83	0.85	0.90
CFI	0.85	0.87	0.91
RMSEA	0.06	0.05	0.04
Factorload	0.50/0.79	0.49/0.78	0.54/0.82
Correlation between factors	0.31/0.76	0.30/0.77	0.34/0.74
Number of covariances	-	8	5

*: With covariance links

In the first stage of confirmatory factor analysis, it was determined that inappropriate model fit indices did not reach a sufficient level with appropriate covariance links. In the modification proposal, it was determined that more covariance connections were proposed than the number of items, there were 8 proposed connections between the items in the same dimension, and the other proposed connections were with the items in the (other) dimensions to which the item did not belong. Despite the 8 connections, it was determined that the model fit indices did not reach appropriate levels. Since a high correlation with the items in the dimension to which an item does not belong indicates that they are overlapping, 4 items with high correlation with items in other dimensions (friendship₂, friendship₃, honesty₃, patience₃) were gradually removed from the scale (starting from the item with the highest correlation) and a structure consisting of 28 items was obtained. With the remaining 28 items in the scale, it was determined that all of the model fit indices reached good and very good level and the 28-item and 8-dimensional structure of the scale was confirmed. In Table 6, the factor loads, item total correlation and Cronbach Alpha statistics obtained from the confirmatory factor analysis of the Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale are presented.

Table 6. CFA results of the sense of belonging towards ethical values and ethical value concerns scale

Substance and Dimension	Std.β	t	r	α	Substance and Dimension	Std.β	t	r	α
Love and Respect				0.71	Self-regulation				0.63
1.love4	0.53		0.42		14.self-control1	0.53		0.41	
2.respect1	0.66	9.20**	0.48		15.self-control2	0.79	9.48**	0.59	
3.respect2	0.60	8.45**	0.43		16.self-control4	0.52	7.84**	0.41	
4.respect9	0.68	9.12**	0.47		Responsibility				0.73
Justice				0.72	17.responsibility1	0.49		0.38	
5.justice1	0.67		0.52		18.responsibility2	0.77	9.27**	0.61	
6.justice3	0.55	9.29**	0.45		19.responsibility3	0.61	8.51**	0.48	
7.justice5	0.71	10.84**	0.49		20.responsibility4	0.52	7.80**	0.44	
8.justice6	0.65	10.45**	0.49		21.responsibility6	0.61	8.23**	0.49	
Integrity				0.68	Benevolence				0.71
9.friendship1	0.59		0.41		22.benevolence6	0.75		0.40	
10.honesty1	0.63	9.36**	0.44		23.benevolence7	0.73	7.69**	0.37	
11.honesty2	0.73	10.09**	0.55		Patriotism				0.80
Patience				0.76	24.patriotism2	0.54		0.53	
12.patience2	0.82		0.49		25.patriotism3	0.57	10.76**	0.44	
13.patience3	0.75	11.94**	0.48		26.patriotism4	0.74	9.79**	0.48	
					27.patriotism5	0.81	10.29**	0.55	
					28.patriotism6	0.69	10.14**	0.39	

r: Itemtotal correlation **p<0,01 α: Cronbach

According to the reliability findings in Table 6, the Cronbach Alpha coefficient of the scale is 0.90, the Cronbach Alpha coefficients of the sub-dimensions are between 0.68 and 0.80, and the item-total correlation is above 0.30 in all items (between 0.37 and 0.61).

After the confirmatory factor analysis of the scale, the validity of which was determined with 32 items in the explanatory factor analysis, the EFA was repeated to determine the final status of the variance explained due to the removal of 4 items from the scale and the results in Table 7 were obtained.

Table7. Explanatory factor analysis results (28 items)

