

# Determining Undergraduate Students' Environmental Attitude

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## Abstract

It has long been known that environmental issues and environmental issues are responsible for environmental problems. Young people's environmental attitudes are particularly important because young people ultimately will be affected by and will need to provide solutions to environmental problems arising from present-day actions. This study aims to determine undergraduate students' environmental attitudes. When the related literature is examined, it is seen that there are limited number of studies aiming to determine the attitudes of the university student towards the environment in general. For this reason, this study; has been planned and carried out in order to determine the environmental attitude of the students. 224 students studying at Hacettepe University have participated in this research made in order to determine the attitude of the students. In the study, a questionnaire composed of "Environmental Attitude Scale" has been used as a data collection tool. The average score of the environmental attitude levels of the students who participated in the study has been reported as ( $\bar{x}=3,84$ ). In conclusion, it was determined that undergraduate students' environmental levels vary significantly by gender, family type status and level of income ( $p<0.01$ ).

*Keywords:* undergraduate students, environmental attitude, environmental behaviors, environmental thought

## 1. Introduction

Attitude is a disposition that comprises consistent emotions, opinions and behaviors toward an object, a situation, a phenomenon or an incident (Türküm, 1998). Environmental attitude is "the totality of fear, anger, disquiet, value judgement, and positive or negative attitudes and opinions toward environmentally beneficial behaviors" (Uzun, 2007: 20). Attitudes are critical as the attitude of an individual constitutes a general behavioral pattern toward that object, incident or phenomenon (Ajzen, Fishbein, 1977).

Needs increasing with population growth, the developing industry and pollution threatening the natural assets have left their mark in the past century (Tecer, 2007). In addition to safe human relations and equality of income distribution, the primary requirement of a healthy social structure is the protection of natural, cultural and esthetic environment. The protection of the environment as a whole at a social and universal level, a deeper understanding of the problems and developing solutions, and the idea that the environment is the "common heritage of humanity" began to be discussed in the 1960s. The problem of the environment is, most of all, a result of making a choice between a better environment and more production, or between the needs of the current generations and those of future generations. The combination of the inability to utilize

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national resources in accordance with national interests and environmental unconsciousness with the lack of international cooperation and peaceful dialogue elevates environmental issues to a dangerous magnitude (Altın, 2002; Algül, 2004).

In recent years, while the economic and ecological dimensions of environmental issues are being discussed, the philosophical and social dimensions do not receive the necessary emphasis. However, the cause of environmental issues is the social environment rather than the natural environment; the environment has ceased to be the problem of nature and has become a human problem. As Murval (1985) also stressed, ecological problems are an indicator of a crisis of incompatible individual and collective behaviors. Therefore, the underlying cause of environmental pollution is the contamination in consciousness, opinion, attitude and behavior in human beings (Akarsu, 1994). Moreover, the root of all environmental problems is human indifference; individuals uninformed about the consequences of these actions remain indifferent toward events they believe do not directly affect themselves. Therefore, there is a great need to raise human awareness on the environment and environmental issues, which is only possible with a change in individual behavior while a behavioral change requires a change in attitude, knowledge and value judgement (Erten, 2005). Without doubt, individuals who have a negative attitude toward the environment will remain indifferent to, and even continue to create, environmental problems (Uzun and Sağlam, 2006).

A review of literature yielded only a limited number of studies that investigated environmental attitudes in university students (Özmen, Çetinkaya and Nehir, 2005; Gürbüz and Çakmak, 2012; Keleş, Uzun and Varnacı-Uzun, 2005). Thus, this study was planned and conducted to identify the environmental attitudes of the students attending the Department of Family and Consumer Sciences in Hacettepe University.

## **2. Literature Review**

In his study titled “The attitudes of undergraduate students toward the environment and environmental issues,” Sama (1997) reported more a positive attitude toward the environment for female students and no significant difference between the attitudes of the first and the fourth year students. In addition, the students with higher paternal educational attainment had a more positive attitude than those with lower paternal educational attainment, and those in the middle-income group had a more positive attitude than those with lower income.

Özdemir et al. (2004) who investigated environmental awareness and sensitivity among medical students identified a low level of awareness and sensitivity.

