



## THE ENVIRONMENTALISM OF UNIVERSITY STUDENTS: THEIR ETHICAL ATTITUDES TOWARD THE ENVIRONMENT

### ÜNİVERSİTE ÖĞRENCİLERİNİN ÇEVRECİLİĞİ: ÇEVREYE YÖNELİK ETİK TUTUMLARI

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**ABSTRACT:** The study tries to determine the environmentalism of university students based on their attitudes towards the environment. The present study was carried out among 220 senior students studying in various departments in 2007-2008 academic year. The data were collected through an “Environmental Ethics” scale developed by the researcher and were analyzed through proper statistics from SPSS program package. In light of the findings, it can be argued that the participants mostly exhibit a “mild” environmentalism tendency that pays attention to both the instrumental and intrinsic values of non-human entities.

**Keywords:** environmentalism, environmental ethics, attitude, environmental education

**ÖZET:** Bu araştırmada, üniversite öğrencilerinin çevreye yönelik etik tutumlarından hareketle çevrecilikleri belirlenmeye çalışılmıştır. Araştırma, 2007/2008 döneminde çeşitli programlarda öğrenim gören son sınıf öğrencileri (n: 220) üzerinde yürütülmüştür. Veriler, araştırmacı tarafından geliştirilen “Çevre Etiği Ölçeği”nin uygulanmasıyla toplanmış ve elde edilen veriler SPSS bilgisayar ortamında uygun istatistiksel teknikler kullanılarak analiz edilmiştir. Araştırma sonunda, katılımcıların çoğunun insanın dışındaki varlıkların araçsal ve içsel değerlerini önemseyen “ılımlı” çevrecilik eğiliminde oldukları belirlenmiştir.

**Anahtar sözcükler:** çevrecilik, çevre etiği, tutum, çevre eğitimi

#### 1. INTRODUCTION

In today’s world, where environmental deterioration becomes a worldwide and profound occurrence, environmentalism and environmental movements have gained greater importance because prevention of environmental deterioration depends mainly on two factors: (1) the questioning of deeply-rooted environment-deteriorating values, and (2) replacing these values with more environment-friendly ones (Leopold,1987; Hardin,1968; Nordlund & Gervill, 2002; Stern & Dietz, 1994). Therefore, investigation of the forms of environmentalism shaping the attitudes of individuals towards the environment, and the ethical values underlying, them are of special importance. Environmental ethics focuses on the search for answers to some fundamental questions related to “value” issues concerning the attitudes of human beings towards living and non-living entities and the relationships between them. Do the non-human beings have some value? What is the measure of this value? Are non-human beings valuable because they are useful for us? Or, do all the entities in the universe have some value on their own, independent of human beings? If yes, what is the source of this value? Is each entity valuable in its own right, or what is valuable is the biotic community as a whole?

##### 1.1. Environmental Ethics

Clearly, environmental ethics has such a broad scope that it offers up different perspectives about the status of non-human beings and human beings. Based on the answers given to the questions in this study, environment ethics can be divided into two main groups, “anthropocentric” and “non-anthropocentric”, depending on whether an “instrumental” or an “intrinsic” value is assigned to non-human entities (Huebert & Block, 2007; Jardins, 2006).

Anthropocentric ethics understanding is based on the belief that all non-human entities are valuable on the grounds that they benefit human beings, and so they gain an ethical status (Murdy, 1975; Passmore, 1974). What stands against the anthropocentric approaches that have evolved under the influence of a mechanistic worldview that emphasises the notion that nature is “ a non-living

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machine” that can be used by people, is certain other ethical understandings fed by two different sources; one is religious (monotheist – theistic “theocentric”), and the other is “ecocentric”. Theocentric ethics differs from anthropocentric ethics in that it radically questions the consumption-focused modern living style based on the mechanistic worldview, seeing human beings as “despots” towards nature. On the other hand, theocentric ethics values all the entities on the earth because they are created by God, and the mission assigned to man is that of a steward responsible for protecting all the non-human beings (Binbacher, 1999; Jardins, 2006; Ünder, 1996). Ecocentric ethics argues that all the entities in nature are ethically valuable in themselves (Leopold, 1987). This study treats sentience-centered “animal rights” ethics developed by Singer, and “respect for life” ethics developed by Schweitzer, as “individualist ethics”. Arne Naess, on the other hand, with his “deep ecology” ethics that was developed as a reaction to ecocentric approaches (defined as “shallow ecology” ethics) thinks that the aforementioned ecocentric approaches are superficial (Ferry, 2000). Moreover, he takes the deep questioning of ecologic issues in such a way as to include social issues as a starting point and focuses on a deep transformation of understanding that allows human beings to live in peace with nature (Ferry, 2000). Therefore, deep ecology has a special place among the environmental movements as it has become a reference for modern environmental movements and more influential in expanding environmentalism.

