

Evaluation of the High School Students' Environmental Attitudes and Interest Levels: Kalecik-Turkey Sample

Naim Uzun *
Kurtuluş Atlı **
Necdet Sağlam ***

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Abstract

Problem Statement: In the environmental education works, environmental interest and attitude have an important place in related literature. However, the paucity of the studies dealing with environmental interest is remarkable, and the need for studies to be conducted at the high-school level comes to the fore.

Purpose of the Study: The purpose of the present study is to evaluate the environmental attitudes and interest levels of high school students in relation to the independent variables of gender, grade and school type.

Method: The study group of the present study consists of 613 students attending high schools in Kalecik province of Ankara in the 2007-2008 school year. As data collection tools, the "Personal Information Form," "Environmental Interest Scale" and "Environmental Attitude Scale" were developed by Uzun and Sağlam (2006) and were administered to the students. For statistical analysis of the data, the SPSS program package was used. After the qualitative data was analyzed, a t-test and variance analysis were carried out.

* Assist. Prof. Dr., Aksaray University Faculty of Education, nuzun@hacettepe.edu.tr

** Biology Teacher, Ankara Mehmet Akif Ersoy High School, kurtulusatli@gmail.com

*** Prof. Dr., Aksaray University, saglam@hacettepe.edu.tr

Findings of the Study: At the end of the study, while no significant difference was found between the girl and boy students in relation to their environmental interest, significant difference favoring the girl students was found between the environmental attitude mean scores of the students. In the evaluation concerning the grade level of the students, the difference between the means of environmental attitude and interest was regarded to be significant.

The results of the ANOVA test considering the type of the school attended revealed that there is no significant difference among the environmental interest scores of the students attending different schools, yet there is a significant difference among their environmental attitude scores.

Results and Suggestions: In line with the literature, it was found that the environmental attitude and interest scores of the girls were higher. However, the difference between the attitude scores was found to be significant. Parallel to the increasing grade level, the interest and attitude scores were expected to increase, but in reality, they did not, and the difference between the scores was found to be insignificant. On the other hand, interest scores of the students from Anatolian Teacher Education High School and attitude scores of the students from Religious High School were found to be the lowest. While searching for the causes of the low interest and attitude scores, plans should be designed to raise the interest and attitude levels of the students. In order to fill in the gap seen in the studies concerning the field of environmental interest, similar studies should be carried out in the future.

Keywords: environmental education, environmental interest, environmental attitude, secondary education, Kalecik.

Since the mid-1900s, the emerging environmental problems have brought about the need of educating individuals sensitive to these problems who are willing to contribute to finding solutions and live in accordance with the environment by giving it fewer adverse effects. In parallel to this trend of environmental abuse, some people started to put forth efforts and great attention to environmental issues. Despite legal regulations put into force and efforts of the scientists and teachers to improve the environment, we still have some problems in educating environmentally-sensitive people. Increasing the number of people who have positive environmental interests and attitudes is of great importance to overcome these problems and to empower social development and enhance the quality of life.

In the entire world, and in our country, the number of people developing positive interest in and attitudes towards the environment is steadily increasing. However, at the point that economy and state policies intervene, and economic development and country interests escalate, the environmental consciousness lags behind. This is influential on the decrease of correlation between interest and attitude. At this point, the concept of sustainability comes to the fore, which means maintaining a balance

between the environment and development and enhancing the quality of life without overloading the capacity of the eco-system.

Many countries allocate resources for comprehensive studies aiming to determine the environmental attitudes of students (Paraskevopoulos, Padeliaadu & Zafiroopoulos, 1998; Kuhlemeier, Bergh & Van Den Lagerweij, 1999). For this purpose, many programs have been developed for teachers and student teachers (Kopyla & Wahlström, 2000).