Item No	F1	F2	F3	F4	F5	F6	F7	F8
love4	0.08	0.07	0.01	0.73	0.17	0.01	0.17	0.19
respect1	0.13	0.22	0.20	0.67	0.14	0.06	0.03	0.01
respect2	0.15	0.28	0.27	0.57	0.00	0.12	-0.06	-0.13
respect9	0.10	0.00	0.31	0.62	0.11	0.29	-0.04	0.07
justice1	0.06	0.26	0.61	0.10	0.33	-0.02	0.04	0.17
justice3	0.24	-0.03	0.59	0.12	0.11	0.17	0.11	0.09
justice5	0.03	0.09	0.71	0.33	0.07	0.13	0.10	-0.03
justice6	0.11	0.15	0.68	0.12	0.08	0.15	0.08	0.10
friendship1	0.03	0.13	0.09	0.04	0.74	0.10	0.17	0.04
honesty1	-0.02	0.14	0.29	0.13	0.68	0.07	0.02	0.06
honesty2	0.15	0.17	0.06	0.23	0.70	0.17	0.16	0.09
patience1	0.17	0.19	0.15	0.02	0.15	0.18	0.78	0.05
patience2	0.05	0.18	0.13	0.08	0.20	0.18	0.76	0.09
self-control1	0.05	0.11	0.08	0.13	0.05	0.60	0.26	0.11
self-control2	0.14	0.14	0.31	0.21	0.21	0.56	0.25	-0.01
self-control4	0.09	0.10	0.13	0.07	0.10	0.76	0.03	0.04
responsibility1	0.12	0.59	-0.10	0.12	0.09	-0.02	0.18	0.18
responsibility2	0.30	0.58	0.17	0.16	0.19	0.12	0.08	0.17
responsibility3	0.18	0.65	0.07	0.11	0.12	0.05	0.05	0.16
responsibility4	0.10	0.62	0.27	0.01	0.11	0.08	0.09	-0.09
Responsibility6	0.09	0.64	0.10	0.14	0.08	0.24	0.09	0.03
benevolence6	0.05	0.11	0.17	0.02	0.06	0.14	0.13	0.82
benevolence7	0.14	0.16	0.05	0.09	0.10	0.02	0.01	0.82
patriotism2	0.54	0.22	0.08	0.01	0.24	0.44	-0.10	0.13
patriotism3	0.67	0.21	0.10	0.10	0.08	0.26	-0.22	0.04
patriotism4	0.68	0.24	0.17	0.07	-0.05	-0.05	0.32	0.04
patriotism5	0.73	0.14	0.06	0.16	0.10	0.11	0.20	0.17
patriotism6	0.81	0.08	0.10	0.10	-0.02	-0.02	0.08	-0.01
Variance	9.94	9.02	8.45	7.55	7.10	6.83	6.11	5.85
Total Variance (%)					60.85			

After confirmatory factor analysis, it was determined that the total variance explained by the remaining 28 items did not decrease and relatively increased compared to 32 items (from 59.02% to 60.85%) and the item-dimension relationship was preserved. According to the findings of the validity and reliability analyses, it was determined that the scale is a valid and reliable scale with its structure consisting of 8 dimensions and 28 items.

Descriptive Findings

Table 8 shows the descriptive statistics of the total and sub-dimension scores of the Sense of Belonging towards Ethical Values and Ethical Value Concern Scale.

Table 8. Descriptive statistics of scale and sub-dimensions scores

Sub-dimensions	N	Min.	Max.	\bar{x}	ss
Love and respect	435	1.00	3.75	2.89	0.31
Justice	435	1.00	3.00	2.81	0.37
Integrity	435	1.00	3.00	2.78	0.41
Patience	435	1.00	3.00	2.82	0.46
Self-regulation	435	1.00	3.33	2.77	0.44
Responsibility	435	1.00	3.00	2.82	0.34
Benevolence	435	1.00	3.00	2.60	0.62
Patriotism	435	1.00	3.00	2.87	0.34
TOTAL	435	1.00	3.09	2.80	0.27

According to Table 8, the score obtained by the students participating in the study from the scale of sense of belonging towards ethical values and ethical value concerns was found to be 2.80 ± 0.27 , and considering the lowest (1) and highest (5) scores that can be obtained, it can be said that the sense of belonging towards ethical values and ethical value concerns scores of the students participating in the study are in the "undecided" range. When the scores obtained from the sub-dimensions are analysed, it is seen that the score ranges are similarly in the "undecided" range.