## 1.2. Environmentalism

When all the views on environmental ethics are taken as a whole, it becomes clear that each ethical approach includes specific ethical values that can have an influence on individuals’ attitudes towards the environment (Dunlap & van Liere, 1978; Kortenkamp & Moore, 2001; White, 2008). In this respect, environmentalism is defined as rooted value systems guiding the continuous actions, feelings and attitudes of the individuals oriented to protect Nature (Horwitz, 1994). Environmentalism is conceptualized as different environmental movements representing two contrasting perceptions; one of these is “anthropocentric” and the other is “ecocentric”, as is the case in environmental ethics (Huebert & Block, 2007). Environmentalists in the first group are characterized by their dependency on “perpetual progress” and “technological solution”; those in the second group base their approach on the belief that human beings’ position in, and actions on, the universe should be restricted to the carrying capacity of the earth, and they acknowledge “limit ethics” as their principal foundation (Ünder, 1996). Eckersley (1992) places environmental movements on a continuum at one end of which there is anthropocentric, economic, and instrumental ethics, and on the other, there is more comprehensive and holistic environment-centered ethics.

In this context, environmental movements have different versions ranging from “conservation”, “human welfare ecology” to “animal liberation” (Pepper, 1984). In conservation and human welfare ecology approaches, the “instrumental” dimension of environment ethics is foregrounded, and in the animal liberation approach, it is the “intrinsic” dimension. Today, ecocentrism is divided into three movements: “radical ecocentrism”, “strong ecocentrism” and “weak ecocentrism” (Devall, 2006). In this study, the relationships between the environmental approaches can be organized along a continuum at one end of which there is mechanistic viewpoint and on the other an ecological viewpoint.

**Table1. The Continuum of Environmental Ethics and Environmental Movements (Environmentalism)**

<i>Worldview</i>	<i>Mechanistic view</i>		<i>Ecologic View</i>	
Ethics approaches	Anthropocentric ethics		Non-Anthropocentric (Theo-and ecocentric)	
Environmental movement-and value appr.	Strong-human-centeredness (Instrumental)	Weak-human centeredness (Enlightened instr.)	Humanist ecocentrism (Instr.-Intrinsic)	Strong-ecocentrism (Teleogical, intrinsic social)
Political appr.	Conservatives	Moderate reformists	Radical reformists	Revolutionists

On the left hand side of Table 1, there are conservatives claiming that environmental problems can be dealt with using scientific and technical measures; next to them, there are moderates, who are satisfied with partial changes; in the middle, there are radicals wanting deeply-rooted changes and, finally, on the right hand side of the table, there are revolutionists, who promote the idea that the human conception of the earth should be completely changed. Thus, the movement from left to right shows a diminishing of the effect of philosophical assumptions of a mechanistic view and a heightening of views paying primary attention to the intrinsic value of the entities. Parallel to this, the notion that human beings are the “masters of the earth” is replaced by the notion that human beings are the “stewards” of Nature

When the relevant literature is examined, it is seen that there is a paucity of research related to the topic of the present study (Dunlap & van Liere, 1978; Kortenkamp & Moore, 2001; Stern, Dietz & Kalof, 1993; Thompson & Barton, 1994). Pierce & Lowrich (1980) state that ethical tendencies towards the environment generate a source of environment-related beliefs and attitudes; for instance, those who view the environment from an economic perspective tend to adapt technical solutions to environmental issues. As a result of the study carried out by Hortwitz (1994) among a group of environmental activists, it was revealed that, on the environmentalism of the participants, teleological elements, an individualistic approach emphasizing self-actualization”, “Land ethics” and “deep ecology”, and a “non-utilitarian” viewpoint have important influences. In another study conducted by Hortwitz (2001) among a group of environmental activists, it was found that the participants care about establishing a balance between man and the environment, and they support an holistic solution rather than a one way solution predicated upon a preference either for the technical or the natural. Another study conducted among the students of a Psychology department, revealed that, regarding the participants environmental tendencies, eco-centric and weak anthropocentric tendencies are more dominant than non-environmental tendencies (Kortenkamp & Moore, 2001). Another study that comparatively investigated the environmental tendencies of Turkish and German teachers showed that a majority of the participants have an eco-centric tendency (Erten, 2008). As a result of a study investigating students’ attitudes towards animals, it was found that there are different tendencies, called “aesthetic”, “scientific”, “utilitarian” “instrumental”, “ecologic”, “humanistic” and social” (Bögeholz, 2006).

On the other hand, it is reported that some variables related to the participants are influential on environmental values. For example, it was found that those with a high level of education have a higher level of awareness of, and are more concerned about, environmental issues than those with a low level of education; similarly, the young are also more conscious and concerned about such issues than the old (Inglehart, 1995). However, there are conflicting findings in relation to the effect of gender on environmental values. Arcury (1990) reports that men are more concerned about the environment than women; yet, Tarrant & Cordel (1997) and Erten (2008) state that women are more concerned about nature than men. Dietz, Kalof & Stern (2002), on the other hand, state that both men and women have similar environmental concerns.

### 1. 3. Purpose and Research Questions

For environmental education to proceed based on a sound value system, it is of great importance to determine the students’ ethical tendencies. In the present study, the environmentalism of the students is investigated using five categories: namely, “anthropocentric”, theocentric”, “ecocentric”, “individualistic”, and “deep ecologist”. In connection with these ethical categories, different dimensions of the participants’ ethical tendencies toward the environment (that is, “instrumental”, “teleological”, “intrinsic” and “social”) will be revealed. Based on that point, the aim was to determine to what extent the environmentalism of the participants corresponds to each of the “strong anthropocentrism”, “weak anthropocentrism”, “humanist ecocentrism” and “strong ecocentrism” approaches.