In the study by Özmen et al. (2005) on the attitudes of university students toward environmental issues and the effective factors conducted with students attending the Faculty of Medicine and the Vocational School of Health, while 65% of the students were sensitive toward environmental issues, 84.9% did not participate in any activity of environmental organizations. Moreover, the female students had a higher level of environmental attitude in comparison to the male students.

The study conducted by Erol and Gezer (2006) to determine the attitudes of prospective classroom teachers toward the environment and environmental issues revealed a low level of environmental attitude, with significant differences in environmental attitude

with respect to gender, age and maternal occupation.

The study by Ek et al. (2009) showed that 85.3% of the university students were sensitive toward environmental issues, that 86.5% did not have a membership in an environmental organization, and that university, year at university, gender, age, longest place of residence and paternal occupation affected environmental attitude scores.

Dono, Webb and Richardson (2009) identified a significant relationship between environmental attitudes and environmental behaviors among university students.

In the study by Sam et al. (2011) assessing environmental risk perception and environmental attitude in university students reported a high environmental attitude mean score (4.01). The results revealed that the female students were more environmentally sensitive than the male students, that sensitivity increased with year at university, and that maternal educational attainment was more significantly effective on the environmental sensitivity of the students.

In the study by Şenyurt et al. (2011) carried out to identify the sociodemographic factors affecting university student attitudes toward the environment, the researchers found that although 45.2% of the students regarded environmental issues to be at an alarming level, 83.2% did not participate in environmental activities. Furthermore, although the environmental attitudes of the students displayed significant differences with respect to gender and department at university, there was no significant difference with respect to maternal education and family income level.

### 3. Method

224 students studying at Hacettepe University, Department of Family and Consumer Sciences have participated in this research made in order to determine the environmental attitude of the students.

The research data were collected as a result of the face to face interviews made with the students in May-June 2014 depending on the questionnaire prepared. The questionnaire used in the research consists of two parts. In the first part; there are demographic questions in order to determine the gender, age and family type of the students and their parent's educational status as well as several questions in order to measure the information related to the environment. In the second part; "The Scale of Environmental Attitude" is included in order to determine the environmental attitude of the students (Uzun and Sağlam, 2006).

The study conducted to identify the environmental attitudes of the students attending the Department of Family and Consumer Sciences in Hacettepe University employed a 5-point Likert-like rating scale. The item responses for the Environmental Behavior Subscale are rated as "never"=1, "rarely"=2, "sometimes"=3, "often"=4 and "always"=5 while those for the Environmental Attitude Subscale are rated as "strongly disagree"=1, "disagree"=2, "partially agree"=3, "agree"=4 and "strongly agree"=5. Negative items are reverse scored. The minimum/maximum possible scores that can be obtained from the Environmental Behavior Subscale, the Environmental Attitude Subscale and the overall scale are 13/65, 14/70 and 27/135, respectively. Items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11 express negative opinions and, therefore, are reversed scored.

In the study, SPSS 21.0 for Windows software was used in data analysis. Demographic

results were presented as frequencies and percentage distributions while the scale items were characterized with percentage distributions, as well as, arithmetic mean and standard deviation statistics. In addition, the t-test was used for two groups and an analysis of variance was conducted for more than two groups in the comparison of environmental behavior and attitude levels by demographic characteristics. Reliability was tested by separately computing the Cronbach's alpha and Spearman-Brown split-half correlation for the "Environmental Attitude Scale," as well as, its two subscales. In the study by Uzun and Sağlam (2006), the Cronbach's alpha reliability coefficient and the Spearman-Brown split half correlation were computed as .80 and .76, respectively. The Cronbach's alpha reliability coefficient and the Spearman-Brown split half correlation of the present study are .79 and .88, respectively.

#### 4. Results

In this study carried out in order to determine the environmental attitude levels of the students, it has been detected that 51 % of the students (n=114) females; 49 % of them (n=110) are males; 31.1 % of them (n=70) are 2nd year students; 66% of them (n=148) have nuclear family structure; mothers of 35 %of them (n=78) are high school graduate; fathers of 45 % (n=101) are university graduate; monthly level of income of 40 % (n=89) is 2501-3500 TL.