During the literature review of the present study, many studies were found aiming to determine the attitudes of the students towards the environment. In some of these studies, environmental attitudes of high school students (Gezer, Çokadar, Köse & Bilen, 2006; Uzun & Sağlam, 2007; Taskin, 2009) and primary school second-level students (Tuncer, Ertepinar, Tekkaya & Sungur, 2005; Gökçe, Kaya, Aktay & Özden, 2007; Aslan, Sağır & Cansaran, 2008; Atasoy & Ertürk, 2008; Sağır, Aslan & Cansaran, 2008; Akgün & Gülüm, 2009) were investigated. In addition to these studies, different studies from around the world were reviewed (Worsley & Skrzypiec, 1998; Makki, Khalick & Boujaoude, 2003). In the environmental-interest and attitude studies, not only was the survey method used, but also environmental science courses to raise awareness. Then, survey data was evaluated (Bradley, Waliczek & Zajicek, 1999). It was observed in the review that greater emphasis was put on evaluating the attitudes rather than evaluating the environmental interest. The present study is believed to make important contributions to the filling of this gap.

When the fact is considered that the students educated in our schools will be active members of the society, the study by Iversen and Rundmo (2002) gains particular importance. In this study, environmental interest levels and attitudes of Norwegians from different age groups and education levels were measured. The study revealed the importance of education in terms of developing positive attitudes, and individuals over 60 were found to have more positive interest than those under 30. The study conducted by Bjerke, Thrane and Kleiven (2006) supports the difference between females' environmental attitudes and interest and those of males. The present study also focuses on the same issue.

In the studies carried out so far, it was found that environmental education has great impact on the development of students, their perception of environmental responsibilities, their interests in environmental issues, and development of environmental protection strategies (Voughan, Gack, Solorazano & Ray, 2003; Hsu, 2004; Sebasto & Semrau, 2004).

In the present study, the environmental interests and attitudes of the secondary-school students in the Kalecik province of Ankara were evaluated in relation to gender, age and school-type variables. There are many studies conducted in different parts of Turkey on environmental attitudes (Ekici, 2005; Tuncer et al., 2005; Gezer et al., 2006; Aslan et al., 2008; Atasoy & Ertürk, 2008; Sağır et al., 2008; Akgün & Gülüm, 2009; Taskin, 2009). However, the number of the studies dealing with the issue of

environmental interest is quite low. Hence, the contribution of the present study to the literature is believed to be great.

The present study, considering the importance of environmental interest and attitude, seeks answers to the following questions:

- a) Do the students' environmental interests and attitudes vary depending on the gender variable?
- b) Do the students' environmental interests and attitudes vary depending on the grade-level variable?
- c) Do the students' environmental interests and attitudes vary depending on the school-type variable?

Method

Study Model

In the present study, the "correlative survey" method was used. Correlative survey methods are research models aiming to determine the existence of correlative change and its extent between two or more variables (Karasar, 2004). In the present study, a correlative survey method was used to investigate whether the students' environmental attitude and interest levels vary depending on gender, class, and school-type variables.

Study Group

The study group of the present study consists of 613 students attending secondary schools in the Kalecik province of Ankara during the 2007-2008 school year. The present study includes students from Kalecik High School, Anatolian Teacher Education High School, Religious High School, Vocational Technical Education Center and Vocational School of Health, and the sampling was kept large enough to represent the universe of the study. Two hundred fifty-eight (42%) of the participants are girls and 355 (58%) are boys. The age range of the students is 14-19. Two hundred forty-nine (41%) of the students are 9th graders, 211(34%) 10th graders, 137 (22%) 11th graders and 16 (3%) 12th graders.

Data Collection Tools

In the present study, the "Personal Information Form," "Environmental Attitude Scale" and "Environmental Interest Scale" were used to collect data. The Personal Information Form aims to solicit personal information of the participants. The Environmental Interest Scale is a 27-item, five-point, Likert-type scale developed by the researcher and ranging from "I am very interested: 5" to "I am not interested at all: 1." The attitude scale is a 27-item, five-point, Likert-type scale developed by Uzun and Sağlam (2006) and ranging from "I strongly agree/always: 5" to "I strongly disagree/never: 1." The minimum score that can be obtained from both of the scales is 27, and the maximum score is 135.