In this context, the answers to the following questions are sought in the study:

1. What is the importance of “anthropocentric”, theocentric”, “ecocentric”, “individualistic”, and “deep ecologist” approaches in the ethical tendencies of the participants towards the environment?

2. What place do “strong anthropocentric”, “weak anthropocentric”, “humanist ecocentric” and “strong ecocentric” approaches occupy in the environmentalism of the participants?
3. Which perspective has a stronger influence on the environmentalism of the participants; the “mechanistic view” or the ecologic view”?
4. Do academic department and gender of participants have an impact on their environmentalism?

## 2. METHODOLOGY

### 2.1. Participants

The study, carried out in line with the descriptive method, consists of senior students studying at various departments of a University in Turkey in the 2007-2008 fall term. The sample of the study is limited to the different programs of the Faculty of Education and other programs corresponding to social, economical and technical studies which related to different aspects of the environmental issue. Sample consists of 142 female and 78 male (total 220) students randomly selected from among the senior students of different departments.

**Table 2. Distribution of the Participants according to their Department and Gender**

<i>Variables</i>	<i>Category</i>	<i>Number</i>	<i>%</i>
<i>Gender</i>	Female	142	64
	Male	78	36
	Total	120	100
<i>Department</i>	Science education	30	13.6
	Primary school education	28	12.7
	Turkish education	28	12.7
	Early childhood education	23	10.4
	Biology	24	10.9
	Sociology	24	10.9
	Philosophy	30	13.6
	Economics	33	15
	Total	220	100

As can be seen from the table 2, the majority of the sampling consists of students from the education faculty and female students. Students from the other departments exhibit a balanced distribution.

### 2.2. Data Collection

In the study, the data were collected through an “environmental ethics scale” developed by the researcher. First, a draft measurement scale consisting of 60 five-point Likert type items corresponding to ethical tendencies of the students towards the environment was developed. After piloting the scale, the responses given by the participants to positive statements (+) are coded as “5...1” and their responses to negative statements (-) are coded as “1...5” in the draft scale.

The validity of the environmental ethics scale was tested with factor analysis. First, KMO and Barlett's test values were calculated to check the suitability of the data set for factor analysis. KMO and Barlett's test values were found to be 0,718 and 0,000  $p > .05$ , respectively and from these values, it was concluded that the data set is suitable for factor analysis. Then, correlation value of the each item in the scale was calculated to determine the factors they measure.

In the draft scale, the items having 0.300 or higher total item correlation value were taken into consideration, and the 34 items not meeting this criterion were discarded. In this way, a final scale consisting of 24 five-point Likert type items corresponding to “anthropocentric” (3 items),

“theocentric” (5 items), “ecocentric” (6 items), “individualistic” ( 5 items), and “deep ecologist” (5 items) dimensions of environmental ethics was developed. In many studies, the scales developed to elicit the ethical tendencies of individuals are based on different ethical perspectives conceptualized as “egobiocentric” “anthropocentric”, “biosphericcentric”, “socialtruistic” (Thomson & Barton, 1994; Stern & Dietz, 1994; Schultz, 2001). According to Bogeholz (2006), on the other hand, besides those mentioned above, “aesthetic” and “social” factors are influential in the formation of individuals’ environmental ethics. Afterwards, a reliability test was conducted, and as a result of this test, those items having low distinguishing power were identified and eliminated from the scale, giving a final Cronbach Alpha reliability value of 0.760.

### 2.3.Data Analysis

The data collected were descriptively analyzed by using SPSS program and in this way, the participants’ environmentalism were elicited by presenting general ethic mean score, factorial (dimension) mean scores and item scores, respectively. The compliance of total scores in department and gender level groups with normal distributions was analyzed using the Shapiro-Wilk test and were found to be in line with normal distributions. Then, to determine the effects of gender and academic department on the participants’ ethical attitudes towards environment, t test and ANOVA were carried out, respectively.

## 2.FINDINGS

In this study was found followings findings about the environmentalism of participants:

**Table 3. Descriptive Statistics for the Level of Environmentalism**

<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Minimum</i>	<i>Maximum</i>
220	92.1	9.26	63	118

As can be seen from Table 3, the mean level of participants’ environmentalism was found to be 92.1 out of 120. This value corresponds to 3.8 on a five-point Likert type scale, and can be placed somewhere between “I am undecided” and “I agree.” Thus, it can be stated that the participants’ level of environmentalism is slightly above the middle level.

Findings related to confirmation levels of the statements corresponding to “Anthropocentric”, “theocentric”, “ecocentric”, “individualistic”, “and deep ecologist” ethical approaches are presented in the following table.