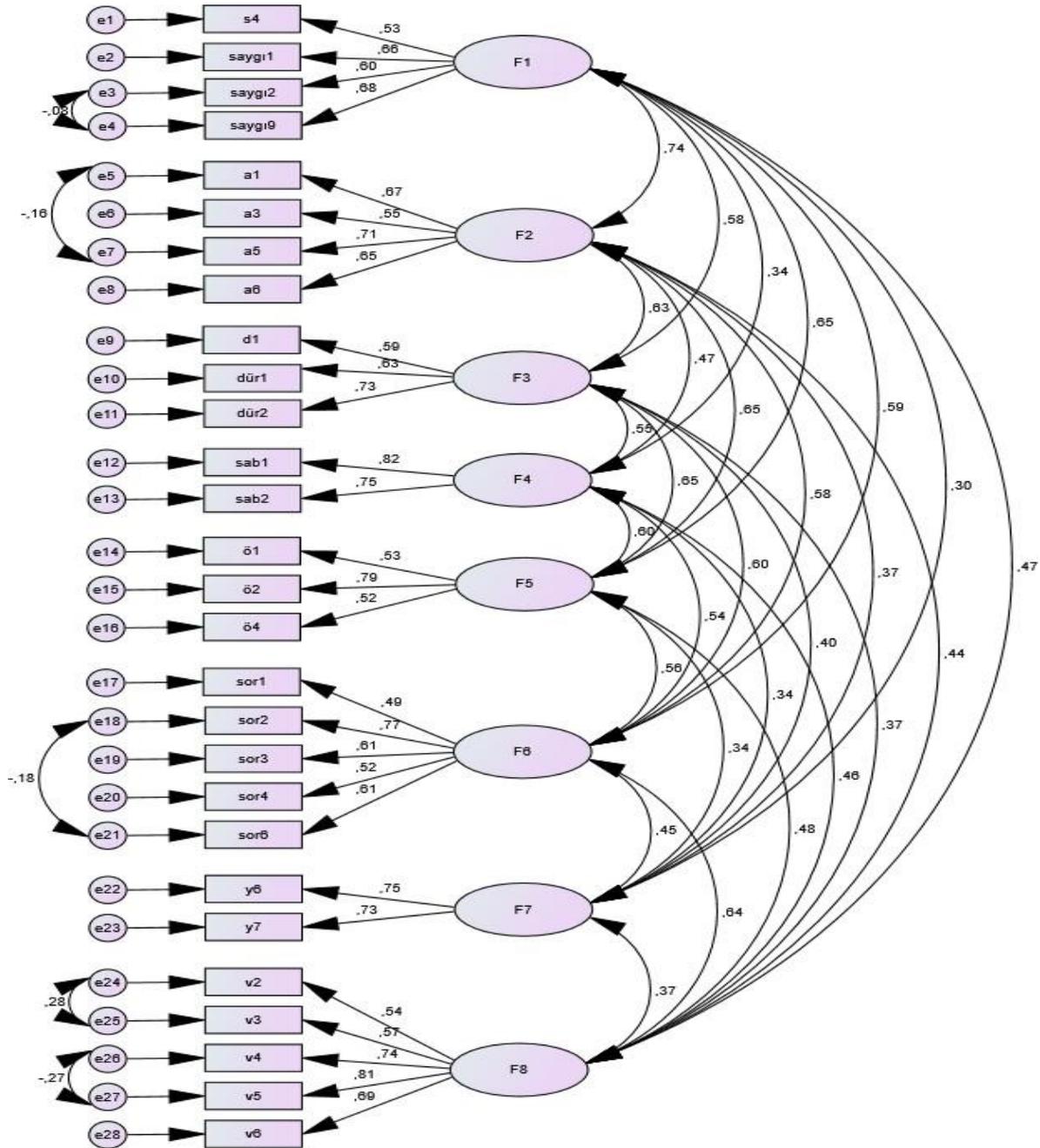


Figure1. CFA diagram of sense of belonging towards ethical values and ethical value concerns scale

Discussion, Conclusion and Suggestions

The aim of this study is to develop a valid and reliable measurement tool that can measure the effectiveness of ethical value attitudes and ethical value concerns of primary school 2nd, 3rd and 4th grade students. The validity and reliability studies conducted on the data of the study showed that the scale is a psychometrically appropriate measurement tool.

CFA was conducted to determine whether the scale structure that emerged as a result of EFA could be confirmed or not. According to the CFA results, all items of the scale were found significant at $p < .01$ level in terms of t values. In addition, it was determined that the correlation values between the dimensions of the scale were above 0.30 in all items and ranged between 0.37 and 0.61 in all items and were significant at $p < .001$ level.