The reliability and validity analyses of the scales were conducted. Content and face validity of the interest scale was verified through expert opinions. For construct validity of the environmental attitude and interest scales, factor analysis was conducted. The suitability for factor analysis of the data obtained from the Environmental Interest Scale was checked with the Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett Sphericity test (KMO coefficient = .931; significance for the Bartlett test = 000 $p < .001$). The data was found to be suitable for the factor analysis (Büyüköztürk, 2005). The factor analysis was used to test the construct validity of the scale, and the basic-components analysis was used as a factorization technique. In the analyses conducted, joint-factor variance of the factors for each variable, factor loadings of the items, and the line graph were examined. The factor loading of the items was determined to be at least .50. Factor loading over .30 is acceptable (Büyüköztürk, 2005). In order to examine the factor structures, the Varimax Basic Constituents Analysis was conducted. The analyses revealed that the scale is a seven-factor scale, and the total variance explained by these seven factors was found to be 62.61%. Joint variance of these seven factors defined in relation to the items of the scale was found to be ranging from .493 to .792.

The factor analysis applied to the data of the Environmental Attitude Scale revealed that the Kaiser-Meyer-Olkin (KMO) coefficient is .856, which complies with the original study. The Bartlett Sphericity test was found to be significant. Moreover, the analyses revealed that the scale is a five-factor scale, and the total variance explained by these five factors was found to be 51.97%. Joint variance of these five factors defined in relation to the items of the scale was found to be ranging from .415 to .770.

For the reliability analysis of the scales, the Cronbach's alpha and Spearman Brown split-half correlation was calculated. The Cronbach's alpha reliability coefficient of the Environmental Interest Scale was found to be $\alpha = .93$, and the Spearman Brown split-half correlation was found to be .87. In the original study, the reliability coefficient of the environmental attitude scale was found to be $\alpha = .80$; the Spearman Brown split-half correlation was found to be .76. In the present study, these values were found to be $\alpha = .80$ and .79, respectively.

Statistical Analysis

For the statistical analysis of the data, SPSS 15.0 was used. In the first part of the analysis, descriptive statistics concerning the scores were evaluated. In the second part, the comparisons were carried out through t-test and variance analysis. For multiple-comparisons, the Tukey HSD test was used.

Findings and Discussions

In this section, the environmental interest and attitude scores of the students were evaluated in relation to gender, grade level and school-type variables. First, descriptive statistics of the variables were evaluated, and then the interpretations were enriched through statistical comparisons. For control of the variance

homogeneity required for the comparisons, Levene statistics were used, and the significance level was accepted to be 0.05.

Evaluation of the Students' Environmental Interest and Attitude Scores in Relation to the Gender Variable

In evaluation of the scores in relation to the gender variable, as can be seen in the following table, both the girls' environmental interest ($\bar{X}=90.52$) and environmental attitude ($\bar{X}=97.40$) scores were found to be higher than those of the boys ($\bar{X}=89.82$ and 90.64, respectively).

Table 1

T-test Results Showing the Significance Level of the Differences between Environmental Interest and Attitude Mean Scores In Relation to the Gender Variable

	Gender	N	Mean	Std. Deviation	df	t	Sig.
Environmental Interest Scores	Female	258	90.52	16.807	597.99	.468	.640
	Male	355	89.82	20.034			
Environmental Attitude Scores	Female	258	97.40	11.394	611	6.785	.000 (*)
	Male	354	90.64	12.723			

* p<.001

As a result of the t-test, the difference between the mean score for the girls' environmental interest and that of the boys' was found to be 0.7 favoring the girls. This is statistically insignificant ($t_{(597.99)}=.468$; $p>.05$). On the other hand, the difference between the environmental attitude scores was found to be 6.76 favoring the girls. This is statistically significant ($t_{(611)}=6.785$; $p<.001$).

Evaluation of the Students' Environmental Interest and Attitude Scores in Relation to Grade Level

In the evaluation performed, the 12th graders were excluded, as their number is lower than 30 (n=16).