When several findings for the students' information related to the environment were examined; it was observed that 90 % of the students did not receive any extracurricular education on environment; 95%of them were not members of the non-governmental organization related to the environmental issues; 96%did not follow any periodical publication related to the environment. Among the students who took part in the research, the ones who declare their school among the environment-related information resources are in the first row with 43.0 %, this is followed by those stating the family with a rate of 39.0 %and the ones reporting the internet with a rate of 37.0 % and radio and TV with a rate of 9.1 %.

The mean scores of the participants for the environmental behavior and environmental attitude subscales of the environmental attitude scale were  $\bar{X} = 45.47$  and  $\bar{X} = 58.15$ , respectively, while the mean overall score was computed as  $\bar{X} = 103.62$ . In view of the minimum (27 points) and maximum (135 points) possible scores, this value demonstrates that the students had a positive environmental attitude with a mean value above the median.

Investigation of the arithmetic means of each answer in the environmental behavior subscale reveals that the statements "If an environmental cleaning activity were to be organized in my school, I would like to participate voluntarily," ( $\bar{X} = 4.22$ ) and "I wouldn't refrain from warning someone harming the environment," ( $\bar{X} = 4.18$ ) have the highest arithmetic mean scores, while the environmental behavior levels are the lowest for the statements "I read books about the environment other than textbooks," ( $\bar{X} = 2.92$ ) and "I follow environmental developments in daily newspapers," ( $\bar{X} = 3.05$ ) (Table 1).

**Table 1.** Environmental Behavior Mean Scores

Items	$\bar{x}$	sd
1 I watch/listen environmental programs on TV/radio.	3.92	0.66
2 I follow environmental developments in daily newspapers.	3.05	0.48
3 I watch documentaries on environmental issues.	3.20	0.77
4 I read books about the environment other than textbooks.	2.92	0.52
5 I read popular environmental magazines.	3.66	0.36
6 I read scientific articles about the environment.	3.12	0.72
7 I wouldn't refrain from warning someone harming the environment.	4.18	0.78
8 If an environmental cleaning activity were to be organized in my school, I would like to participate voluntarily.	4.22	0.86
9 My friends recognize me as an environmentally sensitive person.	3.52	0.46
10 If necessary, I could work without pay for a long time for a habitable environment.	3.22	0.54
11 I share my knowledge about the environment with my friends.	3.78	0.56
12 When buying a product, I am attentive to whether the product's waste is recyclable.	3.56	0.68
13 I prefer products that do not harm the environment even if they are more expensive.	3.12	0.72

Investigation of the arithmetic means of each answer in the environmental attitude subscale shows that the statements "Endangered living creatures are exaggerated; there are a large number of species in nature already and it is not important if a few were to become extinct," ( $\bar{x}=4.92$ ) and "Human waste does not represent a problem as the environment cleans itself," ( $\bar{x}=4.88$ ) have the highest arithmetic mean scores, while the environmental attitude levels are the lowest for the statements "The amount of water on earth is so much that human beings could never contaminate it," ( $\bar{x}=3.56$ ) and "Wetlands should be drained for the construction of new housing," ( $\bar{x}=3.58$ ) (Table 1).

**Table 2.** Environmental Attitude Mean Scores

Items	$\bar{X}$	sd
1 Endangered living things are exaggerated; there are a large number of species in nature already and it is not important if a few were to become extinct.*	4.92	0.46
2 It is more beneficial for our country to build luxury roads rather than to spend resources on historical sites.*	4.68	0.34
3 Erosion is no longer observed in our country.*	4.56	0.65
4 Agricultural insecticides are beneficial to the environment.*	4.46	0.88
5 There is no harm in selling degraded forest lands for public revenue.*	3.96	0.43
6 The state should allow the construction of touristic buildings in national parks and forests.*	4.24	0.24
7 Wetlands should be drained for the construction of new housing.*	3.58	0.56
8 Human waste does not represent a problem as the environment cleans itself.*	4.88	0.66
9 The ozone layer is depleted particularly over the United States of America and there is no danger for Turkey.*	4.38	0.58
10 Turning the lights off when leaving the room does not save much energy.*	3.66	0.40
11 The amount of water on earth is so much that human beings could never contaminate it.*	3.56	0.34
12 The fast depletion of natural resources is an important problem for our future.	3.81	0.50
13 One of Turkey's important problems is unplanned urbanization.	3.78	0.44
14 Global warming could cause disasters in the future.	3.68	0.66

Examination of the results for the comparison of the levels of the environmental behavior and environmental attitude of the students by their demographic characteristics in Table 3 reveals a significant difference in the environmental behavior and environmental attitude levels with respect to gender and year at university ( $p<0.05$ ). In

addition, there was a significant difference in environmental attitude with respect to maternal educational attainment ( $p < 0.05$ ). The groups with the highest arithmetic mean scores for both subscales are women, 4<sup>th</sup> year students and those whose mothers had graduate school degrees (Table 3).