The reliability analysis of the scale was determined by calculating Cronbach's Alpha reliability coefficient. It was found that Cronbach's Alpha reliability coefficient was 0.90 and Cronbach's Alpha

coefficients ranged between 0.68 and 0.80 in all sub-dimensions. Considering that the reliability coefficient of the measurement tools is .70 and higher in terms of the reliability of the scale data (Hair vd., 2014), it can be said that all sub-dimensions of the scale and the entire scale are reliable. As a result, according to all the EFA and CFA findings of the study, it is understood that the "Primary School Students' Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale" is a valid and reliable measurement tool that can measure students' attitudes towards values and ethical value concerns.

According to the findings of the validity and reliability analyses of the Sense of Belonging towards Ethical Values and Ethical Value Concerns Scale, it was determined that the scale is a valid and reliable scale with its structure consisting of 8 dimensions and 28 items. The sub-dimensions of the scale are "Love/Respect, Justice, Friendship/Honesty, Patience, Responsibility, Self-control, Benevolence and Patriotism". The high scores obtained from the sub-dimensions of the scale indicate that the students' level of predisposition to values is high, while low scores indicate that the students do not have sufficient knowledge about values and do not develop sufficient attitudes.

This scale was designed to emphasise the importance of ethical values, values education and moral development in educational institutions. It is thought that a good values education and ethical values education can contribute to personal development and academic success. In this respect, the field of this education in schools should be developed/expanded and revised as needed. Therefore, ethical values should be made an important part of the education process.

Seminars, webinars and other interactive organisations on values education, ethical values and moral development should be organised in order to increase the knowledge, awareness and participation of educational administrators, teachers and other stakeholders to be more efficient and qualified in accordance and in harmony with the education and teaching processes.

In future studies, the validity and reliability of the scale can be repeated with larger and different study groups.

New scale development studies can be conducted for different age groups and different education/training periods (secondary school/highschool/university). In addition, it can be investigated whether the scale, whose validity and reliability study were conducted according to teachers' opinions, has the same psychometric properties by taking the opinions of school administrators, parents, students or other school stakeholders.

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EK 1: İlkokul Öğrencilerinin Etik Değerlere Yönelik Aidiyet Duyguları Ve Etik Değer Kaygıları Ölçeği

		LİKERT TİPİ CEVAP				
		Tamamen Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Tamamen Katılıyorum
		MADDE HAVUZU				
Sevgi -Saygı	1. Okulumu severim.					
	2. Arkadaşlarıma saygı duyarım					
	3. Arkadaşlarıma karşı kibar davranırım.					
	4. Arkadaşlarımanın eşyalarını izinsiz almam.					
Adalet	1. Bütün arkadaşlarıma eşit davranırım.					
	2. Arkadaşlarıım haklı olduğunda onları desteklerim.					
	3. Oyun oynarken arkadaşlarıma haksızlık yapmam.					
	4. Adil olmayı severim.					
Dostluk-Dürüstlük	1. Arkadaşlarıma güvenirim.					
	2. Hiçbir şartta yalan söylemem.					
	3. Arkadaşlarıma karşı her zaman dürüst olurum.					
Sabır	1. Görev ve sorumluluklarıımı yerine getirirken sabırlı davranırım (örneğin ödevlerimi sabırla yapmaya çalışırım).					
	2. Sınıfta anlatılan dersleri sabırla dinlerim.					
Özdenetim	1. Arkadaşlarımanın sırlarını tutarım.					
	2. Arkadaşlarıma karşı hata yaptığımda arkadaşlarıımdan özür dilerim.					
	3. Verdiğim sözü tutmadığım zaman üzülürüm.					
Sorumluluk	1. Arkadaşlarıma örnek olmaya çalışırım.					
	2. Sınıf kurallarına uygun davranırım.					
	3. Arkadaşlarıımı isimleri ile çağırırım.					
	4. Sahip olduğumeşyalara özen gösteririm.					
	5. Görevlerimi zamanın da yerine getirmekten hoşlanırım.					

		LİKERT TİPİ CEVAP				
		Tamamen Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Tamamen Katılıyorum
		MADDE HAVUZU				
Yardıms severlik	1. Arkadaşlarım küsmesinler diye onlara nazik davranırım.					
	2. Arkadaşlarım üzülmesin diye eşyalarımı paylaşıyorum.					
Vatan-severlik	1. Okulumdaki kaynakları israf etmem.					
	2. Sınıfımdaki kaynakları israf etmem.					
	3. Ulusal bayrağımızı severim.					
	4. Milli marşımızı severim.					
	5. Ülkemi severim.					

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