**Table 4. Mean Values of the Ethical Dimensions of the Participants’ Environmentalism**

<i>Dimensions of environmental ethics</i>	<i>Total Score (Mean)</i>	<i>SD</i>	<i>Minimum</i>	<i>Maximum</i>
<i>Anthropocentric(3 items)</i>	13.42 (4.4)	1.82	5	15
<i>Theocentric (5 items)</i>	17.47 (3.4)	4.52	5	25
<i>Ecocentric (6 items)</i>	19.11 (3.1)	4.23	8	30
<i>Individualistic (5 items)</i>	21 (4.2)	3.10	9	25
<i>Deep ecologist (5 items))</i>	21 (4.2)	2.88	10	25

As can be seen from Table 4, the mean score for the participants’ responses to a three-five-point Likert type items corresponding to an “anthropocentric” approach was calculated as 4.4, which indicates that an anthropocentric approach was largely favoured by the students. On the other hand, the mean score obtained for the five items emphasizing “theocentric” ethics is 3.4, and this can be interpreted as participants’ being distant from theocentric environment ethics. The mean score obtained for 6 items corresponding to ecocentric ethics is 3.1, which can be interpreted as the students’ ethical tendencies towards this ethical approach being unclear. However, approval of the five items

representing individualistic ethical tendencies by the students indicates that the students support each living thing's right to live. By the same token, the high level of approval of the five items representing deep ecological ethics may mean that the students are inclined to question human-nature interaction from a socio-economic perspective.

Findings related to the extent to which the students approve of each item representing different aspects of the above-mentioned understandings of environmental ethics are presented in Table 5.

**Table 5. Percentage Values (%) obtained by the Participants for each Item Representing Ethical Dimensions of Environmentalism**

Items	<i>Str agree</i>		<i>agree</i>		<i>undecided</i>		<i>disagree</i>		<i>Str. disagree</i>	
	N	F (%)	N	F(%)	N	F(%)	N	F(%)	N	F(%)
<i>Anthropocentric</i>										
11	7	3.2	7	3.2	6	2.7	72	32.7	128	58.2
12	3	1.4	6	2.7	18	8.2	78	35.5	115	52.3
13	170	77.3	40	18.2	4	1.8	3	1.4	3	1.4
<i>Theocentric</i>										
14	136	61.8	44	20	22	10	10	4.5	8	3.6
15	75	34.1	69	31.4	34	15.5	25	11.4	17	7.7
16	42	19.1	38	17.3	41	18.6	64	29.1	35	15.9
17	19	8.6	32	14.5	103	46.8	46	20.9	20	9,1
18	57	25.9	82	37.3	29	13.2	31	14.1	21	9.5
<i>Ecocentric</i>										
19	65	29.5	112	50.9	19	8.6	22	10	2	0,9
110	6	2.7	22	10	47	21.4	114	51.8	31	14.1
111	20	9.1	61	27.7	59	26.8	64	29.1	16	7.3
112	17	7.7	68	30.9	63	28.6	57	25.9	15	6.8
113	25	11.4	44	20	69	31	64	29	18	8.2
114	46	20.9	106	48.2	29	13.2	37	16.8	2	0.9
<i>Individualistic</i>										
115	78	35.5	62	28.2	44	20	26	11.8	10	4.5
116	88	40	99	45	18	8.2	14	6.4	1	0.5
117	147	62.3	78	35.5	3	1.4	2	0.9	-	-
118	120	54.5	92	41.8	3	1.4	4	1.8	1	0.5
119	95	43.2	72	32.7	25	11.4	22	10	6	2.7
<i>Deep ecologist</i>										
120	83	37.7	104	47.3	18	8.2	14	6.4	1	0.5
121	53	24.1	123	55.9	33	15.0	10	4.5	1	0.5
122	91	41.4	92	41.8	27	12.3	9	4.1	1	0.5
123	99	45.0	104	47.3	9	4.1	8	3.6	-	-
124	109	49.5	87	39.5	16	7.3	6	2.7	2	0,9

Using data from Table 5, the following evaluations can be made based on items representing different dimensions of environmental ethics:

Statements viewing other living things as an instrument for humans such as, “The existence of living things not useful to the man is not important”, and “We have no ethical responsibilities for the creatures that do not have spirits and intelligence” are not agreed with by nearly 35% of the participants and strongly disagreed with by about 50% of the participants. This proves that the participants do not markedly approve of “strong anthropocentric” ethics limiting the scope of ethical responsibility to the human being. However, the strong approval (by 77% of the participants) of the item stating, “We need to protect natural entities to maintain the well-being of human beings” shows that “weak anthropocentric” ethical approach is strongly supported by the participants. Thus, the participants are against the conception of non-human beings as entities having only instrumental value, and they seem to support the idea that human existence depends on the existence of the other entities, and, therefore, they need to be protected.