Table 2

Descriptive Statistics of the Students' Environmental Interest and Attitude Scores in Relation to the Grade Level Variable

	Grade	N	Mean	Std. Deviation
Environmental Interest Scores	9. Class	249	90.16	17.499
	10. Class	210	90.60	19.888
	11. Class	137	89.85	19.218
	Total	596	90.25	18.737
Environmental Attitude Scores	9. Class	249	94.71	12.972
	10. Class	211	91.87	12.934
	11. Class	137	93.97	11.485
	Total	597	93.54	12.675

As can be seen in Table 2, the highest environmental interest score ($\bar{X}=90.60$) belongs to the 10th graders. The 11th graders have the lowest environmental interest score ($\bar{X}=89.85$). The environmental interest score of the 9th graders is $\bar{X}=90.16$. When the environmental attitude scores are considered, the highest mean belongs to 9th graders ($\bar{X}=94.71$), and the lowest attitude mean belongs to the 10th graders ($\bar{X}=91.87$). The mean score of the 11th graders is medium ($\bar{X}=93.97$).

Table 3

ANOVA Results Concerning the Significance Level of the Difference among the Environmental Interest and Attitude Scores of the Students in Relation to Grade Level

		Sum of Squares	df	Mean Square	F	Sig.
Environmental Interest Scores	Between Groups	49.559	2	24.779	.070	.932
	Within Groups	208850.191	593	352.193		
	Total	208899.750	595			
Environmental Attitude Scores	Between Groups	958.495	2	479.248	3.003	.050
	Within Groups	94805.750	594	159.606		
	Total	95764.245	596			

One-Way ANOVA revealed that the difference among the environmental interest and attitude scores of the students in relation to their grade level is statistically insignificant ($F_{(2-593)}=.70$; $p>.05$ and $F_{(2-594)}=3.003$; $p\geq.05$).

Evaluation of the students' environmental interest and attitude scores in relation to the type of the school

In the evaluation carried out in relation to the type of school, it was found that the environmental interest score of the students from Kalecik High School is the highest ($\bar{X}=93.07$); this is followed by the students from the Religious High School with a 0.7 point difference ($\bar{X}=92.37$). The lowest environmental interest score was obtained by the students from the Anatolian Teacher Education High School ($\bar{X}=88.22$). The scores of the students from Vocational Technical Education Center and Vocational School of Health were found to be the same and moderate ($\bar{X}=88.58$).

Table 4

Descriptive Statistics of the Environmental Interest and Attitude Scores in Relation to the Type of School

	School Type	N	Mean	Std. Deviation
Environmental Interest Scores	Kalecik High School	168	93.07	19.105
	Vocational Technical Education Center	168	88.58	19.829
	Vocational School of Health	121	88.58	16.402
	Anatolian Teacher Education High School	97	88.22	19.989
	Religious High School	58	92.37	15.838
	Total	612	90.11	18.730
Environmental Attitude Scores	Kalecik High School	168	96.38	12.257
	Vocational Technical Education Center	169	90.62	12.571
	Vocational School of Health	121	96.75	10.070
	Anatolian Teacher Education High School	97	92.09	14.545
	Religious High School	58	89.01	11.809
	Total	613	93.49	12.622

When the students' environmental attitude scores are examined, it is seen that the highest score belongs to the students from Vocational School of Health ($\bar{X}=96.75$). This is followed by the students from Kalecik High School with a 0.37-point difference. The lowest environmental attitude score belongs to the students of

Religious High School ($\bar{X}=89.01$). The environmental attitude scores of the students from Vocational Technical Education Center and Anatolian Teacher Education High School are moderate ($\bar{X}=90.62$ and $\bar{X}=92.09$, respectively).

Table 5

ANOVA Results Concerning the Significance Level of the Difference among the Students' Environmental Interest and Attitude Scores in Relation to the Type of School

		Sum of Squares	df	Mean Square	F	p
Environmental Interest Scores	Between Groups	2788.312	4	697.078	2.000	.093
	Within Groups	211569.981	607	348.550		
	Total	214358.292	611			
Environmental Attitude Scores	Between Groups	5432.109	4	1358.027	8.968	.000 (*)
	Within Groups	92073.092	608	151.436		
	Total	97505.201	612			

* $p < .001$

In order to look at the significance level of the difference among the means, an ANOVA test was conducted, and the test revealed that while the difference found among the environmental interest scores is not statistically significant ($F_{(4,607)}=2.00$; $p > .05$), the difference among the environmental attitude scores was found to be significant ($F_{(4,608)}=.70$; $p < .001$) (Table 5).