**Table 3.** Comparison of Students' Environmental Behavior and Environmental Attitude Levels by Demographic Characteristics

Scales	Variables	Group	$\bar{X}$	ss	t/F	p
Environmental Behavior	Gender	Female	3,66	0,46	2,493	0,001*
		Male	3,34	0,46		
Environmental Attitude		Female	4,38	0,00	1,601	0,001*
		Male	3,92	0,53		
Environmental Behavior	Grade	1	3,36	0,48	1,901	0,001*
		2	3,47	0,49		
		3	3,50	0,48		
		4	3,67	0,47		
Environmental Attitude		1	4,13	0,61	2,371	0,001*
		2	3,81	0,62		
		3	4,20	0,57		
		4	4,46	0,57		
Environmental Behavior	Family Structure	Nuclear	3,42	0,49	1,320	0,261
		Fragmented	3,68	0,70		
		Extended	3,40	0,54		
Environmental Attitude		Nuclear	4,66	0,47	0,756	0,519
		Fragmented	3,69	0,45		
		Extended	3,83	0,49		
Environmental Behavior	Mother's Educational Levels	Illiterate	3,15	0,44	1,014	0,137
		Literate	3,32	0,56		
		Primary School	3,12	0,47		
		High School	3,70	0,57		
		University	3,74	0,50		
Environmental Attitude		Postgraduate	3,97	0,51	1,666	0,001*
		Illiterate	3,77	0,39		
		Literate	3,76	0,50		
		Primary School	3,88	0,51		
		High School	4,06	0,51		
Environmental Behavior	Father's Educational Levels	University	4,56	0,55	2,874	0,191
		Postgraduate	4,87	0,51		
		Illiterate	3,10	0,43		
		Literate	3,16	0,46		
		Primary School	3,38	0,51		
Environmental Attitude		High School	3,68	0,53	3,018	0,112
		University	3,95	0,51		
		Postgraduate	3,73	0,45		
		Illiterate	3,83	0,44		
		Literate	3,62	0,59		
Environmental Behavior	Father's Educational Levels	Primary School	3,91	0,59	3,018	0,112
		High School	4,16	0,57		
		University	4,58	0,59		
		Postgraduate	4,80	0,56		
		Illiterate	3,83	0,44		
Environmental Attitude		Literate	3,62	0,59	3,018	0,112
		Primary School	3,91	0,59		
		High School	4,16	0,57		
		University	4,58	0,59		
		Postgraduate	4,80	0,56		

<b>Environmental Behavior</b>	<b>Monthly Income</b>	0-846 TL	3,46	0,81	2,874	0,109
		847-1500 TL	3,36	0,53		
		1501-2500 TL	3,69	0,51		
		2501-3500 TL	3,71	0,48		
		3501 TL +	3,28	0,47		
<b>Environmental Attitude</b>		0-846 TL	3,75	0,57	4,205	0,317
		847-1500 TL	4,15	0,48		
		1501-2500 TL	4,30	0,56		
		2501-3500 TL	4,36	0,53		
		3501 TL +	4,19	0,60		

## 5. Discussion

In the study investigating environmental attitude among university students under the environmental attitude and environmental behavior subscales, the overall mean score was computed as  $\bar{X} = 103.62$ . In consideration of the minimum (27 points) and maximum (135 points) possible scores, this value demonstrates that the students had a positive environmental attitude with a mean value considerably above the median. This also indicates that the students have positive attitudes about the environment. Sadık (2013) reported that the prospective teachers were moderately knowledgeable about the environment and that they had a very favorable attitude with respect to environmental attitude. Atlı and Uzun (2009) reported an overall mean score of  $\bar{X} = 90.12$ .