It is seen that 65% of the participants agree with the statement that, “People should protect the living things in the universe because of their responsibility to God”. This represents a theo-centric ethics focus on the stewardship role of human beings; in a similar way, 63% of the participants agree, and 26% of those agreeing strongly agree with the statement that, “We should love and protect all the living things because God created them”. Therefore, it seems likely that the participants think that all the entities in the universe are created for some divine purposes and teleological, and hence they need to be protected. On the other hand, 23% of the participants agree with the statement “If we adopt thrifty life, there will be no environmental problems”, while 30% of the participants do not agree with this statement. The rest of the participants (47%) are undecided, which may mean that, although the participants are aware of the fact that the main reason behind the deterioration of the world is the culture of over- consumption, they seem to be reluctant to renounce some of the world’s offerings

Majority participants believed that technological advancement isolated humans from nature (95%) representing an eco-centric ethical understanding which emphasizes the fact that both the desire for continuous technological advancement isolating human beings from nature and technology dependency are the basic causes of the deterioration of Nature. However, one-third of the participants agree with the statement that, “The main reason for the deterioration of nature is the desire for steady progress”, one-third disagree with this statement, and the remainder are undecided. Thus, it can be stated that, although the majority of the participants think that technology dependency in modern societal life leads to the deterioration of nature, they seem to be hesitant to blame the desire for a steady progress for this deterioration. Consequently, it can be concluded that, while the participants feel the negative effects of the intense use of technology in human life, they do not question greatly the desire for steady progress; therefore, they can be said to be close to the “humanist ecocentric” approach that is somewhere inbetween “weak ecocentric” and “strong ecocentric” approaches.

On the other hand, 66% of the participants agree, and 14% of those agreeing strongly agree, with the statement that, “We need to limit technology to protect the environment” and 48% of the participants agree and 8% of those agreeing strongly agree with the statement “A simple life in harmony with nature is better than a modern life dependent on technology.” Hence, it can be said that most of the participants think that it is necessary to limit technology; yet, the idea of leading a simple life is not particularly supported. Therefore, it can be argued that, in general, the participants tended to adopt an “ecocentric” understanding emphasizing the harmony of man with nature, which represents a “humanistic ecocentric” approach rather than the mechanistic worldview focusing on steady progress and technological advancements.

It is seen that the majority of the participants agree with the statements representing individualistic ethics assigning status to animals and other non-human beings due to their sentient capacities. In this respect, 85% of the participants agree, and 40% of those agreeing strongly agree, that, “Animals have feelings like humans.” This indicates that the “animal rights doctrine” developed by Singer (Jardins, 2006) based on the sentient capacity of animals is supported by most of the participants. 60% of the participants agree with the statement that, “Other entities want to live as humans do”, and almost all of the participants agree with the statement that “Every living thing has its

own right to protect and maintain its existence.” This proves that the “respect for ethics” conception developed by Schweitzer is largely approved of by the participants (Jardins, 2006). Therefore, it can be claimed that the participants do not value living things, particularly animals, due to their instrumentality, but because they assign them an intrinsic value and accordingly they are strongly inclined to adopt the “animal rights doctrine.”

Statements representing “deep ecology” ethics developed as a reaction to “weak” ecocentric understandings are seen to be largely approved of by the participants. 85% of the participants agree, and 38% of those agreeing strongly agree, with the statement that, “The main reason behind the deterioration of nature is a consumption-dependent living style”, and a similar statement, “The main reason behind the deterioration of nature is the dominant world view leading to the exploitation of nature” is agreed upon by 90% of the participants with 50% of those agreeing strongly agreeing with the statement. Hence, it can be claimed that a large majority of the participants have a tendency to question the socio-economic and cultural factors underlying the deterioration of nature. In the same way, 84% of the participants agree, and 24% of those agreeing strongly agree, that, “In order to protect nature, socio-economic causes leading to the destruction of nature should be eliminated”, and almost all of the participants agree, and 45% of those agreeing strongly agree, with the statement that, “Global warming can be prevented not with technical measures but with the renunciation of the life style resulting in the exploitation of nature”.

Consequently, it can be said that the majority of the participants are aware of the socio-economic and cultural factors underlying environmental problems and believe that solutions to these problems depend on the elimination of these factors. Almost all of the participants agree, and 45% of those agreeing strongly agree, with the statement “the ethical task of the human race is to protect natural unity.” This may indicate that, in the environmentalism of the participants, Leopold (1987)’s “land ethic” occupies a strong position. This can be interpreted as the participants tending to adopt a “humanist ecocentric” environmentalism emphasizing the need for more radical changes rather than a “weak anthropocentric” approach which claims that environmental problems can be overcome with partial technical interference.

**Table 6. Means, Standard Deviations and ANOVA Analysis Results of the Participants’ Scores from Environment Ethics Scale according to their Academic Departments**

<i>Department</i>	<i>N</i>	$\bar{X}$	<i>SD</i>	<i>Source of Variances</i>	<i>Sum of Square</i>	<i>SD</i>	<i>Mean of Square</i>	<i>t</i>
1,00	30	92	7,6	Between Groups	366,09	7	52,29	0,865
2,00	28	94,5	7,3	Within Groups	24305	212	114,64	
3,00	28	93,3	8,4	Total	24671,17	219		
4,00	23	93	10,2					
5,00	24	89,6	8,8	-				
6,00	24	92,2	12,6	-				
7,00	30	92,3	9,3	-				
8,00	33	89,8	9,4	-				
Total	220	92.08	9.2	-				

Tablo 6 presents the departments of the participants in this order: science education (1), Primary-school teacher education (2), Turkish teaching (3), Early childhood education (4), Biology(5), Sociology(6), Philosophy (7), Economics (8). As can be seen from Table 6, students from different departments display similar levels of environmentalism, although the mean level of the



environmentalism of the students from the faculty of education and from the sociology and philosophy departments seems to be slightly higher than that of the students from the departments of biology and economics. However, this difference is not significant with regards to its influence on the environmentalism of the participants ( $p: 0.865 > .05$ ).