Table 6

Multiple-Comparison Test Results Concerning the Students' Environmental-Interest and Attitude Scores in Relation to the Type of School

School Type (I)		School Type (J)	Mean Difference (I-J)	Std. Error	Sig.
Environmental Attitude Scores	Kalecik High School	Vocational Technical Education Center	5.75(*)	1.340	.000
		Vocational School of Health	-.37	1.467	.999
		Anatolian Teacher Education High School	4.28	1.569	.050
		Religious High School	7.36(*)	1.874	.001
	Vocational Technical Education Center	Kalecik High School	-5.75(*)	1.340	.000
		Vocational School of Health	-6.13(*)	1.465	.000
		Anatolian Teacher Education High School	-1.47	1.567	.882
		Religious High School	1.60	1.872	.912
	Vocational School of Health	Kalecik High School	.37	1.467	.999
		Vocational Technical Education Center	6.13(*)	1.465	.000
		Anatolian Teacher Education High School	4.65(*)	1.677	.045
		Religious High School	7.73(*)	1.965	.001
Anatolian Teacher Education High School	Kalecik High School	-4.28	1.569	.050	
	Vocational Technical Education Center	1.47	1.567	.882	
	Vocational School of Health	-4.65(*)	1.677	.045	
	Religious High School	3.07	2.042	.559	
Religious High School	Kalecik High School	-7.36(*)	1.874	.001	
	Vocational Technical Education Center	-1.60	1.872	.912	
	Vocational School of Health	-7.73(*)	1.965	.001	
	Anatolian Teacher Education High School	-3.07	2.042	.559	

* The mean difference is significant at the .05 level.

When the mean difference among the environmental attitude scores was examined, according to the multiple-comparison test, a significant difference was found among the students from Kalecik High School, Vocational Technical Education Center and Religious High School, favoring the students from Kalecik High School.

Also, a significant difference favoring the students from Vocational School of Health was found among the following schools: Vocational School of Health, Vocational Technical Education Center, Anatolian Teacher Education School and Religious High School. On the other hand, the differences found between Kalecik High School and Vocational School of Health, and between Vocational Technical Education Center and Religious High School were determined to be statistically insignificant (Table 6).

Results and Suggestions

The findings of the study and suggestions made in light of these findings are presented below.

In the evaluation carried out in relation to the gender variable, both the environmental interest scores and environmental attitude scores of the girls were found to be higher than those of the boys. The difference of the environmental interest scores found between the girls and boys was not found to be significant. In the environmental attitude scores, the score difference favoring the girls was found to be statistically significant. Based on this finding, it can be argued that gender is an important variable affecting environmental attitude scores. This finding concurs with the findings of some studies from Turkey and the world (Grifford, Hay & Boros, 1983; Chan, 1996; Worsley & Skrzypiec, 1998; Eagles & Demare, 1999; Tikka, Kuitunen & Tynys, 2000; Ekici, 2005; Tuncer et al., 2005; Bjerke et al., 2006).

In the evaluation carried out in relation to grade level, the highest environmental interest score was found to belong to 10th graders; on the other hand, the score of the 11th graders was found to be the lowest, and that of the 9th graders was found to be medium. When the environmental attitude scores are considered, while the highest mean belongs to the 9th graders, the lowest one belongs to the 10th graders. The mean score of the 11th graders is medium. The differences between the students' environmental interest and attitude mean scores were found to be insignificant. When the results are investigated, it is clearly seen that with the increasing grade level, interest and attitude scores do not increase, which is contrary to what is expected. In line with this finding, in their studies among the university students, Altın (2001) and Engin (2003) found that environmental attitudes of students do not vary depending on grade level. Makki et al. (2003), among the high school students and Sağır et al. (2003), among the primary school secondary-level students found that environmental attitudes do not vary depending on grade level; on the other hand, Ekici (2005) found that environmental attitudes may vary, favoring the lower grades.