95% of the participants did not have a membership at non-governmental organizations dealing with environmental issues and 96% did not regularly read an environmental periodical. The literature similarly yields studies reporting that students were not members of environmental NGOs and did not actively participate in the activities of an environmental organization (Uzun and Sağlam, 2007; Altın, 2001; Özmen et al. 2005; Gürbüz, Çakmak, 2012). Therefore, students should be motivated to join environmental organizations and encouraged to participate in their activities.

School/university was the highest reported source of environmental information by the students participating in the study with 43%, followed by family (39%), the Internet (37%) and radio/TV (9.1%). The fact that school/university was reported as the first source of environmental information by the students emphasizes the significance of environmental education provided at schools and universities.

The results show that the students were closely interested in a clean environment and preventing pollution. The students had a more positive behavior regarding participation in environmental activities at school/university while they were less interested in reading books on the environment and environmental articles in newspapers. It would be beneficial to organize activities to motivate students to read books and other publications on environmental issues. Atlı and Uzun (2009) also reported that students did not read printed materials such as popular magazines, scientific articles, books and newspapers about environmental issues, which supports our findings.

In the study, negative statements were reverse-scored in the evaluation of the items. According to these items with the highest scores, the students believed that endangered living things were important and human waste would pollute the environment and

nature, while the items with the lowest scores revealed that the students thought that there was a sufficient amount of water on earth and that wetlands could be drained to build new housing. This result indicates the necessity to further inform students on the significance of water resources and how to correctly use them.

Examination of the results for the comparison of the levels of the environmental behavior and environmental attitude of the students by their demographic characteristics in Table 3 reveals a significant difference in the environmental behavior and environmental attitude levels with respect to gender and year at university ( $p < 0.05$ ). Women scored higher in both environmental behavior and environmental attitude than men. Other studies have also reported a more positive environmental attitude for female respondents in comparison to male respondents (Şama, 2003; Özmen et al., 2005; Erol, Gezer, 2006; Deniz and Genç, 2007; Kahyaoğlu et al., 2008; Ek et al., 2009; Kayalı, 2010, Gürbüz, Çakmak, 2012), which support our study results. Sadık and Çakan (2010) stressed that the higher mean score of the female students in comparison to the male students might be due to the ideal image attributed to the women's role in almost all societies.

In the study, the 4<sup>th</sup> year students had higher environmental behavior and attitude levels than the students attending earlier years at the university. Sadık and Sarı (2010) also reported higher mean environmental behavior and attitude scores for last year students. In the study conducted with prospective biology teachers attending the faculty of education, Altın (2011) reported that, although the 4<sup>th</sup> year students attended more classes on the environment and ecology than the 1<sup>st</sup> year students, there was no significant difference in environmental attitude between the 1<sup>st</sup> and the 4<sup>th</sup> year students. This discrepancy between the studies could be a result of the differences in individual, familial or environmental characteristics of the students in the sample groups.

Furthermore, there was a significant difference in environmental attitude with respect to maternal educational attainment ( $p < 0.05$ ). The students whose mothers had university or graduate school degrees had higher environmental behavior and attitude levels than the other groups. Other studies in the literature also report an increase in environmental knowledge and positive attitude in relation with parental educational attainment (Şama, 2003; Özmen et al., 2005). This result indicates that higher parental, especially maternal, educational attainment favorably affects the development of a more positive environmental attitude.

## 6. Conclusion and Recommendations

The study yielded the following results:

- The overall mean score for the environmental attitude and environmental behavior subscales was  $\bar{X} = 103,62$  points.
- The majority of the students did not have a membership at environmental NGOs and did not read environmental periodicals.
- School/university was the highest reported source of environmental information.
- Women, 4<sup>th</sup> year students, and those who had mothers with university or graduate school degrees had higher environmental behavior and attitude levels.



Based on the study results, the researchers would like to make the following recommendations:

- Planning and implementing educational programs to positively promote the environmental attitudes of students and raise individual consciousness about the environment.
- Increasing environmental behavior and attitude particularly in students by raising awareness through activities such as conferences and symposiums at universities.
- Encouraging students to form environmental communities primarily in universities.
- Planning nationwide activities that address environmental issues at greater depth and detail.

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