**Table 7. t-Test Results (Means, Standard Deviations) of the Participants' Scores from Environment Ethics Scale according to their Gender**

<i>Gender</i>	<i>N</i>	$\bar{X}$	<i>SD</i>	<i>t</i>
Famale	142	91,2	9,2	0,09
Male	78	93,4	9,1	

Tablo 7 reveals that there is no significant difference between the environmental ethics of girls and boys ( $p: 0,09 > .05$ ). This shows that the participants ethical attitudes towards environment do not significantly vary depending on gender.

#### 4. DISCUSSION

At the end of the present study, in which the ethical tendencies of university students were investigated, it was found that, in the formation of the students' ethical tendencies towards the environment, "weak anthropocentric", "non-mystical theocentric", "ecocentric" and "individualist" ethical factors that give priority to the intrinsic value of the living things different from human beings are more effective than "strong anthropocentric" and "technocentric" ethical approaches that only attach importance to the instrumental value of these things. Parallel to this, in the environmentalism of the students, trends complying with an ecologic word view seem to be more influential than those of the mechanistic world view. In this respect, it seems to be clear that weak anthropocentricism is approved of more than strong anthropocentricism, and humanist egocentrism is approved of more than strong egocentrism. In short, a majority of the participants believe that living things other than human beings should be cared about because of their instrumental value and should be protected. Hence, it can be claimed that a majority of the participants stay close to a "strong" environmentalism approach, as stated by Huebert and Block (2007), attaching importance to both intrinsic and instrumental values of other living entities

These findings concur with the findings of Horwitz (1994) which state that "non-utilitarian", "emotional" "teological" and "deep ecologist" elements determine people's attitudes towards the environment and of Horwitz (2001) stating that people attach great importance to the establishment of a harmonious balance between human beings and Nature. In the same way, Kartenkamp and Moore (2001) and Erten (2008) found that ecocentric and weak anthropocentric tendencies are more effective than non-environmental tendencies in determining the ethical approaches of individuals towards the environment, and this finding complies with the findings of the present study. On the other hand, Bögeholz (2006) states that, besides "aesthetic" and "ecologic" elements, "utilitarian", "instrumental" and "humanistic" tendencies have an important role to play in the determination of students' attitudes towards the environment. In the present study, it was also found that, in the formation of individuals' environmental tendencies, different ethical elements are influential.

The participants' ethical attitudes towards environment do not change depending on gender, this finding concurs with that of Dietz, Kalof and Stern (2002). On the other hand, the ethical attitudes of the students from different departments do not significantly vary. However, it was expected that there should be differences between the attitudes of the students from the department of economics which mostly emphasizes the economic utility and the students from education faculty, departments of sociology, philosophy and biology where the main emphasis is on the questioning of the use of environmental resources for economic utility. This shows that the formative courses taken by the participants in different departments for four academic years are not influential on their ecologic, economic, and socio-cultural perceptions of the environment nor on their gaining ethical perceptions in line with the courses taken.

## 5. CONCLUSION

In light of this finding, it can be argued that the participants' ethical tendencies were shaped by their secondary level educational experiences and the influences of informal sources. Therefore, the university courses concerning the ecological, economic and socio-cultural aspects of the environment should be enriched in such a way as to help students to gain a better perspective of how natural resources can be used in an economically, ecologically and socio-culturally sustainable manner.

The majority of the participants adopt "weak anthropocentric" approach and this may represent an important chance to implement "sustainable" living conception which emphasizes the use of natural resources without destroying them. However, limited adaptation of "eco-centric" approach indicates that the participants have not been able to get rid of all the influences of mechanistic world view. This can be interpreted as the young generations have inclination to make use environmental resources by not attaching primary importance to ecologic priorities. This can be seen as an important obstacle in front of the sustainable use of environmental resources. The findings of the present study clearly indicate that there is a need for the development of integrated environment education whose main purpose should be to impart environmental ethics complying with sustainable living to students from elementary education until the end of their university education.

The findings of the present study are limited to the opinions of students from the different departments of the same university. For a more detailed revelation of ethical dimensions of individuals' environmentalism, further studies should be carried out with different samplings and the findings should be supported with qualitative data concerning the individuals' interests, needs, cultural values and their confronting with environmental problems.

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## Genişletilmiş Özet

Çevre bozulmasının gittikçe telafisi zorlaşan boyutlara ulaşması, insanın doğa kavrayışında ve buna bağlı olarak çevresel varlıklara bakışında egemen olan çevre bozucu değerler sisteminin sorgulanmasını zorunlu hale getirmektedir. Ancak, çevre bozulmasının önüne geçmeye yönelik gösterilen çabalar, bireylerin ve kurumların çevresel kaynakları bilinçli şekilde kullanma ve “çevreci” tutum sergileme beklentisinin ötesine geçememektedir. Çevreciliğin anlamı ve temelleri üzerinde durulmamakta, dolayısıyla çevrecilik kavramının içi yeterince doldurulamamaktadır. Bu durum, modernleşmeyle birlikte insanın “doğa sömürsü” şekline bürünen çevreye yönelik tutumunun altında yatan etik değerlerin ve anlayışın farkedilmesini zorlaştırmaktadır. Çevreciliğin altında yatan etik değerlerin ortaya çıkarılması, çevreciliğin daha doğru şekilde anlaşılması ve çevre bozulmasını önlemeye dönük çabaların daha sağlam bir zemin üzerinde yürütülmesinde etkili olabilir.