In the evaluation carried out in relation to the type of school, it was found that the environmental interest score of the students from Kalecik High School is the highest, and this is followed by the students of Religious High School with a subtle difference. On the other hand, the interest score of the students from Anatolian Teacher Education High School was found to be the lowest. When it is considered that these students will be teachers in the future, it is very clear that the students they will educate will not be very sensitive to the environment. This indifference on the

part of the students of Anatolian Teacher Education High School is worth investigating.

While the highest environmental attitude score belongs to the students from Vocational High School of Health in relation to the type of school, they are closely followed by the students of Kalecik High School. The lowest attitude mean score belongs to the students of Religious High School. The attitude scores of the students from Vocational Technical Education Center and Anatolian Teacher Education High School are medium.

As a result of the analysis conducted in relation to the type of school, while the difference among the environmental interest mean scores was not found to be significant, the difference among the environmental attitude scores was found to be statistically significant. According to multiple-comparison results, the significant difference was found among the students from Kalecik High School, Vocational Technical Education Center and Religious High School favoring the students from Kalecik High School; and a significant difference favoring the students from Vocational School of Health was found among Vocational School of Health, Vocational Technical Education Center, Anatolian Teacher Education School and Religious High School. On the other hand, the differences found between Kalecik High School and Vocational School of Health, and between Vocational Technical Education Center and Religious High School were determined to be statistically insignificant. In the literature review of the study, no study considering the type of school has been found. On the other hand, in the literature, the paucity of the studies looking at environmental interest is remarkable. Hence, there is a need for studies dealing with environmental interest to fill in the gap in this field.

One plan for success in environmental education can be the organizing of in-class activities and encouraging all the students to participate in these activities in the required environmental-education course given at the high school level. The environmental interest and attitude of the students participating in such activities can be argued to differ from those of the students not participating in such activities (Leeming, Porter & Bryan, 1997).

Field studies have an important role in environmental education. It seems to be possible to educate individuals with positive environmental interest and attitude by organizing field work, first in the close surroundings and then in the far-away places. It was proved that the work carried out in the close surroundings helps the students to learn about environmental concepts (Fisman, 2005). Moreover, environmental education has an important contribution to solutions to environmental problems and the understanding of environmental bio-diversity (Lindemann-Matthies, 2002).

In addition, it is of great importance that the teachers who are models and guides for the students be knowledgeable about environmental education. It is important to equip student teachers with sufficient environmental information in their training. Hence, environmental-education training should be incorporated into the curriculum of the institutions educating student teachers (Meichtry & Harrell, 2002). The study by Heimlich, Braust, Olivolo, Ice and Smith (2004) supports this suggestion.

Teachers' willingness and eagerness is of great importance in providing more effective environmental education. All the teachers should be considered voluntary environmental educators, and care should be taken to train such teachers.

The number of the studies investigating environmental interest and attitude should be increased. The groups where the present study found low interest and negative attitude should be investigated further to find the reasons behind this indifference. Future studies can be conducted at different levels of education.

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Lise Öğrencilerinin Çevreye Yönelik Tutum ve İlgi Düzeylerinin Değerlendirilmesi: Kalecik Örneği (Özet)

Problem Durumu: Çevre eğitimi çalışmalarında çevresel ilgi ve tutum dünya literatüründe önemli bir yere sahiptir. Özellikle çevre sorunlarının artmasıyla ve daha sık gündeme gelmesiyle beraber bu değişkenlerin incelendiği, çeşitli bağımsız değişkenlere göre değerlendirildiği ve bu değişkenler arasındaki ilişkilerin temel alındığı çalışmaların çevre eğitimine önemli katkılar getirdiği bilim dünyasında kabul görmüştür. Diğer yandan özellikle çevresel ilgi alanında yapılan çalışmaların azlığı dikkatleri çekmekte, ortaöğretim düzeyinde yapılan bu tür araştırmaların gerekliliği ön plana çıkmaktadır. Çalışmada; "Öğrencilerin çevreye yönelik ilgi ve tutum puanları cinsiyete bağlı olarak değişmekte midir?", "Öğrencilerin çevreye yönelik ilgi ve tutum puanları sınıf düzeyine bağlı olarak değişmekte midir?" ve "Öğrencilerin çevreye yönelik ilgi ve tutum puanları okul türüne bağlı olarak değişmekte midir?" sorularına yanıt aranmıştır.