Bu çalışmada, farklı bölümlerde öğrenim görmekte olan üniversite öğrencilerinin çevreye yönelik etik tutumlarının belirlenmesinden yola çıkılarak, çevreciliklerinin boyutlarının ortaya konulması amaçlanmıştır. Buradan hareketle, katılımcıların çevreciliklerinde “insanmerkezci”, “tanrımerkezci”, “çevremerkezci”, “bireyci” ve “derin ekolojist” şeklinde ele alınan çevre etiği yaklaşımlarının, buna bağlı olarak “sıkı insanmerkezcilik”, “zayıf insanmerkezcilik”, “insancıl çevremerkezcilik” ve “sıkı çevremerkezcilik” şeklindeki çevrecilik akımlarının ne ölçüde yer tuttuğu belirlenmeye çalışılmıştır.

Bu kapsamda, çalışmada aşağıdaki soruların yanıtları araştırılmıştır:

1. Katılımcıların çevreye yönelik etik eğilimlerinde, “insanmerkezci”, “tanrımerkezci”, “çevremerkezci” “bireyci” ve “derin ekolojist” etik yaklaşımlarının ağırlıkları nedir?
2. Katılımcıların çevreciliklerinde, “ sıkı insanmerkezci”, “zayıf insanmerkezci”, “tanrımerkezci” “insancıl çevre merkezci” ve “sıkı çevremerkezci“ çevrecilik eğilimleri ne kadar yer tutmaktadır?
3. Katılımcıların çevreciliğinde, “mekanist” ve “ekolojik” görüşlerden hangisi daha ağır basmaktadır?
4. Katılımcıların kişisel değişkenlerinin (cinsiyet ve bölüm) çevrecilikleri üzerinde etkisi var mıdır?

Betimsel yöntemle dayalı olarak yürütülen bu araştırmanın örneklemini, 2007-2008 güz döneminde Muğla Üniversitesi'nin çeşitli programlarında öğrenim gören 220 kişilik son sınıf öğrenci grubu oluşturmaktadır. Araştırma örneklemini, Eğitim Fakültesi öğrencileri ile çevrenin ekolojik, ekonomik, etik ve sosyal yönleriyle ilgili olan Biyoloji, İktisat, Felsefe ve Sosyoloji programlarından okuyan öğrenciler arasından seçilmiştir. Araştırmada veriler, araştırmacı tarafından geliştirilen “Çevre etiği ölçeği”nin kullanılmasıyla toplanmıştır. Çevre etiği ölçeği, öğrencilerin çevreye yönelik etik eğilimlerinin, “insanmerkezci”, “inançmerkezci”, “çevremerkezci”, “hazcı (bireyci)” ve “derin ekolojist” şeklinde kavramsallaştırılan boyutlarına karşılık gelen 5’li likert tipi toplam 24 maddeden oluşmaktadır. Ölçeğin yapı geçerliliği faktör analizi ile, güvenilirliği ise Cronbach Alpha testi (Cronbach Alpha Değeri: 0,760) ile sağlanmıştır. Toplanan veriler, SPSS paket programında yer alan uygun istatistiksel testlerin kullanılmasıyla çözümlenmiştir. Bu çerçevede, verilerin betimsel analizine dayalı olarak araştırmaya katılanların sırayla çevreciliklerinin düzeyi, çevreciliğin etik boyutlarının ağırlığı ve her bir çevre etiği boyutunun madde bazında dökümüne ilişkin bulgular ortaya konulmuştur. Arkasından, araştırmaya katılanların sırayla cinsiyet ve öğrenim gördükleri bölümün çevreciliklerine etkisine ilişkin “t-testi” ve “tek yönlük varyans analizi (ANOVA)” sonuçlarına yer verilmiştir.