Araştırmanın Amacı: Bu çalışmada Ankara İli, Kalecik İlçesi'ndeki ortaöğretim öğrencilerinin çevreye yönelik ilgi ve tutumlarını cinsiyet, yaş ve okul türü değişkenlerine bağlı olarak değerlendirmek amaçlanmıştır.

Araştırmanın Yöntemi: Çalışmada ilişkisel tarama modeli kullanılmıştır. Çalışma grubunu, 2007-2008 eğitim-öğretim yılında, Ankara İli Kalecik İlçesi'ndeki ortaöğretim kurumlarında öğrenim gören toplam 613 öğrenci oluşturmuştur. Çalışmada, Kalecik İlçesinde yer alan Kalecik Lisesi, Anadolu Öğretmen Lisesi, Sağlık Meslek Lisesi, İmam Hatip Lisesi ve Mesleki Teknik Eğitim Merkezi'nde öğrenim gören öğrencilerin tamamı hedeflendiğinden, çalışma grubunun evrenin tamamını temsil ettiği kabul edilmektedir. Veri toplamak amacıyla, araştırmacılar tarafından "Kişisel Bilgi Formu" ve "Çevreye Yönelik İlgi Ölçeği" geliştirilmiş, Uzun ve Sağlam (2006) tarafından geliştirilen "Çevresel Tutum Ölçeği" öğrencilere uygulanmıştır. Ölçeklerin geçerlik ve güvenilirlik analizleri yapılmıştır. Çevresel İlgi Ölçeğinin kapsam ve görünüş geçerliği uzman görüşü doğrultusunda sağlanmıştır. Çevresel Tutum ve İlgi Ölçeklerinin yapı geçerliği için faktör analizi yapılmış, güvenilirlik analizi için ise Cronbach alfa ve Spearman Brown iki yarı test korelasyonu hesaplanmıştır. İlgi Ölçeğinin Cronbach alfa güvenilirlik katsayısı $\alpha=.93$ ve Spearman Brown iki yarı test korelasyonu $.87$ değerinde bulunmuştur. Orijinal çalışmada, Çevresel Tutum Ölçeğinin Cronbach alfa güvenilirlik katsayısı $\alpha=.80$; Spearman Brown iki yarı test korelasyonu $.76$ olarak saptanmıştır. Bu çalışmada ise bu değerler $\alpha=.80$ ve Spearman Brown iki yarı test korelasyonu $.79$ olarak hesaplanmıştır. Verilerin istatistiksel analizinde SPSS programı kullanılmış, verilerle ilgili betimsel istatistikler değerlendirildikten sonra karşılaştırmalar t-testi ve tek yönlü varyans analiziyle yapılmıştır. Analizlerin yapılabilmesi için, karşılaştırılacak grupların varyanslarının homojenliğinin kontrolünde Levene testinden faydalanılmış, çoklu karşılaştırmalarda ise Tukey HSD testi kullanılmıştır.

Araştırmanın Bulguları: Cinsiyete bağlı olarak yapılan değerlendirmede, kız öğrencilerin hem çevresel ilgi hem de tutum puanları erkek öğrencilerin