Verilerin betimsel analizinden elde edilen bulgulara göre, uygulamaya katılan öğrencilerin insanın dışındaki diğer canlıları sadece araçsal değeriyle sınırlandıran “sıkı insanmerkezci” etiği benimsemedikleri, buna karşın insanın kendi varlığını sürdürebilmesinin diğer canlıları korumasına bağlı olduğuna vurgu yapan “gevşek” insanmerkezci” etik anlayışı güçlü şekilde destekledikleri belirlenmiştir. Bunun yanında, katılımcıların çevreciliklerinde varlıkların kutsal olduğuna vurgu yapan “tanrımerkezci” etik, canlıların hislerinin dikkate alınmasına ve var olma haklarına saygı duyulmasına işaret eden “bireyci” etik ile çevre bozulmasının sosyo-ekonomik ve kültürel yönlerini sorgulayan “derin ekolojik” etik yaklaşımın belirgin şekilde yer tuttuğu ortaya konulmuştur. Buna göre, katılımcıların çevreye yönelik etik yaklaşımlarında, “gevşek insanmerkezci”, “mistik olmayan tanrımerkezci”, “çevremerkezci” ve “hazcı” çevre etiği unsurlarını belirgin şekilde yer tuttuğu belirlenmiştir. Çevreciliklerinde ise, mekanist dünya görüşü yerine, ekolojik dünya görüşüne uygun düşen akımların daha ağırlıklı olduğu görülmektedir. Bu bağlamda, zayıf insan merkezçiliğin sıkı insan merkezçilikten; insancıl çevre merkezçiliğin ise sıkı çevre merkezçilikten belirgin şekilde daha fazla kabul gördüğü belirlenmiştir. Kısacası, katılımcıların çoğunluğu, insanın dışındaki varlıkların araçsal değerinden ötürü önemsemekte ve korunması gerektiğine inanmaktadırlar. Öte yandan, katılımcıların insanın dışındaki varlıkların aynı zamanda içsel bir değeri olduğunu kabul etmeleri nedeniyle, korumasız ve acımasız şekilde kullanılmasına güçlü şekilde karşı durdukları anlaşılmıştır. Buradan hareketle, katılımcıların büyük çoğunluğunun Huebert ve Block (2007)’in ifadesiyle insanın dışındaki varlıkların araçsal ve içsel değerini birlikte gözeten “güçlü” çevrecilik akımına daha yakın durdukları söylenebilir. Katılımcıların kişisel değişkenlerinin (cinsiyet ve bölüm,) çevreciliklerinde anlamlı ölçüde etkili olmadığı anlaşılmıştır. Araştırmaya katılan öğrencilerin çevre etiği yaklaşımlarının, dolayısıyla çevreciliklerinin öğrenim gördükleri bölümlere göre farklılık göstermemesi, ele alınan programların öğrencilerde gerekli formasyonu yeterli düzeyde kazandıramadıkları şeklinde yorumlanabilir.

Araştırmaya katılan öğrencilerin, çevreye yönelik etik eğilimlerinde “gevşek insan merkezci”, “mistik olmayan tanrımerkezci”, “çevremerkezci” ve “bireyci çevre etiği” etik yaklaşımların ağırlıklı şekilde yer tuttuğu; buna paralel şekilde mekanik görüşün etkisinde kalan insan merkezçilikten öte, ekolojik görüşün etkisinde kalan çevre merkezci çevrecilik akımlarına daha yakın durdukları belirlenmiştir. Buna göre, araştırmaya katılan öğrencilerin çevreciliklerinin “araçsal”, “ereksel”, “içsel”, “bireyci”, “ve “sosyal” şeklinde çeşitli öğeleri içerecek genişlikte bir yelpazeden oluştuğu söylenebilir.

Söz konusu araştırma, çalışmanın örneklemini oluşturan üniversite öğrencilerinin çevreciliklerinin altında yatan etik eğilimlerin anlaşılması yönünde bazı ipuçlarını vermekle birlikte, konunun daha ayrıntılı şekilde ortaya konulabilmesi ve çözümlenebilmesi için, bireylerin çevreciliklerinin ilgi, ihtiyaç, kültürel farklılıklar ve çevre sorunlarıyla yüzleşme durumları açılarından da nitel veri toplama süreçlerine dayalı tamamlayıcı çalışmalarla araştırılmasında yarar vardır.

## Appendix. Environmental Ethics Scala

	<i>Str. agree</i>	<i>agree</i>	<i>undecided</i>	<i>disagree</i>	<i>Str. disagree</i>
<i>Anthropocentric</i>					
I1. The existence of living things not useful to human beings is not important.					
I2. We have no ethical responsibilities for the creatures that do not have spirits and intelligence.					
I3. We need to protect natural entities to maintain the well-being of human beings.					
<i>Theocentric</i>					
I4. All the creatures on earth are created by the God.					
I5. People should protect the living things in the universe because of their responsibility towards God					
I6. All the creatures on the earth were created for the human beings.					
I7. If we adopt thrifty life, there will be no environmental problems					
I8. We should love and protect all the living things because God created them.					
<i>Ecocentric</i>					
I9. Technological advancement isolated human beings from nature.					
I10. We need to limit technology to protect the environment.					
I11. The main reason for the deterioration of nature is the desire for steady progress.					
I12. A simple life in harmony with nature is better than a modern life dependent on technology.					
I13. I prefer a short but simple and natural life to a long life through technology.					
I14. Technology-dependent life alienates us from nature.					
<i>Individualistic</i>					
I15. Other creatures want to live as humans do.					
I16. Animals have feelings like humans.					
I17. Every living thing has its own right to protect and maintain its existence.					
I18. We need to treat animals at least as well as we treat humans.					
I19. Those who do not love other living creatures also do not love humans.					
<i>Deep ecologist</i>					
I20. The main reason behind the deterioration on nature is a consumption-dependent life style.					
I21. In order to protect nature, socio-economic causes leading to the destruction of nature should be eliminated.					
I22. Global warming can only be prevented with the renunciation of life styles resulting in the exploitation of nature.					
I23. The ethical task of the human race is to protect natural unity.					
I24. The main reason behind the deterioration of nature is the dominant world view leading to the exploitation of nature.					