puanlarından yüksek bulunmuştur. Kız öğrencileri ile erkek öğrenciler arasında tespit edilen çevresel ilgi puan farkı istatistiksel olarak anlamlı bulunmamıştır. Çevresel tutum puanlarında, kız öğrencilerin lehine görülen ortalama farkı ise istatistiksel olarak anlamlı bulunmuştur. Sınıf düzeyine bağlı olarak yapılan değerlendirmede, en yüksek çevresel ilgi puanı 10. sınıfta öğrenim gören öğrencilere ait bulunmuştur. 11. sınıf öğrencileri de en düşük çevresel ilgi ortalamasına sahiptir. 9. sınıf öğrencilerinin çevresel ilgi puanları ise orta düzeydedir. Çevresel tutum puanları dikkate alındığında, en yüksek ortalama 9. sınıfta öğrenim gören öğrencilere ait iken, en düşük tutum ortalaması da 10. sınıf öğrencilerine aittir. 11. sınıf öğrencilerinin puanları ise orta düzeydedir. Sınıf düzeyine göre öğrencilerde tespit edilen çevresel ilgi ve tutum ortalamaları arasındaki söz konusu farklılıklar, istatistiksel olarak anlamlı bulunmamıştır. Okul türüne bağlı olarak yapılan değerlendirmede, Kalecik Lisesi'nde öğrenim gören öğrencilerin çevreye yönelik ilgi puanları en yüksek değere sahipken, bunu İmam Hatip Lisesinde okuyan öğrenciler küçük bir puan farkıyla takip etmektedir. En düşük ilgi puanı ise Anadolu Öğretmen Lisesi'nde okuyan öğrencilere aittir. METEM ile Sağlık Meslek Lisesinin puanları ise denk olup ortalama değerlere sahiptir. Okul türüne göre, en yüksek çevresel tutum puanı Sağlık Meslek Lisesi öğrencilerine aitken, bunu Kalecik Lisesi öğrencileri küçük bir farkla takip etmektedir. En düşük tutum ortalaması ise İmam Hatip Lisesi'nde öğrenim gören öğrencilere aittir. Bunun yanında, METEM ile Anadolu Öğretmen Lisesi'nde okuyan öğrencilerin tutum puanları orta düzeyde bulunmuştur. Okul türü dikkate alınarak yapılan analiz sonucunda, çevreye yönelik ilgi puanları arasında tespit edilen ortalama farkları anlamlı bulunmazken, çevresel tutum puanlarındaki farklılığın istatistiksel olarak anlamlı olduğu saptanmıştır. Çoklu karşılaştırma testine göre, Kalecik Lisesi ile METEM ve İmam Hatip Lisesi öğrencileri arasında Kalecik Lisesi lehine; Sağlık Meslek Lisesi ile METEM, Anadolu Öğretmen Lisesi ve İmam Hatip Lisesi arasında Sağlık Meslek Lisesi lehine anlamlı bir farklılık tespit edilmiştir. Diğer yandan, Kalecik Lisesi ile Sağlık Meslek Lisesi, METEM ile İmam Hatip Lisesi arasında tespit edilen ortalama farkları istatistiksel olarak anlamlı bulunmamıştır.

Araştırmanın Sonuçları ve Önerileri: Literatürle uyumlu olarak, kız öğrencilerin hem çevreye yönelik tutum hem de ilgi puanlarının kız öğrencilerin lehine yüksek olduğu sonucuna ulaşılmıştır. Ancak, sadece tutum puanlarındaki farklılık anlamlı olarak değerlendirilmiştir. Sınıf düzeyi arttıkça öğrencilerin ilgi ve tutum puanlarının beklenildiği gibi sınıf düzeyine paralel olarak artmadığı ve puanlar arasındaki farklılığın da istatistiksel olarak anlamlı bulunmadığı gözlenmiştir. Diğer yandan, Anadolu Öğretmen Lisesindeki öğrencilerin ilgi puanları ve İmam Hatip Lisesindeki öğrencilerin tutum puanları en düşük düzeyde bulunmuştur. Öğrencilerde görülen ilgi ve tutum düşüklüğünün nedenleri araştırılarak, bireylere çevresel ilgi ve tutum kazandıracak planlamalar yapılmalıdır. Çevresel ilgi alanındaki mevcut çalışma boşluğunun doldurulması için bu tür çalışmaların artırılmasının gerekli olduğu düşünülmektedir.

Anahtar Sözcükler: çevre eğitimi, çevreye yönelik ilgi, çevreye yönelik tutum, ortaöğretim, Kalecik.